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Knowledge of COVID-19 and Compliance in Preventing the Diseases on Nursing Students in Indonesia

Conocimiento de la COVID-19 y cumplimiento en la prevención de enfermedades en estudiantes de enfermería en Indonesia

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SUMMARY

Introduction: *Coronavirus Disease (COVID-19) is a disease with respiratory tract infection symptoms experienced by almost all countries worldwide. The government has conveyed the prevention of this disease many times. However, the success of prevention depends on the discipline and compliance of the community in carrying out the government's appeal. This study aimed to analyze the relationship between the level of knowledge with adherence to COVID-19 prevention.*
Methods: *This type of research was quantitative research with a cross-sectional design. The sample of this study was nursing students. The research variables used were the level of knowledge, student compliance in preventing COVID-19 measured by instruments prepared by researchers, and validity and reliability tests. It used a total sampling technique to collect the data and a fisher's exact test statistical approach to processing the data.*
Results: *Based on the study results, most respondents had a good level of knowledge about COVID-19 (83 %) and a high level of compliance in preventing COVID-19 (58 %). The results of the data analysis showed that the p-value = 0.655, which was more significant than 0.05. These results showed no relationship between the level of knowledge of nursing students regarding COVID-19 and compliance in taking preventive measures against COVID-19.*
Conclusion: *There is no significant relationship between the level of knowledge of nursing students about COVID-19 and their compliance with disease prevention.*

Keywords: *Compliance, COVID-19, knowledge*

RESUMEN

Introducción: *La enfermedad por coronavirus (COVID-19) es una enfermedad con síntomas de infección del tracto respiratorio experimentada por casi todos los países del mundo. El gobierno ha transmitido la prevención de esta enfermedad muchas veces. Sin embargo, el éxito de la prevención depende de la disciplina y el cumplimiento de la comunidad en llevar a cabo el llamamiento del gobierno. Este estudio tuvo como objetivo analizar la relación entre el nivel de conocimiento con la adherencia a la prevención de la COVID-19.*
Métodos: *Este tipo de investigación fue una investigación cuantitativa con un diseño transversal. La muestra de este estudio fueron estudiantes de*

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enfermería. Las variables de investigación utilizadas fueron el nivel de conocimiento, el cumplimiento de los estudiantes en la prevención de la COVID-19 medido por instrumentos elaborados por los investigadores y las pruebas de validez y confiabilidad. Utilizó una técnica de muestreo total para recolectar los datos y un enfoque estadístico de prueba exacta del pescador para procesar los datos.
Resultados: *Según los resultados del estudio, la mayoría de los encuestados tenía un buen nivel de conocimiento sobre la COVID-19 (83 %) y un alto nivel de cumplimiento en la prevención de la COVID-19 (58 %). Los resultados del análisis de datos mostraron que el valor de p = 0,655, que fue más significativo que 0,05. Estos resultados no mostraron relación entre el nivel de conocimiento de los estudiantes de enfermería sobre la COVID-19 y el cumplimiento en la toma de medidas preventivas contra la COVID-19.*
Conclusión: *No existe una relación significativa entre el nivel de conocimiento de los estudiantes de enfermería sobre la COVID-19 y su cumplimiento con la prevención de la enfermedad.*

Palabras clave: *Cumplimiento, COVID-19, conocimiento.*

INTRODUCTION

Coronavirus Disease (COVID-19) is a respiratory tract infection disease caused by the virus. COVID-19 has become a pandemic, and the transmission reaches almost all countries worldwide. Until May 16, 2020, based on data released by the World Health Organization (WHO), there were 4 434 653 cases with a death rate of 302 169, while in Indonesia, there were 17 025 cases with 1 089 deaths (1). Meanwhile, there were 153 positive cases in the North Kalimantan Province, with one death (2).

Several factors that cause the high incidence of cases are population density, ease of movement of people from one area to another, and the discipline factor in carrying out government recommendations regarding how to prevent this disease (3,4). The success of implementing government policies is related to the level of public knowledge. Good Knowledge regarding COVID-19 and its prevention is an essential aspect that the public needs to know (5-7). However, a survey conducted in 2020 showed that 56.3 % of Indonesians still claim that they do not understand information related to preventive measures to prevent the transmission of COVID-19 in Indonesia (8). Therefore, adequate information is needed (9,10).

The success of preventing this disease depends on the discipline and compliance of the community in carrying out government recommendations. Compliance is a change in behavior from behavior that does not obey the rules to behavior that obeys the authorities (11). Compliance with the transmission prevention protocol is crucial because it can slow the spread of COVID-19. The health protocols that can be implemented at home or outside include social distancing, wearing masks outside the home, frequently washing hands, and immediately cleaning up after traveling (12-14). The COVID-19 prevention protocol must be carried out by the community, health workers, and volunteers.

The high number of COVID-19 cases in Indonesia has increased the workload of health workers in helping COVID-19 patients. The limited number of volunteers from graduates of health education institutions has made health service institutions ask final year students to volunteer in dealing with the COVID-19 pandemic. In this situation, students must also have high knowledge and compliance in carrying out COVID-19 prevention protocols. This study aimed to analyze the relationship between the level of knowledge of nursing students about COVID-19 and compliance with COVID-19 prevention.

METHODS

This research was quantitative research with a cross-sectional design. The sample of this research was nursing department students. The variables of this research were the level of knowledge and compliance in preventing COVID-19 measured using instruments made by researchers, and validity and reliability tests were carried out. It used total sampling to collect the data and a descriptive statistical approach (Chi-Square/Fisher Exact Test and frequency distribution) to process the data. Researchers in this study highly uphold research ethics such as conducting informed consent and the principle of anonymity and confidentiality.

RESULTS

Table 1 showed that most respondents were 5th-semester students with a percentage of 55 %. The age of most respondents was 19 years, as much as 35 %. The city of origin of the most respondents was Tarakan city, as much as 51 %, and 90 % of respondents were female. Respondents have a good level of knowledge of as many as 113 people (83 %) and have high compliance with 79 people (58 %).

Table 1

Characteristics of the Respondents (n=137)

Characteristics	Frequency	Percentage
Semesters		
3	62	45
5	75	55
Age		
18	9	6
19	48	35
20	43	31
21	28	20
22	6	4
23	1	1
24	2	2
Origin city		
Tarakan	70	51
Bulungan	8	6
Nunukan	33	24
Malinau	10	7
KTT	6	4
Berau	6	4
Others	4	3
Gender		
Female	124	90
Male	13	10
Knowledge		
Good	113	83
Moderate	24	17
Compliance		
High	79	58
Low	58	42
Total	137	100

Table 2 shows that 137 (100 %) respondents knew that COVID-19 was an infectious disease. However, as many as 83 (64 %) respondents did not realize that COVID-19 disease did not always cause symptoms. As many as 113 (82 %) did not know that COVID-19 positive sufferers did not always experience shortness of breath. A total of 107 (78 %) did not know that antibiotics were ineffective in treating COVID-19. As many as 115 (84 %) knew that as a precaution against COVID-19 surgical masks cannot be reused after washing, and as many as 123 (90 %) knew that until now, no vaccine can protect us from the COVID-19 virus.

According to Table 3, it can be described as many as 91 (66 %) respondents constantly washed their hands after doing the activities. As many as 118 (86 %) respondents always used a mask when leaving the house. As many as 28 (20 %) respondents changed their clothes and took a bath after doing their activities outside the home. As many as 83 (61 %) respondents sometimes touched their face, mouth, and nose even though they had not washed their hands. As many as 13 (10 %) respondents did not avoid crowds outside the house.

After collecting and analyzing data on the relationship between the level of knowledge about COVID-19 and compliance in taking preventive measures, which can be seen in Table 4.

As shown in Table 4, it was obtained a p-value = 0.655, greater than 0.05. This result shows no relationship between the level of knowledge of nursing students regarding COVID-19 and the compliance of nursing students in taking preventive measures against COVID-19.

DISCUSSION

Based on data collection, it was found that the respondents had a good level of knowledge. Knowledge defines as the result of knowing and acting from remembering something and will occur when someone makes observations or contacts a particular object. According to Notoatmodjo, a person's knowledge is influenced by education, occupation, age, interests, and experience (15). Education is critical to obtain information, for example, in the health sector, to positively influence the quality of one's life. Furthermore, education affects a person's participation in development, and generally, the higher the level of education of a person, the

Table 2

Distribution of the percentage of respondents' Knowledge about COVID-19

Statement	Total (%)	
	True	False
COVID-19 is the same as Influenza	75 (55)	62 (45)
COVID-19 is a disease caused by malnutrition	119 (87)	18 (13)
COVID-19 is caused by bacteria	79 (58)	58 (42)
COVID-19 is a contagious disease	137 (100)	0
COVID-19 always causes symptoms	54 (39)	83 (61)
COVID-19 only affects the elderly	127 (93)	10 (7)
COVID-19 can spread to humans through pets	69 (50)	68 (50)
The germs that cause COVID-19 can only enter through the nose and mouth	44 (32)	93 (68)
80% of COVID-19 cases are mild disease	33 (24)	104 (76)
One of the signs and symptoms of COVID-19 sufferers is a high fever.	133 (97)	4 (3)
Patients who are positive for COVID-19 always experience shortness of breath	24 (18)	113 (82)
Patients with COVID-19 sometimes complain of impaired smell.	73 (53)	64 (47)
PDP is a patient who is positive for COVID-19	85 (62)	52 (38)
Patients who are positive for COVID-19 if the Rapid Test is Reactive	43 (31)	94 (69)
Isolation measures are only given to patients who are positive for COVID-19	76 (56)	61 (44)
Prevention of the spread of COVID-19 is enough by wearing a mask	85 (62)	52 (38)
In the course of the disease, 10-15% develop severe respiratory failure.	127 (93)	30 (7)
Rinsing your nose or gargling with salt water can prevent transmission.	103 (75)	34 (25)
The virus will die when the weather gets warmer	63 (46)	74 (54)
Antibiotics are needed to treat COVID-19	20 (22)	107 (78)
Non-alcoholic liquid can be used as a cleaning fluid (hand sanitizer)	72 (53)	65 (47)
Drinking hot drinks can kill the germs that cause COVID-19	87 (64)	50 (36)
2-5 % of COVID-19 cases result in death	132 (96)	5 (4)
As a precaution against COVID-19 surgical masks can be reused after washing	115 (84)	22 (16)
Until now, no vaccine can protect us from the COVID-19 virus	123 (90)	14 (10)

easier it is to receive information. In addition, the longer students take lectures, the higher the level of knowledge.

Based on the data collection results, it is illustrated that 58 % of respondents have a high level of compliance in preventing COVID-19. However, it is still quite large and still has a low level of compliance in taking the COVID-19 prevention measure. In health psychology, adherence refers to a situation when an individual's behavior is commensurate with the recommended action or advice proposed by a health practitioner or information obtained from another source of information, such as advice given in a health promotion brochure through a mass media campaign (16). In addition, the

Table 3

Percentage of respondent compliance in preventing COVID-19

Statement	Total (%)			
	Always	Often	Sometimes	Never
After every activity I wash my hands	91 (66)	32 (24)	14 (10 %)	0
Wash hands using soap and running water.	104 (76)	25 (18)	7 (5 %)	1 (1)
Leave the house wearing a mask	118 (86)	15 (11)	4 (3 %)	0
If you sneeze, cover your mouth and nose	118 (86)	17 (12)	2 (2 %)	0
When in crowds (shopping centers/markets) I keep a safe distance	92 (67)	33 (24)	12 (9 %)	0
After activities outside the house, I take a shower and change clothes	64 (47)	45 (32)	28 (20 %)	0
When outside my house I avoid crowds	81 (59)	43 (31)	13 (10 %)	0
When I cough, I cover my mouth with a tissue or my upper arm	111 (81)	19 (14)	7 (5 %)	0
Touching your face, mouth, and nose even though you haven't washed your hands	9 (7)	19 (14)	83 (61 %)	26 (19)
Adequate rest (sleep 6 -8 hours daily)	42 (31)	34 (25)	58 (42 %)	3 (2)
Minimum 30 minutes of exercise every day	15 (11)	26 (19)	82 (60 %)	14 (10)
Drink at least 8 glasses (2 liters) of water a day	45 (33)	51 (37)	40 (29 %)	1 (1)

Table 4

Cross-tabulation of respondents' level of Knowledge about COVID-19 with compliance in preventing COVID-19

		Prevention		Total	p-value (0.05)
		Low	High		
Knowledge	Adequate	9	15	24	0.655
	Good	49	64	113	
Total		58	79	137	

high level of patient compliance can also be influenced by reinforcing factors in the form of family support and the role of drug-taking supervisors or enabling factors such as the availability of facilities and infrastructure in health facilities (11).

Based on the study results, it was also found that there was no relationship between the level of knowledge of students majoring in nursing about COVID-19 and the compliance of students majoring in nursing in taking preventive measures against COVID-19. These results follow previous studies that showed no significant relationship between the level of knowledge and patient compliance in taking medication (17). However, these results contradict other studies that state a relationship between public knowledge and adherence to using masks as an effort to prevent COVID-19 disease (18). A high level of knowledge is not always related to a person's level of compliance because there are many influencing factors. One of the influencing factors is motivation. Motivation is a desire in a person that drives him to behave. A good motivation is recommended from the government or health workers to maintain the health of their own will. The better the motivation, the more obedient the students are in taking preventive measures against COVID-19 because motivation is an internal human condition.

CONCLUSION

There is no significant relationship between the level of knowledge of nursing students about COVID-19 and adherence to disease prevention. Hence, the need to increase student awareness in taking preventive measures against COVID-19 through counseling and education. Apart from that, further research needs to be done regarding other factors related to students majoring in nursing in taking preventive measures against COVID-19.

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