Nursing Students' Knowledge And Attitude Toward Covid-19

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ABSTRACT

Introduction: *Coronavirus disease (COVID-19) is an infectious disease caused by a coronavirus that is transmitted from person to person and has become a worldwide pandemic outbreak. Health college students go directly to the front line in health services and play an active role in following developments in health problems such as good knowledge and good attitudes that can help prevent the spread of COVID-19.*

Purpose: *The purpose of this study was to determine the relationship between nursing students' knowledge and attitudes towards the prevention of COVID-19 infection.*

Method: *This study uses a quantitative method with correlation. Sampling used a cluster random sampling technique with a population of 218 college students from the school of nursing, Universitas Muhammadiyah Yogyakarta.*

Result: *The results showed that the knowledge nursing students about COVID-19 had a good category of 99 (45.4%), the attitudes of PSIK UMY nursing students regarding prevention of COVID-19 had a good category of 191 (87.6%), and the results of the Spearman Rho test were a p-value of 0.000.*

Conclusion: *This study proves that there is a strong relationship between students' knowledge and attitudes towards COVID-19.*

Keywords: *Knowledge, Attitude, COVID-19*

INTRODUCTION

Corona Virus Disease 2019 or COVID-19 is a new type of *coronavirus* that was discovered at the end of 2019 in Wuhan, China (Ginting, 2021) . The phenomenon of this disease has seized a lot of public attention around the world because of its rapid spread. This virus attacks various age groups and is transmitted directly between humans or indirectly by touching contaminated objects such as droplets or splashes of patient fluids when coughing or sneezing (Bhatt et al., 2021).

Since the first case was identified in Wuhan, China in 2019 until April 2020, it was confirmed to reach 82,000 cases and 4,600 deaths, not only that, the data in the same month showed America was the country with the most confirmed cases of COVID-19 reaching 665,330 people and 30,384 deaths (WHO, 2021). The spread of the virus that is too fast has made many citizens nervous and worried about the situation. WHO (World *Health Organization*) stated that COVID-19 became a comprehensive outbreak or could be called a global pandemic. After one year since the virus was confirmed in Wuhan, in December 2020 confirmed cases of COVID-19 reached 41.5 million cases worldwide (Albaqawi et al., 2020).

Physiologically the COVID-19 virus attacks the upper human respiratory tract which will then spread rapidly to other respiratory organs, people infected with this virus have different clinical signs. Kemenkes mentions several signs and symptoms that occur, usually fever, runny nose, cough, sore throat and respiratory problems (Kemenkes, 2020). The latest data in October 2021 showed a total of 235,436,660 confirmed cases of COVID-19 and 4,809,690 deaths globally. Positive cases of COVID-19 in Indonesia in the same month as many as 86,773 and deaths of 5,788 people, with a total of 4,220,206 cases of COVID-19 in almost 2 years and 142,261 deaths (JHU, 2021).

Since WHO declared COVID-19 a global pandemic, The government has implemented policies to reduce the rate of increase in positive cases in Indonesia by implementing health protocols. Other policies implemented to suppress the spread include restrictions on physical activity such as crowding, ranging from passenger restrictions, online learning methods, *work from home,* and provisions for worshiping at home. In addition to blocking road access, limiting store operating hours and transportation to suppress the spread of COVID-19, this policy is called quarantine or *Lockdown* (Tim Kerja Kementrian Dalam Negeri, 2020).

To achieve the results of the policy program that has been implemented by the government, it is mandatory to make efforts to increase public knowledge and attitudes towards preventing COVID-19, one of which is health students, because they are likely to be directly involved in health services, and play an active role in following health problems that are happening (Sukesih et al., 2020). Therefore, health students have a high risk of contracting the COVID-19 virus. So as a health student, it is obligatory to have adequate knowledge and attitude towards preventing the spread of COVID-19 infection (Fatah, 2021).

One of the health students who are obliged to play an important role in preventing and disseminating information related to the prevention

of COVID-19 infection is a nursing student. As Irawati & Munandar (2019) a nurse must have knowledge, skills, intellectual, thoroughness and speed of work, cooperation, self-confidence, independence, perseverance, language skills, logical thinking skills, verbal abilities, achievement motivation and understand people's feelings other.

Muhammadiyah University of Yogyakarta created a special website for COVID-19 as a medium for disseminating information and policies related to COVID-19 for the academic community. The COVID-19 mitigation that has been implemented includes requiring the use of masks correctly, calls for washing hands with soap and running water, physical distancing, spraying disinfectants, temperature screening at campus entrance gates. If something unexpected happens, UMY has a blue code as well as an ICS team that is ready to serve temperature screening, general volunteers, Tim Reaksi Cepat Kampus (TRC), incident tracing, rapid and PCR tests if needed, self-isolation, emergency clinics, physical recovery, psychological and spiritual. Muhammadiyah University of Yogyakarta (UMY) students took part in preventing the spread of COVID-19 in the campus environment, considering that campus is one of the most likely places for the spread of COVID-19 because many UMY students and lecturers have a history of traveling abroad. This temperature check is carried out with the aim of detecting each guest early if his condition is not good, then the guest will be asked about his travel history (*UMY Siaga COVID-19*, n.d.).

Based on a preliminary study conducted by researchers on the subject of Nursing Science Study Program students at UMY, the data showed good student knowledge of 48.6% and good student attitudes of 58.1%. This is the reason for researchers to examine the relationship between knowledge and attitudes towards preventing COVID-19 infection in Nursing Science Study Program students at Muhammadiyah University of Yogyakarta. Researchers want to know how the knowledge and attitudes of nursing students describe the prevention of COVID-19 infection, as well as want to know whether there is a relationship between students' knowledge and attitudes towards preventing COVID-19 infection. So that the purpose of identifying the relationship between knowledge and attitudes of nursing students towards the prevention of COVID-19 infection was answered.

LITERATURE REVIEW

Referring to related research, there are several weaknesses, such as in Fatah (2021) where the study did not have variable phenomena in general or according to the research population and also the sampling technique used because it was possible that there was a tendency for 1 *cluster* to dominate the questionnaire answers. The weakness

of the research conducted by Albaqawi et al (2020) the results of research on student knowledge of COVID-19 are not given a range of results, only the percentage of appropriate answers and the sampling technique used is not clear so it has a tendency to fill a lot in one university only. Furthermore, the weakness in the research conducted by Muhdar et al (2021) was that the questionnaire on the attitude variable given to respondents did not refer to the COVID-19 prevention attitude factor.

Weaknesses were also found in the research of Aini & Purwasari (2021) where the population was 5900 individuals but the sampling technique used was random sampling and only 99 people were obtained so that the number of samples did not reflect the population. Research conducted by Zegarra Valdivia et al (2020) explained that the limitations of the study were on respondents who deviated from the criteria and had a low level of filling out the questionnaire . From the description above, the researcher tries to improve the research according to the research subject to be studied.

The theoretical framework used in this study, namely COVID-19 which includes pathophysiology, clinical manifestations, risk of infection and prevention, affects knowledge about COVID-19 prevention and COVID-19 prevention attitudes where knowledge about COVID-19 can also affect COVID-19 prevention attitudes.

METHOD

This type of research is quantitative with correlational method. The population of this study were students of the Nursing Science Study Program, Faculty of Medicine and Health Sciences, Muhammadiyah University of Yogyakarta. The research sample used was *cluster random sampling* with at least 218 students divided equally by the number of 4 batches. This research was conducted in January 2022. Knowledge variable as independent variable and attitude as dependent variable.

The questionnaire in this study was adapted from the research questionnaire of Muhammad Rizqi Maulana Fatah (2021). The measurement of the knowledge questionnaire used the *Guttman scale* with good (76-100%), enough (56-75%), and less (<56) measurement results. Meanwhile, the attitude questionnaire uses a *Likert scale* with good (76-100%), enough (56-75%), and less (<56). The measuring instrument of this study refers to the Fatah study (2021) to test the validity and reliability of the questionnaire using the *Statistical Product and Social Sciences* (SPSS) version 26.0 application. The subjects used were 43 people and each of them contained 9 statements. The test of the validity of the knowledge and attitude instruments was tested using the Pearson correlation technique. The result of the r table value is 0.300 so that the

questionnaire statement is valid. Test the reliability of the knowledge and attitude instruments using *Cronbach's Alpha.* The results show that the r value for knowledge is 0.670 and the r value for attitude is 0.678 so that the questionnaire can be declared reliable.

Research instrument with online media google form, which is divided into 2, namely for *informed consent* and questionnaires. Google form links are distributed in WhatsApp Groups per batch consisting of prospective respondents. Data processing using *Microsoft Excel* and *SPSS 26.* The conceptual framework in this study is that both knowledge and attitude variables have a reciprocal relationship that is categorized as good, sufficient, and lacking. The data analysis of this research was divided into two, namely univariate to describe the characteristics of research subjects and bivariate to test the relationship between the two variables using *Spearman Rho.* Research ethics were obtained from the Faculty of Medicine and Health Sciences, University of Muhammadiyah Yogyakarta with the number 305/EC-KEPK FKIK UMY/XI/2021.

RESULTS[AA1]
1. Characteristics of Research Subjects

Research on the relationship between knowledge and attitudes towards preventing COVID-19 infection has research subjects, namely students aged 17 to 25 years, all of whom fall into the category of late teens, where most subjects who filled out the questionnaire were 17-19 years old as many as 117 students (53.7%) and the details are shown in table 1 .1.

Table 1. 1Subject Frequency Distribution by Age, Gender, and Year of study

Distribution of Respondents	n	(%)
Age (Years)		
17-19	117	(53.7)
20-22	100	(45.9)
23-25	1	(0.5)
Gender		
Man	57	(26.1)
Woman	161	(73.9)
Year of study		
1st year	80	(36.7)
2nd year	55	(25.2)
3rd year	39	(17.9)
4th year	44	(20,2)

Based on the table above, it can be seen that most of the research respondents were female with a total of 161 students (73.9%). Participants from each batch have met the criteria set by the researcher.

2. Nursing Science Study Program Student Knowledge Against COVID-19

Based on table 1.2 shows that less than half of the total respondents' answers have a good knowledge category, namely as many as 99 students (45.4%).

Table 1. 2Distribution of the Knowledge Frequency of Nursing Science Study Program Students Against COVID-19

Category	n	(%)
Good	99	45.4
Enough	45	20.6
Less	74	33.9
Total	**218**	**100**

3. Attitudes of Nursing Science Study Program Students Towards Prevention of COVID-19 Infection

Based on table 1.4 the results of the answers about the attitudes of the Nursing Science Study Program students showed that 191 students (87.6%) were categorized as having a good attitude and there were no students who had a bad attitude.

Table 1. 3Frequency Distribution of Nursing Students' Attitudes towards the Prevention of COVID-19 Infection

Category	n	Percentage (%)
Good	191	87.6
Enough	27	12.4
Less	0	0
Total	**218**	**100**

4. The Relationship Between Knowledge and Attitude Towards Prevention Of COVID-19 Infection

The results of the analysis of the relationship between knowledge and attitudes towards the prevention of COVID-19 infection in students of the Nursing Science Study Program are shown in the following table:

Table 1. 4The Relationship Between Knowledge and Attitude Towards Prevention of COVID-19 Infection

Variable	*Spearman Rho Test*	
	p	*r*
Knowledge Attitude	0.000	0.316

Based on the table above, the results of the *Spearman Rho test* contained in table 1.6 is a p -value of 0.000, because the *p -value* is smaller than 0.05, it means that there is a significant correlation between knowledge and attitude. However, the value of r (correlation coefficient) in this study is 0.316. This means that the level of correlation between the knowledge variable and attitudes towards preventing COVID-19 infection has a sufficient level of correlation. Because the value of

r in the above results is positive, namely 0.316, then the relationship between the two variables is positive, thus it can be interpreted that the higher a person's level of knowledge, the better one's behavior.

DISCUSSION

Nursing Science Study Program students are part of health students who have an important role in efforts to prevent the spread of COVID-19 infection. In the future, health students will be directly involved in being the frontline for the community in providing health facilities. In addition, health students also play an active role in solving health problems that are currently happening. Therefore, health students have a high level of risk of contracting COVID-19, so health students must have adequate knowledge and attitudes towards preventing the spread of COVID-19 infection. In this study, the data obtained from 4 batches corresponded to a predetermined amount. Determination of the number of respondents is determined to reduce the incidence of filling out more questionnaires in one batch.

The data obtained can be seen that the percentage of respondents is based on the age range of 17-25 years which according to Departemen Kesehatan Republik Indonesia, 2009 in Sonang et al (2019) ages 17-25 years into the category of late adolescence. According to Santrock, 2003 in Karlina (2020) that *adolescence* is defined as a period of transition between childhood and adulthood which includes biological, cognitive, and social-emotional changes. Late adolescence is more ready to face problems because late teens can think and are able to master their feelings in dealing with disappointment or other things that can lead to anger, then they are more mature in dealing with problems. Maturity manifests itself in an effort to solve the problems encountered, either alone or interacting with others (Diantika, 2017).

In addition to age data, the frequency of respondents shows that most of the respondents are female, as many as 161 students (73.9%) while the number of male students is 57 students (26.1%). The frequency of respondents shows that most of them are female. According to Langton et al, 2015 in Rahmadeni (2020) based on several psychological studies, it is stated that women obey more rules than men. Meanwhile, according to Yuwono et al (2020) there is a positive side in women , namely obedience and obedience in doing something , this affects individual performance in accordance with the opinion Irawan et al (2021) who said that there is a culture that influences a person's views and work, namely the culture that nurses are a job for women because women are considered to have a softer and more diligent nature than men. have similarities with the advanced theory that the nurse gender is dominated by women, because in its history the nurse has emerged as a traditional caring role in the family and society.

1. Student Knowledge About COVID-19

It is important for students to have adequate knowledge and attitudes and be able to comply with the health protocols that have been set by the government. Knowledge is the result of knowing, and will appear after someone has carried out activities on something, such as seeing, hearing, smelling, feeling or touching (Ramadhani & Nuryani, 2020). Good knowledge can be influenced by receiving information about COVID-19 circulating in the community (Sulistyaningtyas, 2020). Good knowledge and attitude are also supported by a high level of education. A high level of individual education will make it easier to get access to information about something, knowledge about COVID-19 in students can come from the media so that more knowledge will be possessed by these students.

In this study, the researcher saw that most of the students of the Nursing Science Study Program who have a good level of knowledge are 99 students (45.4%). Students' interest in knowing and seeking information related to COVID-19 can affect student knowledge. This is based on table 1.3 which shows that most students know about the incubation period of COVID-19, symptoms of COVID-19 infection, treatment of COVID-19 infection and methods of prevention. It is important for students to have adequate knowledge and attitudes and be able to comply with the health protocols that have been set by the government.

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The results of this study are in line with research conducted by Sun et al (2020) regarding the knowledge that nursing students in Zhengzhou, China have good knowledge regarding COVID-19. However, this study compares best with research conducted by Agarwal et al (2020) which showed that medical students in India had low knowledge of COVID-19. Data shows that more than half of students do not know that a person can catch COVID-19 from an asymptomatic person. This shows the possibility that some of these students did not receive complete information which might be caused by busy online lecture activities. Soekanto & Rianti (2021) in their research concluded that students experience fatigue in online learning

because it is caused by the large quantity of assignments and deadlines for collection. Researchers assume that some students choose to rest when they have free time, so there is limited time for them to look for more in-depth information outside of college assignments, especially in this case regarding COVID-19.

2. Student Attitudes Against COVID-19 Prevention

Attitudes clearly indicate that there is an appropriate reaction to a particular stimulus. Attitude manifestations cannot be directly seen but can only be interpreted beforehand with closed behavior. Attitudes in everyday life are emotional reactions to social stimuli. Attitude consists of three levels, namely levels: acceptance can be interpreted that people want and maintain certain object stimuli. Then respond or provide answers or reactions if asked, do or complete the work that has been given (Ramadhani & Nuryani, 2020).

The results of the study in table 1.5 show data on the attitudes of students of the Nursing Science Study Program towards the prevention of COVID-19 infection, most students have attitudes in the good category. However, there are still students who are hesitant about shaking hands when meeting with friends or relatives. This may arise because shaking hands is a hereditary tradition or a habit of Indonesian society that has been exemplified by parents and the social environment (Amanatin et al., 2020). So that people need time to adapt to new habits (*new normal*) because of COVID-19. Similar results were also found in a study conducted by Bahçecioğlu Turan et al (2021) in Turkey, the study stated that most nursing students had a good attitude towards preventing COVID-19 infection. However, this study is in contrast to research Provenzano et al (2020) on nursing students in Italy, in which the study stated that students had a bad attitude towards COVID-19.

In general, the answers to the statements of students' attitudes towards the Nursing Science Study Program are good. This is evidenced by most students stating that they strongly agree with carrying out prevention protocols in accordance with government directives. Attitudes can be formed from providing information through the mass media about the basis of new thoughts. The mass media consisting of print media and electronic media are currently very massive in reporting information about COVID-19. The mass media consisting of print media and electronic media are currently very massive in reporting information about COVID-19. Technological developments can support the dissemination of information widely and quickly help the formation of a person's attitude.

3. Relationship between Knowledge and Attitude towards COVID-19 Prevention

Researchers analyzed the relationship between knowledge and attitudes towards preventing COVID-19 infection in Nursing Science Study Program students. Based on statistical calculations using SPPS v 26.0 in table 1.6 shows the results of the *Spearman correlation test* between knowledge and attitudes towards preventing COVID-19 infection, namely the *p -value* of 0.000, because the *p -value* is smaller than 0.05, it can be interpreted that there is a significant relationship between knowledge and attitude towards prevention of COVID-19 infection. While the value of r (correlation coefficient) in this study was 0.316. This means that the level of relationship between the knowledge variable and the attitude towards preventing COVID-19 infection has a sufficient level of correlation, thus it can be concluded that the higher one's knowledge, the better one's behavior.

Research conducted by Nawangsari, (2021) strengthens this research, where it is known that respondents who have good knowledge will have a good attitude about preventing COVID-19 in people in South Kalimantan . In research Sukesih et al (2020) it can be concluded that the knowledge and attitudes of health students about preventing COVID-19 in Indonesia are very good and this can prevent the transmission of COVID-19 in Indonesia.

Therefore, as members of the community, students are encouraged to continue to increase awareness and concern in complying with the health protocols recommended by the government to prevent and control the spread of the disease caused by the coronavirus.

STRENGTHS AND WEAKNESSES
1. Research Strength
- This study aims to describe the knowledge and attitudes of Nursing Science Study Program students towards the prevention of COVID-19 infection and determine the relationship between the two variables that can be used as a reference in making the policy of the COVID-19 Task Force at UMY.
- This research can be used as basic data to examine other variables that can be a factor or influence in knowledge and attitudes towards prevention of COVID-19 infection.
- This study uses a sample selection with Cluster Random Sampling where the number of respondents per batch who are required to fill out has been determined so as to reduce the tendency to fill out the questionnaire by only one batch.

2. Research Weaknesses
- This study only knows the correlation so it cannot explain the cause or effect

of the relationship between the two variables studied.

- This research was only carried out in one study program, so it was not possible to see a picture of the knowledge and attitudes of UMY students for the prevention of COVID-19 infection.

CONCLUSION

Based on the results of research that has been carried out on students of the Nursing Science Study Program, Muhammadiyah University of Yogyakarta and the discussion that has been described in detail, it can be concluded as follows:

1. Most of the Nursing Science Study Program students' knowledge of COVID-19 is in the good category but there are still less categories.
2. The attitude of the Nursing Science Study Program students towards the prevention of COVID-19 infection was mostly in the good category and there was no less category.
3. There is a significant relationship between knowledge and attitudes towards preventing COVID-19 infection in Nursing Science Study Program students.

SUGGESTIONS

1. For Students

   It is hoped that students can maintain a good attitude towards the COVID -19 infection prevention protocol and also add insight into COVID-19 infection.
2. For Institutions

   It is hoped that institutions will campaign for health protocols or provide seminars related to preventing COVID -19 infection to increase student knowledge regarding protocols for preventing COVID-19 infection.
3. For Further Researchers

   It is hoped that further researchers can continue this research by examining other study programs and then comparing them with the results of this study. In addition, further researchers can continue research by considering factors that influence the variables of knowledge or attitudes towards preventing COVID-19 infection.

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