

Perception of University Students on the Achievement of Disaster Nursing Course Competencies with Online Learning Methods

Dhiya Roihana¹, Etika Emaliyawati², Sandra Pebrianti³

¹Nursing Internship Program, Faculty of Nursing, Universitas Padjadjaran

^{2,3}Department of Critical Care and Emergency Nursing, Faculty of Nursing, Universitas Padjadjaran

³Department of Medical-Surgical Nursing, Faculty of Nursing, Universitas Padjadjaran

ARTICLE INFO

Keywords:

Disaster, Disaster nursing,
Nursing student competency,
Online learning method,
Perception

Email :

dhiya17004@mail.unpad.ac.id
etika@unpad.ac.id
Sandra.pebrianti@unpad.ac.id

ABSTRACT

The COVID-19 pandemic has had an impact on the teaching and learning process, namely online learning methods which have made several changes, especially in subjects that require practical competence. According to the International Council of Nurses, nursing students must have appropriate knowledge of competence in dealing with disaster problems. This study aims to describe student perceptions of the competency achievements of the Disaster Nursing Course using online learning methods at the Faculty of Nursing, Universitas Padjadjaran. The research design uses quantitative descriptive with a cross sectional approach using the Nurse Perception of Disaster Core Competencies Scale instrument. The population in this study numbered 155 students from class 2018 using the purposive consecutive technique. The data were analyzed using univariate analysis which measured student perceptions with results supporting or not supporting. The results of the analysis showed that more than half of the students had unfavorable perceptions, namely 85 students (54.8%) and supportive perceptions, namely 70 students (45.2%). The results of the sub variable critical thinking (62.6%) did not support, assessment (53.5%) did not support, communication (56.1%) did not support, and technical skills (51.6%) did not support. Students' perceptions of competency achievement in disaster nursing courses using online learning methods are not supportive, both in the total score of perceptions about the achievements of all core competencies and in sub-variables. Suggestions for educational institutions to hold seminars/training, practicum, and simulations related to the competence of disaster nursing courses in online learning methods.

Copyright © 2023 Eduhealth Journal. All rights reserved is Licensed under a [Creative Commons Attribution- NonCommercial 4.0 International License \(CC BY-NC 4.0\)](https://creativecommons.org/licenses/by-nc/4.0/)

1. INTRODUCTION

Disasters in Indonesia have become a serious problem for Indonesian society. According to Data dan Informasi Bencana Indonesia (2021), the number of natural disasters in Indonesia from the beginning of 2021 until July 13, 2021 has reached 1,550 events, dominated by tornadoes (427 events), followed by floods (644 events) and landslides (316 events). This is followed by non-natural disasters such as COVID-19. This pandemic has affected globally, which case and deaths from COVID-19 continue to experience enhancement in 2021 [1], [2]. Data from Badan Nasional Penanggulangan Bencana (BNPB) in DIBI (2021) for July 2021 show that the highest number of disaster events occurred in West Java Province with 472 events, dominated by landslides (141 events), tornadoes (104 events), and floods (66 events) [3].

Preventive measures to control the spread of COVID-19 in Indonesia have led to new policies, one of which is distance learning. According to the Rector's Decision of Universitas Padjadjaran Number 1190/UN6.RKT/Kep/HK/2020 regarding Guidelines for the Implementation of Education, Research, and Student Activities during the COVID-19 Pandemic in the Even Semester of 2020/2021 at Universitas Padjadjaran, lectures were conducted online while maintaining quality standards [4]. The implementation of online learning methods has brought about several changes in the teaching-learning

process, especially in subjects that require practical learning to enhance students' skills. One of these subjects is Disaster Nursing.

According to the theory of Andrea Jennings Sanders and the International Council of Nurses (ICN) & World Health Organization (WHO), the perception of nursing students in understanding disaster nursing should reach a level of knowledge that corresponds to general competencies and be able to demonstrate general competencies to face disasters in the future [5]. The assessment of the perception of general competencies among nursing students in the Disaster Nursing course refers to the 4 Core Competencies, namely critical thinking, assessment, communication, and technical skills [6]–[10].

To determine the perception of students' understanding of these 4 Core Competencies, an assessment is required using the Nurse Perception of Disaster Core Competencies (NPDCC) research instrument. Several factors can influence perception, including ability, experience, individual, environment, and knowledge framework [11].

Students as individuals and a change in learning methods as a framework for knowledge are factors that can determine students' perception in receiving learning materials. This study aims to show the importance of knowing nursing students' perception in dealing with disasters with online learning methods, especially in the Disaster Nursing course. In a disaster situation, nurses play a crucial role in providing healthcare services to affected communities. A good understanding of core competencies in disaster nursing-related perception will bring positive changes in the quality of nursing services in the community during disasters. Therefore, nursing students must have perceptions related to skills and competencies that support them in dealing with disaster situations which can be measured and determined through the achievement of core competencies.

2. METHOD

This research uses a quantitative descriptive research design with a cross-sectional approach using the Nurses Perception of Disaster Core Competencies Scale (NPDCC) questionnaire instrument developed by Celik [12]. The NPDCC questionnaire has previously been used in research by Taskiran & Baykal (2019) to measure five Core Competencies among nurses. In this study, the instrument was modified by Silviana to be translated into Indonesian language and tested for validity and reliability [13]. The questionnaire is divided into 4 parts of core competencies with a total of 44 questions. The instrument's validity was tested by the researcher previously, and all questions were found to be valid with a table r value of 0.279 and a range of 0.536-0.835 for r values. The Cronbach's alpha value in this study was 0.965, indicating that the reliability test was reliable because the alpha value was greater than the Cronbach's alpha value, and the reliability test results for each sub-variable were 0.772-0.927 [13].

The population of this study is the class of 2018 Nursing Faculty students who have taken the Disaster Nursing course with online learning methods, including all 244 students from three campuses in Jatinangor, Garut, and Pangandaran. The sampling technique used was Purposive Consecutive Sampling, which was conducted on 155 students from the class of 2018 who had taken the Disaster Nursing course with online learning methods at the Nursing Faculty of Padjadjaran University.

Data was collected in this study using a previously validated and reliable questionnaire. The questionnaire consists of two parts: the first part contains respondent characteristics, and the second part contains 44 questions related to students' perceptions of competency achievements in the Disaster Nursing course with online learning methods. This questionnaire was distributed online through Google Forms to 155 students from the 2018 cohort who took the Disaster Nursing course at the Nursing Faculty of Padjadjaran University, and it was also distributed through WhatsApp groups to the coordinators of each cohort. Data collection was conducted over 2 days from December 22-24, 2021.

The researcher first tested the normality of the research results using the Kolmogorov-Smirnov formula. The data is considered to be normally distributed if the asymptotic sig > 0.05 ; otherwise, the data is considered to be non-normally distributed if the asymptotic sig < 0.05 . If normal data is obtained, data analysis is categorized using mean and standard deviation, while non-normal data is analyzed using a median. The perception of supporting competency achievement is determined when the mean is ≥ 144.9 , the median is ≥ 17.00 for critical thinking-related core competency, the mean is ≥ 52.58 for

assessment-related core competency, the mean is ≥ 30.15 for communication-related core competency, and the mean is ≥ 45.46 for technical skill-related core competency.

This research was conducted by applying research ethics principles and respecting the respondents' rights during the research, from the process of data collection to data processing, based on the principles of informed consent, confidentiality, justice, non-maleficence, and beneficence. In addition, this research has been approved by the Ethics Commission of Universitas Padjadjaran with ethical letter number 1046/UN6.KEP/EC/2021.

3. RESULTS AND DISCUSSION

Characteristic of Participants

Most of the respondents were 21 years old (69.5%), dominated by women, 138 students (89.0%), most respondents came from the Jatinangor campus, 87 students (89.0%), and currently reside in their parents' house, namely 118 students (76.1%). In detail the characteristics of the participants can be seen in table 1.

Table 1. Characteristic of participant (N= 155)

Characteristic	Frequency (f)	Percentage (%)
Age		
19	1	0.6
20	6	3.9
21	107	69.5
22	38	24.7
23	23	1.3
Gender		
Male	17	11.0
Female	138	89.0
Campus region		
Garut	46	11.0
Jatinangor	87	89.0
Pangandaran	22	11.0
Dwelling		
Dormitory	2	1.3
Bording house	35	22.6
Home with family	118	76.1

The results of the distribution of the frequency of question points related to disasters, there were 78 students (49.7%) who had experience dealing with disasters as volunteers, victims, observers, and had direct experience of both natural and non-natural disasters, as many as 105 students (67.7%) had attended seminars related to disasters and emergency department, and 20 students (12.9%) have or are participating in disaster and emergency related UKM (see table 2).

Table 2. Frequency Distribution related to Disaster

Characteristic		Frequency (f)	Percentage (%)
Have experience dealing with disasters? (as volunteers, victims and those who see/experience disaster conditions, both natural and non-natural).	Yes	77	49.7
	No	78	50.3
Have you ever attended a seminar related to disaster or emergency?	Yes	105	67.7
	No	50	32.3
Have you attended or are currently participating in a Student Activity Unit related to Disaster and Emergency? (example: PNC, SAR UNPAD, etc.)	Yes	20	12.9
	No	135	87.1

Perception of Student Competency Achievement

More than half of the total number of respondents, as many as 85 students (54.8%) had an unsupportive perception of competency achievement in disaster nursing courses using online learning methods. Perception of competency achievement in disaster nursing courses using online learning methods in detail can be seen in table 3.

Table 3. Perceptions of Competency Achievements for Disaster Nursing Courses using the Online Learning method (N=155)

Competencies	Supportive		Unsupportive	
	F	%	F	%
Perceptions of Competency Achievements in Disaster Nursing Courses	70	45.2%	85	54.8%

Perception of Student Competency Achievements based on Core competency

Based on the results of the study, the majority of respondents in this study had unsupportive perceptions related to competency achievements in disaster nursing courses related to Critical Thinking, Assessment, Communication, and Technical Skills using online learning methods. More than half of the total number of respondents, namely 97 students (62.6%), had unsupportive perceptions about the competence achievements of disaster nursing courses related to Critical Thinking. In addition, as many as 83 students (53.5%) had unsupportive perceptions of competency achievements in disaster nursing courses related to Assessment, 87 students (56.1%) in the Communication category, and 80 students (51.6%) in the Technical category. Skills with online learning methods. The highest and lowest scores in each competency category have also been identified in this study. In more detail related to the perception of student competency achievements based on core competency can be seen in table 4.

Table 4. Perception of the achievement of Disaster Nursing Course Competencies per Core Competency (N=155)

Perceptions of the Achievement of Disaster Nursing Course Competencies by Core Competency	Supportive		Unsupportive	
	F	%	F	%
Critical Thinking	58	37.4%	97	62.6%
Assessment	72	46.5%	83	53.5%
Communication	68	43.9%	87	56.1%
Technical Skill	75	48.4%	80	51.6%

Student Characteristics of Student Competency Achievement Perceptions

Based on the research findings, it is evident that most respondents have perceptions that do not support the achievement of competency in the disaster nursing course related to critical thinking, assessment, communication, and technical skills with online learning methods. More than half of the total respondents have unsupportive perceptions in each Core Competency category, with the highest and lowest values in each category. Additionally, from Table 5, it can be seen that male respondents and students from the Garut campus have more supportive perceptions towards the achievement of competency in the disaster nursing course with online learning methods. Students who have experience in facing disasters, have attended seminars/training related to disasters, and those who have attended or are currently attending disaster and emergency response student organizations also have more supportive perceptions towards the achievement of competency in the disaster nursing course with online learning methods. The characteristics of students towards the perception of student competency achievement can be seen in detail in Table 5.

Table 5. Crosstab of Student Characteristics with Students' Perception on the Achievement of Disaster Nursing Course Competency

Characteristic of respondent	Supportive		Unsupportive	
	F	%	F	%
Gender				
Male	11	64.7	6	35.5
Female	59	42.8	79	57.2
Campus region				
Jatinangor	37	42.5	50	57.5
Garut	23	50.0	23	50.0
Pangandaran	10	45.5	12	54.5
Dwelling				
Home with family	50	42.4	68	57.6
Dormitory	0	0.0	2	100.0
Bording house	20	57.1	15	42.9
Do you have experience dealing with disasters? (as a volunteer, victim, or witness/experiencing natural or non-natural disasters)				
Yes	42	54.5	35	45.5
No	28	35.9	50	64.1
Have you ever attended a seminar related to disaster or emergency?				
Yes	52	49.5	53	50.5
No	18	36.0	32	64.0
Have you ever participated in or are currently participating in a Student Activity Unit related to Disaster and Emergency Response? (e.g. PNC, UNPAD SAR, etc.)				
Yes	11	55.0	9	45.0
No	59	43.7	76	56.3

Discussion

Principal finding

This research discusses the perceptions of students on the achievement of disaster nursing competencies through online learning methods. The results of the study suggest that students' perceptions of the achievement of disaster nursing competencies are not supportive when conducted through online learning methods. The results of this study are different from the results of previous research by Taskiran & Baykal and research by Herlina Silviana, which states that the description of student perceptions about competency achievements in disaster nursing courses is in the perception category in favor of using the offline method [8], [13]. According to Soraya, factors that influence the formation of perceptions include the individual himself, learning motivation, understanding in the framework of knowledge, skills, experiences and situations [11].

Students who live in boarding houses during the learning process have more supportive perceptions compared to students who currently live at home. This could be due to the change in learning methods to online learning, causing a change in situations and distractions from various aspects in the learning process that are not conducive. According to previous research, offline learning methods are better in increasing individual understanding. This shows that situational factors that affect perception are crucial because online learning has several factors that need to be considered such as facilities, network access, device and application capabilities, and effectiveness during learning [14]. This is in line with research conducted by Sudewo et al., which said the learning environment is a factor that influences the results of the learning process because when doing online learning at home there may be some distractions that interfere with learning focus, such as accessing social media, watching videos, playing games, as well as household duties that must be done and done without prior planning [15]. This is also in line with Nurfaizal's research (2021) that student learning motivation decreases during online learning [16].

Students who have experienced disasters or have experience in disaster and emergency organizations have more supportive perceptions compared to students who do not have experience in

dealing with disasters or experience in disaster and emergency organizations. This is in line with Utami and Nanda's research (2019), which suggests a significant increase in students' level of disaster preparedness knowledge after receiving disaster response training/simulation.

The perception of students measured from the core competency related to critical thinking shows that 37.4% of students have a supportive perceptions and 62.6% have unsupportive perceptions. According to Sulistyowati's research there are 2 possible factors that can influence the development of critical thinking in students, including the activities of teachers and student activities [17]. The lack of interest and motivation to read and explore knowledge is a common problem experienced in developing critical thinking [18]. Strategies, methods, and techniques that match the student's learning style and characteristics need to be developed to improve students' perceptions of critical thinking. Especially with things that can affect the development of critical thinking, related to problem solving, analysis, evaluation, and self-regulation [19]. According to Andrea Jennings Sander, critical thinking is one of the core values of nursing, so it is very important to have a supportive perception of critical thinking competence to continue to be developed by nursing students [20].

The perception of students measured from the core competency related to assessment shows that 46.5% of students have a supportive perceptions and 53.5% have a unsupportive perceptions. Assessment is essential data in making nursing care plans.

The perception of students measured from the core competency related to communication shows that 43.9% of students have a supportive perception and 56.1% have a unsupportive perception. This may be due to the change in online learning methods, which has caused students to have a negative perception of emergency plans on campus and in the community. Students also have no experience in dealing with disasters, which leads to a unsupportive perception regarding communication in the nursing process during disasters, especially in explaining emergency plans to the surrounding community. According to Rudianto's (2015) research, communication is the best key to implementing mitigation, preparation, response, and recovery in disasters [21].

Based on the research analysis, the perception of students measured from the core competency related to technical skills shows that 48.4% of students have a supportive perception and 51.6% have a unsupportive perception. This may be due to the change in learning process to online learning methods, so students have no direct experience related to some technical skills. Technical skills are specific skills and expertise according to appropriate knowledge, methods, and procedures. The limited practice is the main reason for the lack of supportive perception among students in the technical skill core competency.

The lack of support in students' perceptions towards the disaster nursing course may affect their achievement of competencies established by ICN and the WHO in preparing nurses and nursing students who are more prepared to face disasters in the future, as well as influencing disaster risk reduction efforts established by UNISDR in priority 4 of the Sendai Framework for Disaster Risk Reduction (SFDRR), which aims to improve preparedness responses through good disaster management [5], [22]–[24]. Therefore, it is important to improve students' perceptions of the achievement of competencies in the disaster nursing course with online learning methods, such as by providing skill evaluations, such as offline practical exams, and providing seminars/training related to disasters. The knowledge framework, experiences, and situations experienced in the online learning process have an impact on students' perceptions.

Study limitation

This study has several limitations. First, it only used data from one faculty and one nursing program, so the results cannot be generalized to all nursing faculties and programs in Indonesia. Second, this study only measured students' perceptions of the achievement of competency in disaster nursing courses with online learning methods, but did not objectively evaluate students' abilities to understand and apply the material. Third, the limited time available for the research and the limited number of respondents participating in the study can also affect the validity and reliability of the research results.

4. CONCLUSION

Based on the research results, it can be concluded that the perception of 2018 nursing students on the achievement of disaster nursing course competencies with online learning methods tends to be

unsupportive, although there is no significant difference in percentage compared to the supportive perception category. In detail, the research results indicate that the students' perception of the core competencies related to critical thinking, assessment, communication, and technical skills also tends to be unsupportive.

REFERENCES

- [1] S. Maulana, F. Musthofa, and M. Komariah, "Studi Kasus Perilaku Penolakan Vaksin Covid-19 Di Indonesia: Analisis Penyebab Dan Strategi Intervensi Berdasarkan Perspektif Teori Planned Behavior," (*Jurnal Ilm. Mhs. Kesehatan Masyarakat*), vol. 6, no. 3, pp. 359–363, 2021, doi: 10.37887/jimkesmas.v6i3.20178.
- [2] M. Komariah, S. Maulana, H. Platini, and T. Pahria, "A Scoping Review of Telenursing's Potential as a Nursing Care Delivery Model in Lung Cancer During the COVID-19 Pandemic," *J. Multidiscip. Healthc.*, vol. 14, pp. 3083–3092, Nov. 2021, doi: 10.2147/JMDH.S337732.
- [3] BNPB, "Potensi dan Ancaman Bencana," BNPB, 2017. <https://bnpb.go.id/potensi-ancaman-bencana>
- [4] Universitas Padjadjaran, *Keputusan Rektor Universitas Padjadjaran Nomor: 1190/UN6.RKT/Kep/HK/2020 Tentang Panduan Penyelenggaraan Kegiatan Pendidikan, Penelitian dan Kemahasiswaan Masa Pandemi Covid-19 Semester Genap 2020/2021 di Lingkungan Universitas Padjadjaran*. 2020.
- [5] World Health Organization and International Council for Nurses, *ICN Framework of Disaster Nursing Competencies*. Switzerland: Geneva, 2009.
- [6] A. Jennings-Sanders, "Teaching disaster nursing by utilizing the Jennings Disaster Nursing Management Model," *Nurse Educ. Pract.*, vol. 4, no. 1, pp. 69–76, 2004, doi: 10.1016/S1471-5953(03)00007-6.
- [7] S. Achora and J. K. Kamanyire, "Disaster preparedness: Need for inclusion in undergraduate nursing education," *Sultan Qaboos Univ. Med. J.*, 2016, doi: 10.18295/squmj.2016.16.01.004.
- [8] G. Taskiran and U. Baykal, "Nurses' disaster preparedness and core competencies in Turkey: a descriptive correlational design," *Int. Nurs. Rev.*, vol. 66, no. 2, pp. 165–175, 2019, doi: 10.1111/inr.12501.
- [9] A. Al, V. Plummer, and B. Williams, "What are the most common domains of the core competencies of disaster nursing? A scoping review," *Int. Emerg. Nurs.*, 2016, doi: 10.1016/j.ienj.2016.10.003.
- [10] S. Maulana and B. A. Nugraha, "Kompetensi Mahasiswa Keperawatan Bencana: Tinjauan Literatur," *J. Penelit. Perawat Prof.*, vol. 3, no. 1, pp. 143–152, 2021, doi: 10.37287/jppp.v3i1.356.
- [11] N. Soraya, "Analisis Persepsi Mahasiswa Terhadap Kompetensi Dosen Dalam Mengajar Pada Program Studi Pai Fakultas Ilmu Tarbiyah Dan Keguruan Uin Raden Fatah Palembang," *Tadrib J. Pendidik. Agama Islam*, vol. 4, no. 1, pp. 183–204, 2018, doi: 10.19109/tadrib.v4i1.1957.
- [12] F. Celik, "Disaster Preparedness Status of Nurses Working at Turkish Red Crescent," Istanbul University, 2010.
- [13] H. Silviana, "Description Of Student ' S Perception In The Achievement Of Disaster Nursing Course Competency At Faculty Of Nursing Universitas," Universitas Padjadjaran, 2020.
- [14] A. Sadikin and A. Hamidah, "Pembelajaran Daring di Tengah Wabah Covid-19," *Biodik*, vol. 6, no. 2, pp. 109–119, 2020, doi: <https://doi.org/10.22437/bio.v6i2.9759>.
- [15] B. Sudewo, M. Gojali, and A. Raditya, "DAMPAK KEGIATAN PEMBELAJARAN DAN PENUGASAN SISWA SAAT PEMBELAJARAN DARING," *LENTERA J. Ilm. Kependidikan*, vol. 16, no. 1, pp. 36–45, 2021.
- [16] N. Nurfaisal, "MOTIVASI BELAJAR SISWA SELAMA PANDEMI COVID 19 DALAM PROSES BELAJAR DARI RUMAH," *J. Ilm. MEA (Manajemen, Ekon. Akuntansi)*, vol. 5, no. 1, pp. 1800–1808, 2021.
- [17] R. Sulistyowati, "Meningkatkan kemampuan berpikir kritis mahasiswa pada mata kuliah salesmanship melalui metode pemberian tugas," *Pros. Semin. Nas. 9 Mei 2015*, pp. 219–225, 2015, [Online]. Available:

- http://www.academia.edu/download/56118659/21_Raya_Sulistyowati.pdf
- [18] A. M. Amin and R. Adiansyah, "LECTURERS' PERCEPTION ON STUDENTS' CRITICAL THINKING SKILLS DEVELOPMENT AND PROBLEMS FACED BY STUDENTS IN DEVELOPING THEIR CRITICAL THINKING SKILLS," *JPBI (JURNAL Pendidik. Biol. Indones.*, vol. 4, no. 1, pp. 1–10, 2018, [Online]. Available: <https://doi.org/10.22219/jpbi.v4i1.5181>
- [19] A. M. Amin, A. D. Corebima, Z. Siti, and S. Mahanal, "ANALISIS PERSEPSI MAHASISWA DAN DOSEN TERHADAP MOTIVASI BELAJAR PADA PERKULIAHAN FISILOGI HEWAN," *J. Penelit. Pendidik. Mat. dan Sains*, vol. 1, no. 2, 2017.
- [20] A. Jennings-Sanders, N. Frisch, and S. Wing, "Nursing students' perceptions about disaster nursing," *Disaster Manag. Response*, vol. 3, no. 3, pp. 80–85, 2005, doi: 10.1016/j.dmr.2005.04.001.
- [21] Rudianto, "Komunikasi dalam Penanggulangan Bencana," *J. Simbolika*, vol. 1, no. 1, pp. 51–61, 2015.
- [22] UNDRR, *Global Assessment Report on Disaster Risk Reduction 2015*. International Strategy for Disaster Reduction (ISDR), 2015.
- [23] UNISDR, "Sendai Framework for Disaster Risk Reduction 2015 - 2030," *United Nations International Strategy for Disaster Reduction (UNISDR)*, 2015.
- [24] UNISDR, "Terminology: Basic Terms of Disaster Risk Reduction," *United Nations International Strategy for Disaster Reduction (UNISDR)*, 2004. http://www.unisdr.org/files/7817_7819isdterminology11.pdf