

Knowledge, Attitudes, and Actions of Dental Professional Students at RSGMP FKG UPDM (B) about Earthquake Preparedness

Irma Binarti^{1*}, Edia Zulfa Nurul Izzah²

Universitas Prof. Dr. Moestopo (Beragama), Jakarta

Corresponding Author: Irma Binarti irmabinarti@gmail.com

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ABSTRACT

Preparedness is the initial stage as part of disaster anticipation that needs to be instilled since professionals are still students in dealing with emergency conditions such as natural disasters like earthquakes. To describe the knowledge, attitudes, and actions towards the dental profession students at RSGMP FKG UPDM(B) regarding earthquake disaster preparedness. A descriptive cross-sectional study was conducted on dental professional students in the 2021-2022 academic year at RSGMP FKG UPDM (B) with a total of 192 respondents selected through simple random sampling technique. Data were obtained from a questionnaire consisting of 3 parts (knowledge, attitude, and action) which were tested using a computer-based statistical data processing program. The results showed that each section had good (59.9%), fair (39.6%), and poor (0.5%) knowledge; positive (95.8%), neutral (2.6%), and negative (1.6%) attitudes; and prepared (52.1%), moderately prepared (42.7%), and poorly prepared (5.2%) actions.

INTRODUCTION

Indonesia is an archipelagic country located between the confluence of 3 tectonic plates, namely the Eurasian Plate, the Pacific Plate, and the Indian Plate – Australia, zoning the ring of fire, and flanked by two oceans, namely the Indian and the Pacific. This condition makes Indonesia vulnerable to various kinds of natural disasters such as earthquakes, tsunamis, volcanic eruptions, and other types of geological disasters. World Risk Index 2022 data reports that Indonesia ranks 3rd as a country with a high level of disaster risk in the world as assessed in terms of exposure (how much exposure to disasters includes the frequency and intensity of natural disasters) and vulnerability (the tendency of the population to be vulnerable to damage due to extreme natural events or the negative impact of climate change). Earthquakes are one of the most destructive types of disasters the world has ever faced throughout history that can strike a region suddenly and have the potential to cause mass injuries and deaths.

Earthquakes greatly affect society socially, economically and psychologically. Therefore, public health efforts focus on preventing and minimizing injuries. One of the factors that causes many victims when a disaster occurs is due to the lack of knowledge that the community has about a disaster, including in starting an institutionalized disaster preparedness movement in the community which then results in a greater risk of disaster damage. Preparedness is the initial part of activities in the pre-disaster stage that are carried out as part of anticipation of disasters that will occur. The first parameter of the critical factor of preparedness to anticipate natural disasters is knowledge and attitudes towards disaster risks that will affect the intention of individuals in carrying out disaster preparedness efforts.

All sectors have a role to play in disaster management, but the health sector plays an important role in disaster preparedness and response. Every medical institution has an important role in improving the overall knowledge, attitudes, and skills of students studying in hospitals about disaster preparedness. In a study conducted by Darmareja et al. (2022), stated that earthquake disaster preparedness in students of the Diploma III Nursing Study Program showed that almost most (68.1%) were very prepared to face earthquake disasters, but there were still those who were in the category of not ready until almost ready. In contrast to the results obtained in M. Rais' research in 2017 where the results showed that the level of preparedness of human resources at RSGM Unsyiah was in the category of underprepared.

Dentists and human resources in various healthcare facilities need to act in emergencies whether caused by nature or man-made to help protect themselves or their patients. When faced with an emergency, it is not uncommon for a person to be affected by a sense of panic or hesitation, thus potentially slowing down the response time, and thus increasing the morbidity and mortality of the patient. Preparedness behavior should be instilled since professionals are still students to get used to it so that there is no doubt and panic in dealing with emergency conditions such as natural disasters such as earthquakes. Dental students who work at RSGMP are required to have skills to handle problems not only around teeth and mouth, but also in conditions during disasters to reduce casualties and

the risk of greater damage. Based on these reasons, the researcher is interested in finding out the overview of the knowledge, attitudes, and actions of dental professional students at RSGMP FKG UPDM(B) regarding earthquake preparedness.

LITERATURE REVIEW

Law of the Republic of Indonesia Number 24 of 2007 defines a disaster as an event or series of events that threaten and disrupt the life and livelihood of the community caused by both natural and or non-natural factors and human factors so as to result in human casualties, environmental damage, property losses, and psychological impacts. Meanwhile, WHO (2002) defines a disaster as an event that disrupts the normal conditions of an existence and causes a level of suffering that exceeds the adjustment ability of the affected community. An earthquake is a natural disaster in the form of an earth-shaking event caused by collisions between the earth's plates, fault activity, volcanic activity, or rock collapse. According to Yanuarto (in Darmareja et al., 2022) An earthquake is an event of earth shaking caused by collisions between plates, fault activity, volcanoes or rock ruins with destructive properties, can occur at any time and last a short time. This type of disaster is destructive, can happen at any time and lasts for a short period of time. Earthquakes can destroy buildings, roads, bridges, and so on in an instant.

Satyarno (in Perdana et al., 2018) stated that as in other Asian countries, most of the losses and casualties due to earthquakes in Indonesia were caused by damage and collapse of people's houses. Structural mitigation plays an important role in reducing losses and casualties due to earthquakes. In addition, the impact and losses caused by earthquakes are also caused by the lack of readiness of the community or surrounding community in anticipating these problems. Some of the main factors causing the occurrence of many victims due to earthquake disasters are due to the lack of public knowledge about disasters and the lack of public preparedness in anticipating the disaster, resulting in a greater risk of disaster damage.

Disasters always negatively impact the general health and well-being of the affected populations, and efficient health services are a key factor in the survival of most people. RSGM Education is an RSGM that provides dental and oral health services, which is also used as a means of learning, education and research for the profession of dental health workers and other health workers, and is bound through collaboration with the faculty of dentistry. Disasters can occur anywhere, including health facilities such as RSGMP. The provision of health services in disaster conditions is often inadequate due to damage to health facilities, inadequate number and types of drugs and medical devices, limited health workers, and limited operational funds for services in the field.

WHO (2015) states that emergency and/or disaster management must be able to be carried out by hospitals so that in the event of a disaster, the hospital is accessible, can provide health services to disaster victims and functions optimally with the same infrastructure before the disaster, during the disaster, and immediately after the disaster. Health workers working in various service sectors are one of the vital assets of any country in times of disaster that play a crucial role in the implementation of disaster plans. Preparedness and knowledge of healthcare workers are essential to provide quality care and minimize additional complications to death.

The role of RSGMP is very important in terms of public health and education, so it is necessary to have a preparedness system in dealing with disasters. The obligation for every hospital to have an accident prevention and disaster management system has been regulated in Law No. 44 of 2009. This provision applies not only to general hospitals, but also to any type of hospital that performs special functions, such as Dental and Oral Hospitals. The results of research at RSGM Unsyiah conducted by Rais (2017) show that the level of disaster preparedness, especially earthquakes, is relatively less prepared because RSGM is still concentrated on meeting the basic needs of dental and oral care patients. Another cause is the lack of preparedness of human resources at RSGM Unsyiah which is motivated by several factors, including the unavailability of the division of duties and responsibilities as well as action plans for disaster emergencies, the lack of policies and guidelines, the many variations in access to disaster warning information, and the lack of socialization.

METHODOLOGY

Knowledge, attitudes, and actions of Professional Students for the 2021 – 2022 Academic Year at RSGMP FKG UPDM(B) regarding preparedness for earthquake disasters. The determination of the number of research samples was carried out based on the minimum number of samples, namely 179 respondents who were selected using a lottery with *a simple random sampling technique*. The *Informed Consent sheet* and questionnaire were distributed in the form of a *Google Form* through *WhatsApp* and *Line* applications to professional students at RSGMP FKG UPDM(B) then respondents were asked to fill *out the Informed Consent* first and declare that they agreed to be a new research respondent followed by filling out a questionnaire. The results of *filling out the Informed Consent* and questionnaire will be automatically entered into *the spreadsheets* table that has been prepared by the researcher. The entire questionnaire was returned and had been filled out completely by 192 respondents where the researcher exceeded the number of respondents from the minimum sample size of 179 respondents. The researcher then downloaded all the data into *Microsoft Excel* to be processed and analyzed using *computer statistical* software.

RESEARCH RESULT

Based on the results of the study on one hundred and ninety-two respondents, the data on gender distribution presented in Table 1 was obtained, the following data was obtained:

Table 1. Frequency Distribution of Professional Students by Gender

Gender	n (%)
Male	42 (21,9)
Female	150 (78,1)
Total	192 (100)

Table 1 Respondents in this study were 192 students consisting of 150 female students with a percentage (78.1%) and 42 male students with a percentage (21.9%). The majority of students in this study are female students

Table 2. Distribution of Professional Students Frequency by Year of Clinic Entry

Year of Clinic Entry	n (%)
2021	102 (53,1)
2022	90 (46,9)
Total	192 (100)

Table 2 The respondents in this study were 192 students who started working in the clinic in 2021, 102 students (53.1%) and 90 students (46.9%) in 2022.

Table 3. Frequency Distribution of Professional Students by Integration

Integrations	n (%)
A Integration	83 (43,2)
B Integration	7 (3,6)
C Integration	90 (46,9)
D Integration	12 (6,3)
Total	192 (100)

Table 3 The respondents in this study were 192 students consisting of 90 C integration students with a percentage (46.9%), 83 A integration students with a percentage (43.2%), 12 D integration students with a percentage (6.3%), and 7 B integration students with a percentage (3.6%). The majority of students in this study are students from integration C.

Table 4. Frequency Distribution of Knowledge Related to Earthquake Preparedness

Professional Students' Knowledge About Earthquake Disaster Preparedness at RSGMP	n (%)
Indonesia is located between 3 tectonic plates that make it vulnerable to earthquakes, tsunamis, volcanic eruptions, and other types of geological disasters. Yes No	186 (96,9) 6 (3,1)
Jakarta is located on the earth's geological fault. Yes No	130 (67,7) 62 (32,3)
Landslides can cause earthquakes to occur. Yes No	68 (35,4) 124 (64,6)
Oil drilling can cause earthquakes to occur. Yes No	132 (68,8) 60 (31,3)
Natural disasters floods can be caused by earthquakes. Yes No	96 (50,0) 96 (50,0)
Earthquakes that make you dizzy are the characteristics of strong earthquakes. Yes No	153 (79,7) 39 (20,3)
Earthquakes that occur for a long time and are followed by smaller aftershocks are characteristics of strong earthquakes. Yes No	168 (87,5) 24 (12,5)
Earthquakes that cause vibrations and destruction of buildings are characteristics of strong earthquakes. Yes No	186 (96,9) 6 (3,1)
What must be done when an earthquake occurs is to run directly to the plateau. Yes No	73 (38,0) 119 (62,0)
What must be done in the event of an earthquake is to find a table or sturdy object for shelter. Yes No	186 (96,9) 6 (3,1)
The most important part of the body that must be protected in the event of an earthquake is the area around the head and neck. Yes No	191 (99,5) 1 (0,5)
The most important parts of the body that must be protected in	

the event of an earthquake are the chest & abdomen. Yes No	95 (49,5) 97 (50,5)
The institution authorized in Indonesia to issue information about earthquake events is BNPB. Yes No	51 (26,6) 141 (73,4)
The authorized institution in Indonesia to issue information about earthquake events is BMKG. Yes No	186 (96,9) 6 (3,1)
The earthquake only damaged houses and roads. Yes No	18 (9,4) 174 (90,6)
The occurrence of earthquakes can be accurately predicted both from the time, day, and place. Yes No	54 (28,1) 138 (71,9)
The color code for earthquakes in RSGMP is green. Yes No	151 (78,6) 41 (21,4)
The color code for earthquakes in RSGMP is purple. Yes No	40 (20,8) 152 (79,2)

Table 4 A questionnaire on earthquake preparedness consisting of 18 questions. Based on the results of the frequency distribution analysis in table 5.4, there are five questions that are answered correctly by professional students for the 2021 – 2022 academic year at RSGMP FKG UPDM(B). The first correct answer was obtained from question number 11 about the most important areas of the body that must be protected during an earthquake, as many as 191 respondents (99.5%) answered the area around the head and neck. The second most correct answer was obtained from questionnaire item number 1 about the geological location of Indonesia, number 8 about the characteristics of strong earthquakes is what causes vibration and destruction of buildings, number 10 about what to do in the event of an earthquake and being indoors is to take shelter under a sturdy object, and number 14 about the institution that is authorized to issue information about earthquake events is BMKG. In the 4 questions, as many as 186 respondents (96.9%) answered yes. Meanwhile, question number 5 about natural disasters that floods can be caused by earthquakes received yes and no answers from 96 respondents (50%) each. Question number 12 also has a very small answer difference between yes and no answers. There were 97 respondents (50.5%) who answered no to the question about the most important part of the body that must be protected in the event of an earthquake are the chest and abdomen, while the other 95 respondents (49.5%) answered.

Table 5. Frequency Distribution of Knowledge Categories on Earthquake Disaster Preparedness

Kategori Pengetahuan	n (%)
Good	115 (59,9)
Enough	76 (39,6)
Less	1 (0,5)
Total	192 (100)

Table 5 The category of knowledge level can be calculated based on the score that is said to be good if the respondents answer correctly with a total score of 14 – 18, it is said to be sufficient if the score is 10 – 13, and it is said to be insufficient if the score is 0 – 9, the majority of professional students are included in the category of knowledge level regarding good earthquake disaster preparedness (59.9%) with an average correct answer of 15.4 (SD=1.116), However, there are still quite a lot of professional students who have a sufficient level of knowledge (39.6%) and less (0.5%).

Table 6. Frequency Distribution of Attitudes Related to Earthquake Disaster Preparedness in Professional Students

Attitude of Professional Students Regarding Earthquake Disaster Preparedness at RSGMP	n (%)
After the earthquake, you should not immediately re-enter the building because you are worried about aftershocks.	133 (69,3)
Strongly agree	53 (27,6)
Agree	6 (3,1)
Neutral	0
Disagree	0
Strongly disagree	
An earthquake occurs when I am indoors, all I have to do is take shelter under sturdy objects such as tables and door leaves when the shock occurs.	98 (51,0)
Strongly agree	74 (38,5)
Agree	10 (5,2)
Neutral	9 (4,7)
Disagree	1 (0,5)
Strongly disagree	
The earthquake happened when I was indoors, all I had to do was take shelter in the room until the shaking stopped.	25 (13,0)
Strongly agree	36 (18,8)
Agree	37 (19,3)
Neutral	72 (37,5)
Disagree	22 (11,5)
Strongly disagree	
The earthquake happened when I was on the 2nd floor or higher, all I had to do was wait for the shaking to finish, then immediately go down the emergency stairs to get out of the building.	37 (19,3)
Strongly agree	54 (28,6)
Agree	28 (14,6)
Neutral	55 (28,6)
Disagree	18 (9,4)
Strongly disagree	
When treating a patient, an earthquake occurred, all that had to be done was to stop the action and immediately	87 (45,3)
	82 (42,7)

run out with the patient. Strongly agree Agree Neutral Disagree Strongly disagree	18 (9,4) 5 (2,6) 0
The earthquake happened when I was in the elevator, all I had to do was ask for the help of the officer by pressing all the buttons in the elevator. Strongly agree Agree Neutral Disagree Strongly disagree	35 (18,2) 57 (29,7) 30 (15,6) 47 (24,5) 23 (12,0)
All you have to do when the shock is over is to run out to the field/open space far from the building. Strongly agree Agree Neutral Disagree Strongly disagree	104 (54,2) 72 (37,5) 10 (5,2) 5 (2,6) 1 (0,5)
A plan is needed for self-rescue in the event of an earthquake. Strongly agree Agree Neutral Disagree Strongly disagree	105 (54,7) 79 (41,1) 7 (3,6) 1 (0,5) 0
Training is needed in dealing with earthquakes to avoid greater losses. Strongly agree Agree Neutral Disagree Strongly disagree	117 (60,9) 66 (34,3) 8 (4,2) 1 (0,5) 0
You feel prepared for an earthquake. Strongly agree Agree Neutral Disagree Strongly disagree	26 (13,5) 50 (26,0) 88 (45,8) 19 (9,9) 9 (4,7)
I feel that hospitals need to hold preparedness exercises in dealing with disasters, especially earthquakes at least 1 time a year. Strongly agree Agree Neutral Disagree Strongly disagree	83 (43,2) 92 (47,9) 15 (7,8) 2 (1,0) 0

Table 6 An attitude questionnaire on earthquake preparedness consisting of 11 questions. Based on the results of the frequency distribution analysis in table 5.6, there are four questions that have the most answers on a scale of 5 (strongly agree). In question number 1, as many as 133 people (69.3%) strongly agreed not to re-enter the building after an earthquake because they were worried about aftershocks. Question number 9 as more than half of the respondents, 117 people (60.9%) answered strongly agreed about the need for earthquake training to avoid greater losses. In question number 8, as many as 105 people (54.7%) strongly agreed that a plan for self-rescue is necessary in the event of an

earthquake. Question number 7 has a very small difference with question number 8, which is that as many as 104 people (54.2%) answered that they strongly agreed to immediately run out to the field/open space far from the building after the shock. Meanwhile, question number 10 related to respondents' readiness to face earthquakes, had the most neutral answers among all questions related to attitudes regarding earthquake disaster preparedness at RSGMP FKG UPDM (B), which was 88 people (45.8%) answered neutrally.

Table 7. Frequency Distribution of Attitude Categories Regarding Earthquake Disaster Preparedness in Professional Students

Attitude Categories	n (%)
Positive	184 (95,8)
Neutral	5 (2,6)
Negative	3 (1,6)
Total	192 (100)

Table 7 Based on the majority of professional students, they are included in the category of positive attitudes regarding earthquake disaster preparedness (95.8%), but there are still professional students who have a neutral attitude (2.6%) and negative attitudes (1.6%).

Table 8. Distribution of Frequency of Actions Related to Earthquake Disaster Preparedness in Professional Students

Professional Students' Actions Regarding Earthquake Disaster Preparedness at RSGMP	n (%)
Earthquake simulations have been carried out at RSGMP FKG UPDM(B) for the past 1 year. Yes No	124 (64,6) 68 (35,4)
I participated in the earthquake simulation. Yes No	81 (42,2) 111 (57,8)
When I feel a shock and I'm in a room, all I do is take shelter under a sturdy object like a table until the shaking stops. Yes No	132 (68,8) 60 (31,3)
When I felt a shock and I was in a room, all I did was immediately look for a way out to an open area. Yes No	161 (83,9) 31 (16,1)
When I felt a shock and I was in a room in a high-rise building, all I did was immediately look for the fastest tool that could take me to the ground floor such as <i>an escalator/elevator/elevator</i> . Yes No	22 (11,5) 170 (88,5)
After the shock occurred and I was in a room in a high-rise building, all I did was immediately run out to the emergency stairs, then rushed to an empty place far from the building. Yes No	182 (94,8) 10 (5,2)

When an earthquake occurred and I was performing an action on the patient, all I did was immediately turn off the <i>DU power</i> button and compressor when I felt a shock. Yes No	115 (59,9) 77 (40,1)
After the earthquake happened, all I did was anticipate an aftershock by staying outdoors for a few minutes. Yes No	188 (97,9) 4 (2,1)
After the earthquake occurred, what I did before re-entering the room/building was to check the condition of the building before re-entering. Yes No	168 (87,5) 24 (12,5)
After the earthquake happened, all I did was go back to my usual activities Yes No	123 (64,1) 69 (35,9)

Table 8. Based on the results of the frequency distribution analysis regarding the 10 action questionnaires related to the preparedness of professional students for the 2021 – 2022 academic year in facing the earthquake disaster at RSGMP FKG UPDM(B), as many as four questions received the most correct answers from all professional students for the 2021 – 2022 academic year. The answer is yes most often obtained from question number 8, as many as 188 people (97.9%) remained outdoors open for a few minutes to anticipate aftershocks. The second most yes answer was obtained from questionnaire item number 6 where as many as 186 people (94.8%) used emergency stairs after a shock to get out of a multi-storey building. Question number 5 has the third most correct answers out of all questions related to preparedness measures to face earthquake disasters. This question is about using the fastest tools that can help to get to the ground floor such as escalators/elevators/elevators when there is a shock while inside a high-rise building. A total of 170 people (88.5%) answered no where this answer is correct, they should not use the escalator/elevator/elevator during the shock because they are worried that the device will stop working suddenly. In question number 9, which had the fourth most correct answers, as many as 168 people (87.5%) checked the condition of the building after the earthquake before re-entering the building. Meanwhile, question number 2, as many as 111 people (57.8%) did not participate in the earthquake simulation held at RSGMP FKG UPDM(B) where as many as 124 people (64.6%) answered the existence of an earthquake simulation carried out at RSGMP FKG UPDM(B) for the past year. This shows that more than half of the professional students for the 2021-2022 academic year did not take part in the earthquake simulation held by RSGMP FKG UPDM(B).

Table 9. Frequency Distribution of Action Categories Regarding Earthquake Disaster Preparedness in Professional Students

Action Categories	n (%)
Ready	100 (52,1)
Quite Ready	82 (42,7)
Less Prepared	10 (5,2)
Total	192 (100)

Table 9 more than half of the respondents, namely as many as 100 professional students are included in the category of ready regarding earthquake disaster preparedness actions (52.1%) with an average correct answer of 7.54 (SD=0.730), but there are still quite a lot of professional students with a fairly ready level of action (42.7%) and there are still professional students with an unprepared level of action (5.2%).

DISCUSSION

In this research on preparedness in dealing with earthquake disasters, respondents were obtained as many as 192 students who work at RSGMP FKG UPDM (B). The subject of this study is in accordance with the research conducted by M. Rais et al. (2017) where the subject of the research is human resources at RSGM Syiah Kuala University which includes professional students. This is very important because as health workers, it is necessary to be prepared to face disaster emergency conditions, one of which is an earthquake. In this study, it was stated that the majority of respondents were female. The results of this study are in line with research conducted by Fortuna and Hartanto (2022) which shows that the majority of dental professional students in Indonesia are female. This is because the majority of women who choose dentistry have good time management and they think that by becoming a dentist they will still have time with their families. Gender differences may shape different perceptions that affect different knowledge and attitudes between men and women. The social approach to gender as well as the literature from Gilligan (1982) to Carter (2011), men and women are evaluated differently. Based on this approach, men are more likely to learn because they will focus on success competitively and ignore the rules for the sake of success while women are more task-oriented and less competitive. In the existing reality, women tend to be more diligent, diligent, and meticulous when given tasks or doing something, so this is what causes women to have a better level of knowledge or cognition. In the 18 questions about knowledge about earthquake disaster preparedness, the majority of students, namely 59.9% have good knowledge, this is seen based on the average number of students who are correct in questions related to earthquake preparedness knowledge such as strong earthquake characteristics, what must be done when an earthquake occurs, causes of earthquakes, and other questions. This is in accordance with research conducted by M. Rais et al. (2017) that the category of knowledge regarding earthquake disaster preparedness human resources at RSGM Unsyiah is in the good category. This is because there are factors that affect the length of service, age, education level and whether or not the respondents participated in disaster-related training.

The results of this study are also in line with research conducted by Ismunandar (2021) on communities in Palu and Sigi where knowledge about earthquake preparedness is in the good category. This is because the community has gained knowledge through various counseling provided by health workers, NGOs, local governments and observers who are heavily involved in the post-disaster recovery period. In addition, there is also more good knowledge because the community has had experiences experienced during the earthquake and tsunami disaster in 2018. In addition, there are 36.9% of students who have sufficient knowledge. This is supported by a study conducted by Yousefi et al (2019) on nurses in Iran that showed moderate results in knowledge of disaster preparedness. This current knowledge is attributed to the failure of the authorities to conduct an efficient training program during their educational courses and their working period in hospitals.

According to Sugara (2018) in the results of his research on community preparedness to face the eruption of Mount Kelud, good knowledge about dealing with the eruption of Mount Kelud in the mitigation phase is based on the information provided by officers of the Regional Disaster Management Agency when the eruption of Mount Kelud occurs, so that respondents know how to protect themselves based on the information and experiences that occur. There are 0.5% of professional students who are in the category of lack of knowledge, this is in line with a study conducted by Longo (2021) on nursing students in the United States where the results showed a lack of knowledge about the self-protection response shown by some of the respondents' dangerous actions during seismic activities. This is due to the absence of a curriculum in nursing education regarding emergency preparedness and personal protection. According to Ziftawi et al (2021), the curriculum has a significant impact on students' overall knowledge and willingness to learn which is supported by a pre-post study measuring the extent to which 4th year medical students understand, learn, and apply the basic concepts of disaster in medicine through the curriculum.

In the question of knowledge about earthquake preparedness, there is 1 question about the body parts that must be protected when an earthquake occurs, namely the head and neck, almost all students answered yes. This is in accordance with research conducted by Longo (2021) that as many as two-thirds of nursing students in the United States answered correctly to lock the wheelchair and protect the head and neck. The study showed a significant difference between education levels and the act of locking a wheelchair and protecting the head and neck, with senior students being twice as likely to do so compared to junior students. This is in accordance with the majority of respondents who are professional students for the 2021 academic year where their level of education is higher than professional students for the 2022 academic year. This statement is also supported by Listiana (2021) in her literature which states that good knowledge can also be caused by a person's education, because the higher education the more information will provide changes in the form of additional information and a change in a person's mindset. In the 11 attitude questions regarding earthquake disaster preparedness, as many as 95.8% of students had a

positive attitude category which was marked by the number of respondents who answered on a scale of 4 (agree) and a scale of 5 (strongly agree). This is in accordance with research conducted by Setyoaji et al (2019) on preparedness for earthquake disasters in human resources at dr. Mohammad Soewandhie Hospital Surabaya which showed that as many as 83.1% of respondents had a positive attitude. Human resources who have a positive attitude tend to reveal that preparedness is important. In addition, one of the things that underpins the attitude is basic knowledge of disaster preparedness. This is also in line with research conducted by Ranggauni et al (2020) on health workers at the Bidara Cina Health Center, East Jakarta which showed a good or positive attitude in emergency response to flood disasters because health workers have been based on knowledge of good disaster risk so that they also have a good attitude towards disaster emergencies.

The results of this study are in accordance with the theory put forward by Soenaryo (2004) in Pratiwi (2014) which states that knowledge is an important object that forms an attitude. Attitudes based on knowledge are generally fixed, that is, if a person has good knowledge, at least he knows a problem and can analyze it so that he can take better action than someone who has less knowledge. As many as 2.6% of students have a neutral attitude regarding earthquake preparedness, which is in line with the results of research obtained by Ziftawi et al (2021). In his research, it was found that the attitude of health students is in the medium category because students' knowledge about disaster preparedness is also in the medium category due to the absence of a curriculum or courses on disasters in medicine. Listiana et al (2021) stated that a positive attitude can also be due to fear and imagining the impact of an earthquake disaster that can occur at any time without being compromised and avoided. Attitude can determine a person's behavior. Encouraging a positive attitude can be a strong motivation in making efforts to reduce the risks or impacts caused by disasters.

Based on the results of the analysis of the frequency distribution of attitude questionnaires, there are still 1.6% of students who have negative attitudes related to earthquake preparedness. This is supported by the results of research obtained by Nuraini and Wijaya (2019), where the attitude of employees of RSU PKU Muhammadiyah Bantul is still negative towards disaster preparedness. The low attitude of disaster preparedness is caused by a person's personality, self-concept, personal experience, intelligence, emotions, education, culture, and environment. According to Firmansyah in Harefa et al (2019), attitude is a determining factor in behavior because attitude is related to perception, personality and motivation.⁸¹ Attitude is defined as mental preparedness, which is learned and organized through experience, and has a certain influence on the way a person responds to others, objects, and situations that relate to him. On the attitude question regarding preparedness to deal with earthquake disasters, question number 4 about when an earthquake occurs in a multi-storey building that must be done is to take shelter until waiting for the shock to stop and then run using an emergency staircase to get out of the building, only 37 people (19.3%) answered strongly agreed. This is in line with research conducted by Longo (2021) on nursing students in the United States which shows that there are

still many students who prefer unsafe actions such as standing in front of the door rather than squatting on the inner wall and running into the nearest building rather than moving away from the building.

Regarding the attitude question regarding preparedness for earthquake disasters, question number 10 was about whether individuals felt prepared to face earthquake disasters, as many as 88 people (45.8%) answered neutrally. This is in line with a study conducted by Longo (2021) on nursing students in the United States which showed that less than half of the nursing students in this study felt prepared to face earthquakes.⁵ These findings are also consistent with an intervention study to improve the disaster preparedness knowledge of nursing students in Turkey, where the majority (88% to 97.2%) reported not feeling disaster prepared before the training. This is in accordance with the condition of professional students who have mostly not participated in disaster simulation activities held by RSGMP FKG UPDM(B) for the past year. In the action section consisting of 10 questions, it was found that half of the professional students, namely 52.1%, were in the category of ready in preparing for earthquake disasters. This can happen because action is any activity or activity that a person does, as a reaction or response to an external stimulus, which describes a person's knowledge and attitude where professional students have a good level of knowledge and a positive attitude. This is in line with research conducted by Darmareja et al (2022) on students of the Diploma III Nursing study program which showed that the results of almost most (68.1%) students have an earthquake disaster preparedness level in the very ready category. This is supported by Yari et al (2021), that as many as 86.7% of respondents have a category of actions that are ready to standby. This is due to a significant relationship between the level of knowledge and student preparedness in dealing with flood disasters ($p \text{ value } 0.010 < \alpha 0.05$).

A high level of knowledge will affect preparedness The higher a person's level of knowledge, the better the level of preparedness. As many as 42.7% of students are still in the category of being quite ready. This is in line with research conducted by Yousefi et al (2019) which showed that nurses in Iran have a moderate level of action on disaster preparedness due to moderate knowledge. Based on the results of the analysis of the frequency distribution of action questionnaires, there are still 5.2% of students who have the category of actions that are not ready related to earthquake preparedness. This is in line with research conducted by M. Rais in 2017 on human resources at RSGM Unsyiah also shows a lack of preparedness level because RSGM Unsyiah is still concentrated on meeting the basic needs of dental care for patients, as well as the lack of human resources at RSGM Unsyiah for earthquake disasters related to the lack of policies and guidelines, lack of socialization, There is no division of tasks and action plans for disaster emergencies. The same results were also found in a study conducted by Larwuy (2021) on health workers at the Batugoyang Health Center which showed that the majority of health workers were in the unprepared category because the average respondent had never been involved in disaster risk analysis and was involved in the preparation of regional/community action plans for disaster risk reduction.

CONCLUSIONS AND RECOMMENDATIONS

Knowledge, attitudes, and actions of professional students for the 2021 – 2022 academic year at RSGMP FKG UPDM(B) regarding earthquake disaster preparedness that the majority of students are women. In the category of knowledge level, 59.9% have good knowledge, 39.6% have sufficient knowledge, and 0.5% still have insufficient knowledge. The attitude level category as many as 95.8% had a positive attitude, 2.6% had a neutral attitude, and as many as 1.6% had a negative attitude related to preparedness in dealing with earthquakes. The action level category as many as 52.1% has ready actions, 42.7% is in the category of sufficiently prepared, and 5.2% is still in the category of unprepared related to preparedness in dealing with earthquakes and the need to hold a curriculum regarding disaster emergencies and preparedness for students in the form of exercises or simulations to face disasters, especially earthquakes which are carried out routinely at least 1 time a year so that professional students who are new to work at RSGMP FKG UPDM(B) is aware of the importance of having a preparedness plan to avoid greater losses, the need for the involvement of all elements of RSGMP FKG UPDM(B), especially professional students, in the division of tasks and *action plans* for disaster emergencies, not only earthquakes but also other disasters, considering that the number of students is more than other human resources at RSGMP FKG UPDM(B).

ADVANCED RESEARCH

Future research could explore the effectiveness of targeted training programs and simulation-based learning in improving the knowledge, attitudes, and preparedness actions of dental professional students at RSGMP FKG UPDM (B) in responding to earthquake disasters.

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