



**JOURNAL OF PUBLIC HEALTH FOR TROPICAL AND COASTAL
REGION (JPHTCR)**

Journal homepage: <http://ejournal2.undip.ac.id/index.php/jphtr/index>

ISSN : 2597-4378

Knowledge, Attitudes, and Access to Information Related to the Prevention Practices during the COVID-19 Pandemic (A Study to Undergraduate Students of Public Health Diponegoro University)

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Abstract

Background: Health protocols of COVID-19 prevention need to be applied to suppress the cases. However, the application requires good understanding that has never been studied before, especially among public health students of Diponegoro University. Therefore, this study investigated the knowledge, attitudes, and access to information towards prevention of COVID-19 pandemic

Methods: This type of research was descriptive analytic with quantitative approach, and cross sectional research design with a sample of 100 respondents (student from Faculty of Public Health Diponegoro University) selected by using probability sampling. The instrument used was an online questionnaire. Data analysis used is univariate and bivariate with chi-square test

Results: The results showed that the respondent's age was dominated by age ≥ 20 years (63%) with the gender mostly female (85%). Knowledge ($p = 0.015$), attitude ($p = 0.013$), and access to information ($p = 0.000$) were related to the practice of Public Health student in preventing COVID-19. Besides, access to information has a significant relation with the prevention practices and internet particularly social media is the source of information most accessed by student (89%).

Conclusion: It is necessary to increase Public Health student awareness, mainly about the dangers of COVID-19, avoiding misinformation, and there required to be more surveillance for personal activities and communities that have the potential to be exposed to COVID-19.

Keywords: COVID-19, knowledge, attitudes, access to information

Background

Coronavirus Disease 2019 (COVID-19) is a transmitted disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). The first COVID-19 case was discovered in Wuhan, Hubei, China in December 2019. Within a few months, World Health Organization (WHO) declared this disease a global pandemic around the world including Indonesia.¹

On June 12th 2020, Central Java Province in the fifth position as a province with the highest number of confirmed cases due to COVID-19 with 1,980 cases.² According to the Central Java government, Semarang City is one of the red zones or cities with highest cases of COVID-19 in Central Java. As of June 12th, Siaga Corona Semarang reported 253 positive cases of COVID-19, 342 recovered cases, 71 people died, 356 people under surveillance, and 213 patients under surveillance, which then continued to increase along the time. The increasing number of cases indicates that prevention practices are still not being implemented optimally.³

In Indonesia, the ministry of health issued guidelines for the prevention and control of COVID-19 to the public, such as recommendations for hand washing with soap and water or hand sanitizers containing at least 70% alcohol, applying coughing or sneezing ethics, using masks when doing activities in public places, and physical distancing namely maintaining a minimum distance of 2 meters from other people, and increasing endurance with a healthy lifestyle.⁴

The Ministry of Education and Culture also coordinates with universities to involve young people, especially health students, to help preventive and promotional programs through online communication,

information, and education using internet facilities to the public in an effort to prevent the spread of COVID-19 voluntarily.⁵

On the other hand, the use of the internet as a source of literacy to increase knowledge is easier to obtain, but is very vulnerable to disinformation or hoax. The Ministry of Communication and Informatics stated that there were 1,401 hoaxes and misinformation contents regarding COVID-19.⁶ According to the Association of Indonesia Internet Provider (APJII) survey, it proves that internet users are dominated by adolescents, namely 20-24 years where students are in the first rank of active internet users. Besides being prone to receiving misinformation, students can also spread misinformation.⁷

In addition, with high mobility, students are prone to engage in behaviors that increase the risk of spreading the COVID-19 virus or being exposed without showing symptoms. Based on *tribunjateng.com*, it is known that dozens of students "hangout" in stalls in the Tembalang area during the pandemic.⁸ According to Oktaviyanti, the culture of gathering is the fastest way to spread the COVID-19 virus.⁹

The Faculty of Public Health is a benchmark for students in others, because it studies the health context, especially regarding preventive and promotive. Public health students generally have extensive knowledge related to health problems so that they can be a role model in a healthy lifestyle as well as a health educator for the public environment in accordance with the vision and mission of Faculty of Public Health Diponegoro University to produce graduates who are professional, have character, and help solve public health problems.¹⁰

According to Lawrence Green's theory, a person's behavior is influenced by three factors, predisposing factors, enabling factors, and reinforcing factors.¹¹ The purpose of this study was to find out the knowledge, attitudes, and access to information of Diponegoro University's Faculty of Public Health students to prevent COVID-19 in Semarang City.

Methods

This type of research is a descriptive analytic with a quantitative approach and a cross sectional study design. The population in the study were active undergraduate students (S1) who were studying at the Faculty of Public Health, Diponegoro University, class 2016-2019. The number of samples taken in this study were 100 people, with criteria according to the population, namely active students of FKM Undip who are domiciled or currently living in Semarang, and are willing to fill out an online questionnaire via google form. Data collection was carried out in July-August 2020. This research has received ethical approval number 263 / EA / KEPK-FKM / 2020

Results and Discussion

Public Health Student Practices in COVID-19 Prevention

It can be seen that the mean age of 100 respondents is 20 years, which is dominated by respondents aged ≥ 20 years (63%). As many as 85% of respondents were female, and more student respondents were in the 2018-2019 class, namely 57 people (57%) and the rest of the 2016-2017 class were 43 people (43%).

COVID-19 prevention efforts carried out by public health students in accordance with the guidelines for prevention and control of COVID-19 that have been established by the

Ministry of Health include the practice of washing hands with soap, wearing masks, coughing or sneezing etiquette, and physical distancing or maintaining physical distance from people around them. at least 2 meters.¹²

From the results of the study, it was found that most of the students' practices in preventing the COVID-19 pandemic were in the good category (63%). Evidenced by the practice of washing hands, respondents wash their hands with water and antiseptic soap (85%), with a duration of 20-30 seconds of hand washing (63%), always apply 6 steps of washing hands according to WHO (54%), also use hand sanitizers when move outside the house. According to Purnama et al, hand washing behavior is influenced by the presence and distance of hand washing facilities, interpersonal influences, the desire to smell good, and when they feel dirty hands. This behavior is closely related to efforts to control COVID-19.¹³

In the recommendation for the use of masks, it was found that all respondents always used masks when doing activities outside the home, with the majority using masks with cotton / scuba cloth masks (97%). In accordance with Chughtai's research, the use of cloth-based masks can also reduce the secretion of droplets of microorganisms compared to not using any masks.¹⁴

The description of the activities carried out by respondents such as doing activities outside the home to buy basic necessities (95%) then cleaning themselves after doing activities by washing hands, bathing, and changing clothes. Some respondents also exercise independently (63%). In this study, the majority of respondents covered their mouths using their inner arms (85%) and some respondents covered their mouths using tissues (51%) as an ethical coughing effort.

According to Choi's research, practicing the correct cough etiquette can prevent the widespread spread of COVID-19 through free air (droplets) and make people comfortable.¹⁵

However, there are things that are of particular concern, such as some respondents only washing their hands with water (53%) with a duration of 5-10 seconds (37%). According to Romadhoni, carrying out hand hygiene is the most appropriate and effective way to prevent the spread of infection. Students who are not compliant and do not practice proper hand hygiene are at risk of spreading the infection to others and themselves.¹⁶

Some respondents have activities outside the home for

recreation (5%), hangout (16%), and others admit to visiting relatives in the midst of a pandemic (7%). It was found that respondents who actually initiated activities by inviting peers to hang out (7%), also never exercised during the pandemic (19%). According to Radiany et al, doing holidays, picnics, or going to busy public places can potentially carry the virus when returning to the home environment.¹⁷

The ethical picture of respondents' coughing and sneezing was also found that some respondents covered their mouths with their palms (19%), and some did not cover their mouths (4%).

Table 1 : Bivariate analysis using chi square

Variable	Category	f	%	S				p value
				Light smoker		Heavy smoker		
				f	%	f	%	
Knowledge	<14 years old	60	37.5	55	91.7	5	8.3	0.015
	≥ 14 years old	100	62.5	89	89.0	11	11.0	
Attitude	< Rp 10,000	19	11.9	18	94.7	1	5.3	0.013
	≥ Rp 10,000	141	88.1	126	89.4	15	10.6	
Access to Information	≤ 3000	68	42.5	66	97.1	2	2.9	0.000
	>3000	92	57.5	78	84.8	14	15.2	

From the research results, it is known that the variables related to the prevention of Covid-19 in students of the Faculty of Public Health, Diponegoro University are knowledge (0.015), attitude (0.013), and access to information (0.000) with p value <0.005.

Knowledge

Knowledge of COVID-19 can be interpreted as a result of respondent's knowledge of all aspects of the COVID-19 disease including signs and symptoms, ways of prevention, treatment, including complications. Knowledge plays an important role in

determining complete behavior because knowledge will form trust which further perceives reality, provides a basis for decision making and determines behavior towards certain objects.

It can be understood that 68% of student respondents who already have good knowledge of COVID-19 prevention efforts. It can be concluded that the majority of respondents already have good knowledge in efforts to prevent COVID-19.

This research shows that students already know the incubation period of COVID-19 (98%), the benefits of washing hands with soap and running

water (98%), the benefits of using hand sanitizers (96%), and the rules for maintaining minimum distance when doing physical distancing (81 %). In line with Syadidurrahmah et al, who explained that respondents who had good knowledge of physical distancing had 1.7 times the chance to behave in good physical distancing. Supported by Yanti et al's research which explains public knowledge, especially in preventing the transmission of the spread of the SARS-CoV-2 virus, is very useful in suppressing transmission of the virus.¹⁸

Based on the results of the bivariate analysis using the Chi Square test, it was obtained $p\text{-value } 0.015 \leq 0.05$ with H_0 was rejected, which means that there is a relationship between respondent knowledge and efforts to prevent the COVID-19 pandemic. The results of this study are in line with Sari et al's research in 2020, which concluded that there was a significant relationship between knowledge and compliance with the use of masks as an effort to prevent COVID-19 in Ngronggah with a value of $p = 0.004$.¹⁹ However, this is not in line with Saputra's research which explains that there is no relationship between the level of knowledge and compliance with the lockdown program to reduce the spread of COVID-19 among boarding students with a value of $p = 0.805$.²⁰

According to Lawrence Green's theory, it is explained that one of the factors that influence the formation of a person's behavior is the predisposition factor, namely knowledge. Supported by Notoatmodjo (2012), which states that behavior based on knowledge will last longer than behavior that is not based on knowledge. From some of these studies, it can be seen that knowledge is an important aspect that needs to be considered in solving problems, especially related to COVID-19.

Attitude

The attitude regarding COVID-19 as intended in this study can be interpreted as understanding and responding to statements regarding the description of behavior that occurred during the COVID-19 pandemic. Based on the research, it can be seen that some respondents have a positive attitude regarding efforts to prevent COVID-19, this is indicated by the results of respondents, 66% have a good attitude.

This is evidenced by student respondents showing a good attitude by agreeing not to isolate neighbors if there are people under monitoring, and remain friends with former sufferers of COVID-19 who have been declared cured (98%). In line with Sulistiadi, the stigma of COVID-19 affects people who are sick, people who have contact with sufferers, as well as people who have direct interactions with illnesses. Education is one of the most effective ways to reduce stigma.²¹

In addition, respondents felt they could avoid COVID-19 if they kept a positive mind (77%), and all respondents believed that the COVID-19 problem was not only the responsibility of the government. In line with Peng's research, a sense of responsibility for their duties as prospective health workers in the community encourages students to show a positive attitude in preventing COVID-19.²²

However, it was found that some respondents felt that adolescents had good immunity so that they were not easily infected with COVID-19 (56%). as many as 90% had asymptomatic, mild, or moderate infections.²³

In addition, respondents feel reluctant to refuse invitations from friends to go on vacation during a pandemic (30%). According to Aryani, adolescents tend to be reluctant to

refuse invitations from friends because they feel more comfortable with peers than their parents. Teens will better understand their friends if they do activities together so that they influence each other.²⁴

The results of the Chi Square test obtained p-value $0.013 \leq 0.05$, which means that there is a relationship between the respondent's attitude and student practices in efforts to prevent the COVID-19 pandemic. In line with Al-Hanawi et al's research in 2020 which stated that there is a relationship between a positive, optimistic attitude and high belief that will have an impact on good COVID-19 prevention action with a p value = 0.018.²⁵

According to Lawrence Green's theory, in preventing the occurrence of a disease or seeking treatment, individuals are influenced by predisposition factors, one of which is the attitude that tends to cause a person to perform a behavior. Supported by Notoatmodjo who explained that attitude. influencing the behavior of the people who are targeted in providing educational information with more innovative methods.

Access to Information

Information accessed in the mass media, both printed and electronic media, has a significant role in providing information about COVID-19 knowledge, especially for adolescents. As a technical means, the mass media allows the implementation of a good communication process, namely information, messages, and knowledge to target objectives. With different behavior it is also possible to have different activities and exposure to information.

Based on this research, it shows that most respondents have good access to information related to COVID-19 prevention efforts (63%). This was proven by all respondents having sought

out information about COVID-19. The majority of respondents access information related to prevention and updating of the number of COVID-19 cases (94%) with the most selection of information media via the internet from social media platforms (89%) compared to health agency sites such as covid19.go.id, semarangkota.go.id, and corona. jatengprov.go.id (75%), including online news sites such as detik.com, tribunjateng, and so on. (66%).

In line with Purbohastuti's research, students prefer to access social media because they are very used to it and feel that social media is part of their life. Social media is the main means of disseminating information in a fast, broad, and more accessible manner.²⁶

It can be seen that all respondents have sought out information about COVID-19, but it should be noted that respondents "rarely" access information about COVID-19. This can be seen in a week, most respondents only access information on COVID-19 with an intensity of 1 to 3 times (58%). In line with Muflih's research, there is a relationship between the frequency of access to information and the compliance of nursing students in preventing the spread of COVID-19. It was found that the higher the frequency of students accessing information, the higher the compliance with health protocols.²⁷

The results of the Chi Square test obtained p-value $0.000 \leq 0.05$, which means that there is a significant relationship between access to information and prevention efforts in the era of the COVID-19 pandemic. The results of this study are in line with Allington et al. In 2020 which stated that there was a significant relationship between the choice of social media as a source of information and conspiracy beliefs and the practice of preventing COVID-19 with p-value = 0.001.²⁸

According to Lawrence Green's theory, in preventing the occurrence of a disease or seeking treatment, individuals are influenced by enabling factors, namely support for access to information. It is in line with Notoatmodjo's statement which states that information sources can increase knowledge so as to produce good preventive practice

Conclusion

Knowledge, attitudes, and access to information have a meaningful relationship with the efforts to prevent COVID-19 carried out by students of the Faculty of Public Health, Diponegoro University. As a health student who is closely related to the world of health, it is very important to increase self-awareness and be more vigilant by considering COVID-19 as a serious health problem. Students not only know, but are willing and able to be more disciplined in implementing the COVID-19 prevention protocol. It is important to broaden students' insights by increasing the frequency of literacy searches from valid sources so that they are able to filter out hoaxes or disinformation about COVID-19. In addition, public health students as intellectuals can play a role by educating and avoiding the spread of COVID-19 disinformation to people around them.

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