Study of Knowledge, Attitude, Anxiety, and Perception of Mental Health Needs Among Nursing Students in Indonesia During COVID-19 Pandemic

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Abstract

Introduction: College students are a vulnerable population who are more likely to experience anxiety and depressive symptoms during pandemic COVID-19. This study aimed to evaluate the knowledge, attitudes, anxiety, and perceptions of mental health needs among nursing students in Indonesia during the COVID-19 pandemic.

Methods: The study used a cross-sectional design, and the population was nursing students in Indonesia in various levels of education and age ≥ 18 years old. The sampling technique used purposive sampling with a total of 619 respondents. An online survey was conducted using questionnaire. The data analysis used descriptive statistics, Mann-Whitney, and Kruskal-Wallis test.

Results: The results showed that only a few respondents had an adequate level of knowledge regarding the signs and symptoms (0.2%) and transmission of COVID-19 (13.6%). However, students had moderate knowledge about protecting against COVID-19 (60.3%). As many as 22.8% of students had a positive attitude toward COVID-19 and 94% of respondents did not experience anxiety. The majority of students had a perception that COVID-19 has an impact on their lives. The results also showed that there were significant differences in several demographic variables (gender, education, place of residence, institution) with the knowledge, attitudes, anxiety, and perceptions of students.

Conclusion: The level of knowledge, attitudes, and perceptions among nursing students regarding COVID-19 were less or negative tendencies. At the same time, the nursing students did not experience clinically significant fear and anxiety. This requires government support in providing policies to educational institutions for improving students' knowledge, attitudes, and perceptions of COVID-19.

Keywords

COVID-19; mental status; nursing students; psychological status

INTRODUCTION

The Novel Corona Virus (COVID-19) is an outbreak that was first reported in December 2019 in Wuhan, China, and spread in a short time all over the world (Carlos *et al.*, 2020; Chen sWang *et al.*, 2020; Du Toit, 2020; C. Huang *et al.*, 2020;). This pandemic is

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the largest pneumonia outbreak with a total number of cases and deaths surpassing the cases of Severe Acute Respiratory Syndrome (SARS) in 2003 (Hawryluck *et al.*, 2004; Cuiyan Wang *et al.*, 2020). Most people infected with COVID-19 will experience mild to moderate respiratory symptoms including fever, chills, cough, sore throat, difficulty breathing, myalgia, nausea, vomiting, and diarrhea (Chen *et al.*, 2020; WHO, 2020a). Severe cases cause heart injury, respiratory failure, acute respiratory distress syndrome, and death (Holshue *et al.*, 2020). The World Health Organization (WHO) states that the mortality rate for COVID-19 cases is 3-4% (WHO, 2020b).

On 2nd March 2020, Indonesia reported the first discovery of two confirmed cases of COVID-19 (Kemenkes RI, 2020b). As of April 23, 2020, the WHO reported that there were 7,418 confirmed COVID-19 cases in Indonesia and declared Indonesia the second country with the highest number of COVID-19 after China in the South-East Asia region, and has been appointed as a country with community transmission (WHO, 2020c). This indicates that Indonesia has an emergency situation. Twenty-one regions in Indonesia have been designated as local transmission areas for COVID-19 which include North Sumatra, West Sumatra, Riau, South Sumatra, Banten, DKI Jakarta, West Java, Central Java, East Java, Bali, West Kalimantan, Central Kalimantan, East Kalimantan, South Kalimantan, North Kalimantan, West Nusa Tenggara, South Sulawesi, Southeast Sulawesi, North Sulawesi, and Papua (Kemenkes RI, 2020e).

The WHO and the government are improving awareness among healthcare workers (WHO, 2020b). The WHO raises funds globally and establishes strategic preparedness to protect countries, especially for weak health systems. The targets were set out to limit transmission, provide self-care, information, and minimize the social and economic impact. In addition, the WHO is also focused on developing diagnostics that are easy to implement, developing existing vaccines, and preventing infection (WHO, 2020b). Lock-down policies in various parts of the world have been implemented, which have resulted in a decrease in the global economic system and the outage of services (Ebrahim *et al.*, 2020). Transportation has been stopped and most people work from home (Roy *et al.*, 2020). The increase and spread of the number of COVID-19 cases in Indonesia occurred significantly and quickly, accompanied by local transmission events, and led the government to implement social restrictions (PSBB) (Kemenkes RI, 2020d). The implementation of the PSBB

Table 1. Distribution of respondent characteristics (n=619)

Variables	n	%
Age		
0-1 years	0	0
2-10 years	0	0
11-19 years	116	18.7
20-60 years	503	81.3
> 60 years	0	0
Gender		
Male	109	17.6
Female	510	82.4
Education		
Diploma	114	18.4
Bachelor	493	79.7
Master	12	1.9
Doctoral	0	0
Resident		
West of Indonesia	528	85.3
Central of Indonesia	79	12.8
East of Indonesia	12	1.9
Institution		
Public	60	9.7
Private	559	90.3

includes school and work vacations, restrictions on religious activities, restrictions on activities in public places or facilities, restrictions on social and cultural activities, restrictions on transportation modes, and restrictions on other activities specifically related to defense and security aspects. Activities in educational institutions are also stopped followed by uncertainty and postponement of examinations, which can pose a threat to students (Roy *et al.*, 2020). Even in emergency conditions, the media observations showed that most people not following the advice properly. Knowledge, attitude, and perceptions of the public about COVID-19 influence efforts to prevent the spread of the disease (Roy *et al.*, 2020). Knowledge is consciousness for humankind and develops human minds (Nasimi *et al.*, 2013). While perception and attitude can develop the cognitive and affective of learning and these are determined by external factors such as living environment and society (Mulder, 2017).

Similar regulation has also been implemented in Indonesia; the government has issued policy regulation of social distancing which states that learning can be done at home (Kemenkes RI, 2020a). This may affect the disruption of the daily routine of students. Based on a health survey in the UK, it was stated that this pandemic condition caused 85%

Table 2. General knowledge of COVID-19

What are the signs and symptoms of COVID-19?	**Yes**	**No**	**Don't know**
	n (%)	**n (%)**	**n (%)**
A general feeling of unwell	366 (59.1)	244 (39.4)	9 (1.5)
Fever	363 (58.6)	253 (40.9)	3 (0.5)
Dry cough	336 (54.3)	271 (43.8)	12 (1.9)
Sore throat	350 (56.5)	260 (42.0)	9 (1.5)
Short of breath	310 (50.1)	281 (45.4)	28 (4.5)
Difficulty in breathing	350 (56.5)	261 (42.2)	8 (1.3)
Headache	281 (45.4)	296 (47.8)	42 (6.8)
Running nose	361 (58.3)	252 (40.7)	6 (1.0)
Diarrhea	165 (26.7)	410 (66.2)	44 (7.1)
Chest pain	303 (48.9)	295 (47.7)	21 (3.4)
What are the ways to protect against COVID-19?			
Avoid contact with people who have respiratory illness symptoms, such as coughing, sneezing, and flu	603 (97.5)	12 (1.9)	4 (0.6)
Avoid touching nose, mouth, and eyes with unwashed hands	578 (93.4)	31 (5.0)	10 (1.6)
Always perform handwashing with soap and water	614 (99.2)	3 (0.5)	2 (0.3)
Always eat fully cooked eggs and meat	555 (89.7)	36 (5.8)	28 (4.5)
Always eat rice and vegetables	586 (94.7)	22 (3.5)	11 (1.8)
Clean and disinfect objects and surface	590 (95.3)	24 (4.0)	4 (0.7)
Cover mouth and nose with tissue or handkerchief when cough or sneeze	608 (98.2)	8 (1.3)	3 (0.5)
Wear a clean surgical mask when you have respiratory illness symptoms such as coughing, sneezing, and flu	566 (91.4)	44 (7.1)	9 (1.5)
Don't need to maintain distance from infected person	96 (15.5)	517 (83.5)	6 (1.0)
Knowledge of COVID-19 transmission			
COVID-19 can be spread from animal to human	319 (51.5)	214 (34.6)	86 (13.9)
Novel coronavirus can be spread from person to person	612 (98.9)	3 (0.5)	4 (0.6)
A person can get COVID-19 through coughing or sneezing from a COVID-19 person	605 (97.7)	9 (1.5)	5 (0.8)
A person can get COVID-19 through the mosquito bite	42 (6.8)	487 (78.7)	90 (14.5)
A person can get COVID-19 through water and food	277 (44.7)	253 (40.9)	89 (14.4)
A person can get COVID-19 through objects contaminated with coronavirus	593 (95.8)	16 (2.6)	10 (1.6)
A person can get COVID-19 by touching other people with flu viruses and then touching their mouth or nose	522 (84.3)	66 (10.7)	31 (5.0)

Table 3. Level of general knowledge of COVID-19

Question	Number of the correct answer	Level of knowledge n (%)
What are the signs and symptoms of Covid-19?	0	1 (0.2)
	1	15 (2.4)
	2	192 (31.0)
	3	33 (5.3)
	4	29 (4.7)
	5	37 (6.0)
	6	74 (12.0)
	7	108 (17.4)
	8	123 (19.9)
	9	6 (1.0)
	10	2 (0.2)
What is the protective way to COVID-19?	0	1 (0.2)
	1	1 (0.2)
	4	2 (0.3)
	5	1 (0.2)
	6	18 (2.9)
	7	46 (7.4)
	8	177 (28.6)
	9	373 (60.3)
Knowledge on COVID-19 transmission	0	1 (0.2)
	1	1 (0.2)
	2	3 (0.5)
	3	9 (1.5)
	4	72 (11.6)
	5	213 (34.4)
	6	236 (38.1)
	7	84 (13.6)

Table 4. Attitudes towards COVID-19

Level of fear	Yes	No	Occasionally
	n (%)	n (%)	n (%)
Are you afraid to contact people who have flu symptoms such as cough, running nose, sneezing, and fever?	347 (56.1)	103 (16.6)	169 (27.3)
Are you afraid to eat outside food from hawker centers?	300 (48.5)	155 (25.0)	164 (26.5)
Are you afraid of eating raw food?	505 (81.6)	58 (9.4)	56 (9.0)
Are you being afraid of eating wildlife animal meat?	564 (91.1)	41 (6.6)	14 (2.3)
Are you afraid to contact your friends and relatives, who are just back from overseas?	363 (68.6)	107 (17.3)	149 (24.1)
Are you afraid to go to crowded places?	452 (73.0)	44 (7.1)	123 (19.9)
Are you avoiding going out to public places with friends and family?	391 (63.2)	67 (10.8)	161 (26.0)
Are you avoiding going abroad with friends and family?	569 (91.9)	32 (5.2)	18 (2.9)
Are you avoiding taking public transport (e.g. taxi, bus, train, and airplane)?	477 (77.1)	87 (14.1)	55 (8.9)

Table 5. Level of positive attitude on COVID-19

Attitude	Number of a positive answer	Level of positive attitude n (%)
Attitude toward COVID-19	0	6 (1.0)
	1	13 (2.1)
	2	15 (2.4)
	3	36 (5.8)
	4	57 (9.2)
	5	72 (11.6)
	6	85 (13.7)
	7	102 (16.5)
	8	92 (14.9)
	9	141 (22.8)

Table 6. Student anxiety about COVID-19

Anxiety	n	%
Yes	37	6.0
No	582	94

of students to get worse and 25% experienced difficulty to access mental health support, peer groups support, and direct services which are a challenge for some young people (J. Lee, 2020). COVID-19 is a new disease and causes confusion, anxiety, and fear as well as resentment and stigma (Nursalam *et al*., 2020; WHO, 2020b). Recent research has shown that isolation and quarantine processes cause significant hardship for individuals resulting in anxiety, anger, confusion, and stress (Brooks *et al*., 2020). Anxiety can be defined as an expectation of a potential threat and affects society or individuals, including students (American Psychiatric Association, 2013). Huang and Zhao (2020) found that younger people (<35 years) were more likely to experience anxiety and depressive symptoms during the COVID-19 outbreak than older people (≥ 35 years). Mental health issues and other major health concerns are expected to increase during the pandemic. Considering the problems, the study aimed to analyze the knowledge, attitudes, anxiety, and perceptions of mental health needs among nursing students in Indonesia during the COVID-19 pandemic.

Table 7. Students' perceptions of COVID-19 and its impacts

Perception of students toward COVID-19				
	Yes n (%)	**No n (%)**	**Not at all n (%)**	
Are you highly exposed to COVID-19?	161 (26.0)	346 (55.9)	112 (18.1)	
	Extremely n (%)	**Very n (%)**	**Moderately n (%)**	**Not at all n (%)**
How worried are you about getting COVID-19?	100 (16.2)	180 (29.1)	303 (48.9)	36 (5.8)
How worried are you about the consequences of getting COVID-19?	111 (17.9)	247 (39.9)	226 (36.5)	35 (5.7)
How is your fear level toward COVID-19?	202 (32.6)	224 (36.2)	167 (27.0)	26 (4.2)
Perception about the impact of COVID-19				
	Great extent n (%)	**Moderately n (%)**	**Very little n (%)**	**Not at all n (%)**
The COVID-19 outbreak has affected my daily routine	320 (51.7)	207 (33.4)	62 (10.0)	30 (4.8)
The COVID-19 outbreak has affected my study	432 (69.8)	143 (23.1)	26 (4.2)	18 (2.9)
The COVID-19 outbreak has affected my financials	395 (63.8)	170 (27.5)	40 (6.5)	14 (2.3)
The COVID-19 outbreak has affected my family's daily routine	317 (51.2)	232 (37.5)	50 (8.1)	20 (3.2)
The COVID-19 outbreak has affected my travel abroad	228 (36.8)	239 (38.6)	73 (11.8)	79 (12.8)
The COVID-19 outbreak has affected my study field work	393 (63.5)	186 (30.0)	26 (4.2)	14 (2.3)
The COVID-19 outbreak has restricted my leisure time of meeting friends	374 (60.4)	195 (31.5)	38 (6.1)	12 (1.9)
The COVID-19 outbreak has restricted my leisure time of meeting family and relatives	337 (54.4)	200 (32.3)	50 (8.1)	32 (5.2)

MATERIALS AND METHODS

Study Design

This study was conducted with a cross-sectional design.

Population, Sample, and Sampling

The population was nursing students in Indonesia who met the inclusion and exclusion criteria. The inclusion criteria were nursing students from various levels of education (diploma, bachelor, master, doctoral) and were registered as Indonesian citizens, had internet access, age ≥ 18 years old, and able to understand the Indonesian language. Meanwhile, the exclusion criterion was students who were unwilling to be research respondents. The sampling technique used was purposive sampling with total respondents of 619.

Research Instruments

The research instrument used was a semi-structured online questionnaire developed using Google Forms. The questionnaire link was sent via WhatsApp (WA) and other social media. Respondents were asked to fill in demographic data consisting of age, gender, education (diploma, bachelor, master, doctoral), place of residence, and institution (public and private). The age of respondents was divided into five categories using WHO classification. Residential areas were divided into three parts including West of Indonesia

Table 8. The difference in knowledge, attitudes, anxiety, and perceptions based on student characteristics

Variables	Knowledge		Attitudes		Anxiety		Perceptions	
	Mean	p-value	Mean	p-value	Mean	p-value	Mean	p-value
Age								
0-1 years	0	0.057	0	0.198	0	0.860	0	0.157
2-10 years	0		0		0		0	
11-19 years	281.72		290.95		307.41		288.84	
20-60 years	316.52		314.39		310.60		314.88	
> 60 years	0		0		0		0	
Gender								
Male	265.10	0.004*	253.39	0.000*	305.84	0.785	354.72	0.004*
Female	319.60		322.10		310.89		300.44	
Education								
Diploma	318.27	0.128	335.72	0.195	322.90	0.685	260.58	0.000*
Bachelor	310.54		304.87		307.08		318.24	
Master	209.17		276.25		307.25		441.00	
Doctoral	0		0		0		0	
Resident								
West of Indonesia	309.78	0.032*	304.74	0.089	305.16	0.071	312.98	0.391
Central of Indonesia	330.33		349.80		326.61		299.51	
East of Indonesia	185.71		279.25		413.71		247.79	
Institution								
Public	339.03	0.183	331.01	0.332	264.37	0.034*	383.37	0.001*
Private	306.88		307.75		314.90		302.13	

(Java, Jakarta, Yogyakarta, West Kalimantan, Central Kalimantan, Lampung, Sumatera, Bengkulu, Riau), Central of Indonesia (Bali, Kalimantan Selatan, East Kalimantan, Nusa Tenggara), and East of Indonesia (Sulawesi and Papua).

There were four questionnaires used in this study, namely the COVID-19 knowledge questionnaire (signs of symptoms, self-protection, and transmission), attitudes, perceptions (disease and impact of COVID-19), and anxiety (coronavirus anxiety scale/CAS). The questionnaire for knowledge, attitudes, and perceptions used a questionnaire developed by Wadood *et al.* (2020) based on selected questions were determined by the distribution of frequency, and no categories were used in these questionnaires. The anxiety questionnaire was adopted from S. A. Lee (2020), and consisted of five questions on a Likert scale (0-4) that measured anxiety that occurred during the last two weeks. Anxiety score ≥ 9 indicates anxiety related to COVID-19.

Data Analysis

The data analysis used descriptive statistics, Mann-Whitney, and Kruskal-Wallis test in describing the results. Statistical significance was accepted if $p < 0.05$. All data analyses were performed using SPSS 25.

Ethical Considerations

The Ethics Commission approved this research at the Faculty of Nursing, Universitas Airlangga, East Java, Surabaya, Indonesia, with No. 2050-KEPK on July 7, 2020.

RESULTS

Table 1 shows that almost all respondents were aged 20-60 years (81.3%) and female (82.4%). Most of them had a bachelor's degree (79.7%), studied at private educational institutions (90.3%), and lived in the West of Indonesia (85.3%).

More than half of the students answered that feeling unwell (59.1%), fever (58.6%), flu (58.3%), sore throat (56.5%), difficulty breathing (56.5%), dry cough (54.3%) were symptoms of COVID-19. More than 50% of students answered that shortness of breath and chest pain (48.9%) also included signs and symptoms of COVID-19. Almost all students answered that always washing their hands using soap and water (99.2%) was the first way to protect themselves from COVID-19 and followed by covering their mouth and nose when coughing/sneezing (98.2%), avoiding contact with people who have signs and symptoms of COVID-19 (97.5%), and cleaning surfaces with disinfectant (95.3%), respectively. As many as 94.7% of students had the wrong concept that always eating rice and vegetables can protect from COVID-19 and 15.5% answered that there was no need to keep a distance from infected people. Almost all (98.9%) students answered that the largest transmission occurred through person to person and from someone who contacted COVID-19 through objects contaminated with the coronavirus (95.8%). More than 44% of students had the wrong concept that COVID-19 can be transmitted through water and food and 6.8% answered that it could be transmitted through mosquito bites (Table 2).

Table 3 shows that only a few respondents had a good level of knowledge regarding the signs and symptoms of COVID-19 (0.2%) and the way of transmission (13.6%), while more than 60% of students were able to answer correctly on how to protect from COVID-19. -19. Only 13% of students knew correctly how to transmit COVID-19.

A total of 569 (91.9) students had a fear of going abroad with friends and family, followed by eating wild animal meat (91.1%), eating raw food (81.6%), and avoiding taking public transportation (77, 1%). On the other hand, 25% of students were not afraid to eat out (hawker centers) (Table 4).

Table 5 shows that only 22.8% of students have a positive attitude towards COVID-19.

Table 6 shows that almost all (94%) nursing students in Indonesia do not experience anxiety due to COVID-19.

Table 7 shows that more than 55% of students did not feel the potential to be exposed to COVID-19, while 32.6% of students were afraid of COVID-19. More than half of students have the perception that COVID-19 had an impact on daily routines, studies, finances, family routines, work, leisure time with friends and family. Meanwhile, 36.8% of students had the perception that COVID-19 affects overseas travel.

Based on Table 8, it can be seen that there was a significant difference in the mean between knowledge and gender (0.004) and place of residence (0.032). Female students had better knowledge of COVID-19 than males. The attitude of students during the COVID-19 pandemic can also be determined by gender, where female students tend to be more positive than males. The results of this study also showed that students from the private institution had a higher average of anxiety than those from a public institution (0.034). Meanwhile, students' perceptions of COVID-19 and its impact showed that it had significant differences based on the characteristics of gender (0.004), education (0.000), and institution (0.001).

DISCUSSIONS

This study showed that the knowledge of nursing students in Indonesia regarding COVID-19 was still low. This is in line with the previous research conducted in Bangladesh and Indonesia which states that students have a lack of knowledge regarding COVID-19, especially the signs and symptoms and the transmission (Saefi *et al.*, 2020; Wadood *et al.*, 2020). Inadequate knowledge was caused by a variety of signs and symptoms of COVID-19. In addition, the development of COVID-19 was also rapid. This indicates that the comprehensive clinical symptoms of COVID-19 have not been widely understood by students, people only know common symptoms such as fever, cough, and shortness of breath (Alzoubi *et al.*, 2020). Based on the Ministry of Health, COVID-19 symptoms include fever, tiredness, dry cough, aches/pains, nasal congestion, flu, headache, conjunctivitis, sore throat, diarrhea, loss of smell, or skin rash. The citizens have adequate knowledge in self-protection from COVID-19 (Kemenkes RI, 2020c). The government and the mass media are aggressively promoting health, which places more emphasis on preventive measures. Hence, students, especially health students, are more sensitive regarding this information (Roy

et al., 2020). This study also found that female students had better knowledge than males. This is influenced by the condition of women who are more likely to be serious in dealing with situations and have more curiosity than men (Modi *et al*., 2020; Wadood *et al*., 2020; Zhong *et al*., 2020).

The WHO (2020a) encourages the public to stay at home, avoid activities, maintain distance, and avoid unnecessary travel to prevent the transmission of COVID-19. Although, in general, this study showed that there were still a few students who have a positive attitude in facing the COVID-19 pandemic, most students agree that avoiding traveling abroad, crowds, and contact with other people is the right attitude doing during a pandemic. This indicates that students have a personal attitude in avoiding COVID-19. Previous studies have also shown that awareness about COVID-19 can be reflected in positive attitudes and behaviors (Roy *et al*., 2020). Female students in this study showed to be more likely to have a positive attitude. This study is in line with previous research that gender plays an important role in shaping student attitudes (Erfani, Shahriarirad, and Ranjbar, 2020; Maheshwari *et al*., 2020). This is related to a higher level of awareness in women than men in the conditions of the COVID-19 pandemic.

Currently, the spread and transmission of COVID-19 are occurring in an appropriate and varied way, and the prognosis of death is getting worse. Furthermore, there is no specific treatment in handling COVID-19 cases that can be a threat to mental health and emotional conditions (Sheroun *et al*., 2020). The COVID-19 pandemic situations have psychological effects on students, such as stress, anxiety, and worry (Savitsky *et al*., 2020; Sheroun *et al*., 2020). Although the results of this study indicated that almost all students in Indonesia did not experience anxiety during the pandemic, the researchers assume that this was caused by students' conditions in not being directly faced with COVID-19 patients. Previous studies have shown that nurses who are at the frontline of handling COVID-19 experience more anxiety, fear, sadness, and anger than nursing students (L. Huang *et al*., 2020). Furthermore, an individual has to cope to adapt to the new situations and challenges faced by students. Coping helps students deal with anxiety and stress and relates to adaptive coping (Savitsky *et al*., 2020). The analysis in this study also proved that there were differences in anxiety among students in public and private institutions. Students in private institutions had a higher level of anxiety. This is believed to be related to student concerns regarding education costs and graduates' fears of jobs disappearing in private institutions during the COVID-19 pandemic. This assumption is also supported by the same results with research conducted in India (Jena, 2020).

Most of the students have a perception that they were not potentially exposed to COVID-19 and a small proportion felt afraid and worried. However, most students have the perception that COVID-19 has an impact on student life. This is in line with research by Wadood *et al.* (2020) which states that students' perceptions of COVID-19 are still in a bad category. Religious factors, beliefs, and cultural views are believed to play a role in influencing students' perceptions and views of COVID-19. Knowledge is an important factor in forming individual perceptions in encouraging positive attitudes in carrying out safe practices. Significant differences were also shown in the characteristics of respondents based on gender, education, and institution toward the percentage of nursing students in Indonesia. The higher level of education indicates better perception and knowledge among students. This is attributed to the fact that poor knowledge in students can lead to poor perceptions and delay handling during a pandemic (Hager *et al*., 2020; Nemati, Ebrahimi and Nemati, 2020; Patidar *et al*., 2020).

Although this study is a specific survey on nursing student's knowledge, attitudes, perception, and anxiety during COVID-19 in Indonesia. This survey has limited to the students who only had internet access. It can be seen from the respondents in the study mostly from the West of Indonesia, and it should not be generalized in the whole of the population of nursing students in Indonesia. The knowledge, attitudes, anxiety, and perceptions of mental health needs among nursing students in easy and difficult internet access may be different. This cross-sectional study is also cannot be looking for interaction in student's knowledge, attitudes, perceptions,

and anxiety. It needs to reveal more in-depth studies.

CONCLUSION

The low level of knowledge and attitudes among nursing students regarding COVID-19 needs the government's concern. Nursing students are one of the leading elements to play a role in overcoming COVID-19. Even though students think that they have no potential to be exposed to COVID-19, students realize that COVID-19 has an impact on daily routines, such as studies, finances, family, work, free time with family and friends. This condition increases the potential risk of students experiencing physical, psychological, social, and spiritual health problems. This requires government support in providing policies to educational institutions in increasing students' knowledge, attitudes, and perceptions of COVID-19. Adequate mental condition among nursing students can be one of the supporters in maximizing the potential of nursing students to reduce the spread of COVID-19 in the community.

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Conflict of Interest

None.

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