SciencePG
Science Publishing Group

Analysis of Knowledge and Attitudes in Prevention and Control of COVID-19 Among College Students

Serri Hutahaean[*], Nourmayansa Vidya Anggraini

Faculty of Health Sciences, Universitas Pembangunan Nasional Veteran Jakarta, Jakarta, Indonesia

Email address:

serrihthyn@upnvj.ac.id (S. Hutahaean)
[*]Corresponding author

Abstract: COVID-19 is a new and previously undetected type of coronavirus in humans caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). The worldwide attention is increasing to this virus because of the person-to-person transmission rate which was initially thought to be animal-to-human, so the spread of the disease is very high. People with comorbidities and the elderly who are more susceptible to coronavirus infection have higher morbidity and mortality. The purpose of this study was to determine the relationship between knowledge and attitudes of the Faculty of Health Sciences students, Universitas Pembangunan Nasional Veteran Jakarta (FIKES UPNVJ) Indonesia in preventing and controlling COVID-19. This research used cross-sectional design conducted in May 2020 at FIKES UPNVJ with 233 respondents. The univariate analysis shows the characteristics of students with dominantly female, aged 20-29 years old, live outside Jakarta and from nursing study program. The bivariate analysis using the chi-square test shows p value 0.67 that can be concluded that there is no significant relationship between the knowledge and attitudes of the FIKES UPNVJ students in the prevention and control of COVID-19. This research is useful in preventing COVID-19 and further research is needed on the factors that affect the prevention and control of COVID-19.

Keywords: COVID-19, Knowledge, Attitude, Prevention and Control, Students

1. Introduction

Coronavirus was first discovered in Wuhan City, Hubei Province, China on December 31, 2019, and continues to be declared a pandemic by WHO on March 11, 2020. [1] Some characteristics of symptoms in the coronavirus identified as fever, cough, fatigue, and shortness of breath. [2] According to data from the Weekly Operational Update on COVID-19 dated September 4, 2020, reported by WHO, the confirmed cases of Coronavirus are around 26,121,999 cases with 864,618 cases died. Data on the spread of COVID-19 dated September 5, 2020, in Indonesia has reached 190,665 confirmed cases, DKI Jakarta with 45,157 confirmed cases, East Java 35,331 confirmed cases, Central Java 15,118 confirmed cases [3]. The worldwide attention is increasing to this virus because of the person-to-person transmission rate which was initially thought to be animal-to-human, so the spread of the disease is very high. People with comorbidities and the

elderly who are more susceptible to coronavirus infection have higher morbidity and mortality. Currently, vaccine development is still being carried out by researchers, and efforts to prevent and control COVID-19 are still being carried out as a form of self-preparation. [1]

The prevalence of COVID-19 cases that occur in Indonesia is quite high, so prevention efforts needed to be made. Prevention efforts are currently carried out through individual-level prevention: through personal and home hygiene efforts, then through increasing self-immunity and controlling comorbidities. Community-level prevention includes limiting physical interactions, implementing effective coughing and sneezing, health quarantine, maintaining physical distancing and social distancing, supporting health facilities and government efforts. [1] WHO explains that efforts to prevent and control the coronavirus consist of washing hands frequently using soap and running water, maintaining a distance of at least 1-2 meters between individuals, avoiding touching eyes, nose and mouth. Prevention and control COVID-19 cannot be separated from people's behavior. [4]

To combat the COVID-19 outbreak, nurses, doctors, and even students must be aware of the latest updates, especially those related to public health, and by following the right guidelines, namely the WHO guidelines. [5] Through good knowledge and attitude, COVID-19 transmission can be prevented, both among students and the community. College students majoring health are candidates as the vanguard in health facilities. Therefore, this research was conducted to describe the relationship of knowledge to the attitudes of FIKES UPNVJ students in Prevention and Control of the COVID-19 Pandemic.

2. Research Method

This is a quantitative research using a cross-sectional design conducted in May 2020 among students of the Faculty of Health Sciences, Universitas Pembangunan Nasional Veteran Jakarta (FIKES UPNVJ) Indonesia. Research sample selected based on inclusion and exclusion criteria. The inclusion criteria of this study were active students of the FIKES UPNVJ from level 1 to terminal and willing to be respondents. The exclusion criteria were students of the authors in current semester to avoid bias. This research used simple random sampling and the sample size determined based on the number of minimum sample requirements. The number of research samples was 233 respondents. The research data was collected by distributing questionnaires using Google Docs Form and analyzed using the chi-square test, to determine the relationship between knowledge and attitudes of the FIKES UPN students in preventing and controlling COVID-19.

3. Results and Discussion

This section presents the results of research on the demographic characteristics as well as knowledge and attitudes of FIKES UPNVJ students in preventing COVID-19. The univariate analysis in Table 1 provides an overview of the characteristics of students with dominantly female, aged 20-29 years old, live outside Jakarta and from nursing study program.

Bivariate analysis to see the relationship between knowledge of student attitudes in the prevention and control of COVID-19 using the Chi-Square test presented in Table 2 below.

Based on table 2, the results of the analysis of the relationship between knowledge and attitudes of students in preventing COVID-19, it is known that students with good knowledge and good attitudes are dominant (51.6%). However, the statistical test obtained p value of 0.67 that can be concluded that there is no significant relationship between knowledge and attitudes of college students in preventing COVID-19.

Table 1. *Characteristics demographic of FIKES UPN VJ students, 2020 (N=233).*

Characteristics	N	%
Age		
15-19	73	31.3
20-29	160	68.7
Sex		
Male	16	6.9
Female	217	93.1
Live		
Jakarta	84	36
Outer Jakarta	149	64
Study program		
Physiotherapy diploma	14	6
Nurse Profession	25	10.7
Nursing undergraduate	125	53.6
Nursing diploma	20	8.6
Public health undergraduate	31	13.3
Nutrition undergraduate	18	7.7

Table 2. *The relationship between knowledge and attitudes in preventing COVID-19 in FIKES UPNVJ students, 2020 (N=233).*

Knowledge	Attitude				Total	P value	OR
	Good		Not Good				
	n	%	n	%	N		
Good	79	51.6	74	48.4	153		
Not good	39	48.8	41	51.2	80	0.676	1.122 (0.653-1.928)
Total	118	50.6	115	49.4	233		

The result of this study showed that there is no relationship between knowledge of student attitudes in the prevention and control of COVID-19. The results of this study are in line with the research conducted in Ho Chi Minh City, Vietnam, that showed a negative correlation between knowledge scores and attitude scores r=-0.21, P<0.001 [6]. This is also supported by the research in Jakarta, Indonesia that there was no significant relationship between knowledge and student actions in the prevention and control of COVID-19, p=0.989 [7]. A study in Malaysia also found that among students, COVID-19 related knowledge and attitude were below satisfactory level during earlier phase of the pandemic, however, majority of respondents have positive behavior towards COVID-19

prevention that highlights the importance of accurate and tailored health education to improve the level of knowledge, attitude and practice to prevent COVID-19 transmission [8].

However, the results of this study are different from a research which states that there is a significant relationship between knowledge about COVID-19 with attitude, r=0.177, p=0.004, r=0.137, p=0.001 [9]. Other research on the analysis of factors related to nurse compliance in the implementation of infection prevention and control, found that there was a significant relationship between nurses' attitudes and infection control and prevention measures, p value 0.01 [10]. Research in Bangladesh also shows that students' knowledge is mostly poor [11]. In addition,

according to a study in India, medical students in India have poor knowledge regarding COVID-19 [12]. Meanwhile, according to a study on students in the Philippines obtained sufficient knowledge regarding the prevention of COVID-19 [13]. A research related to student knowledge in China with COVID-19 with good knowledge were 82.3% [14].

In the Ugandan study, teacher, health worker and students were associated with a good attitude while being a driver, and householder was associated with poor attitude towards COVID-19 prevention [15]. While the research in India found that medical students have a good attitude in preventing COVID-19 as well as a research in China where students have good attitudes in preventing COVID-19 [14, 16].

The factors that affect attitudes or compliance in preventing and controlling COVID-19 are not only knowledge. Many people know about the efforts to prevent and control COVID-19, but in reality, they do not implement what they know so that there is no relationship between knowledge and attitudes in the prevention and control of COVID-19. Besides knowledge, unsupportive funding and technology factors, no supervision from the leader, resistance to conduct active leadership in supporting nurses to prevent and control infection greatly affects nurses' non-compliance in the implementation of infection prevention and control [17].

In the current era of technological advances, student knowledge sources related to COVID-19 can be obtained from anywhere such as social media, the internet, WHO, the ministry of health, or valid information from friends (18). Nowadays, the Ministry of Health in Indonesia and WHO are providing massive information to the public regarding COVID-19 and how to prevent it through various social media. The results of this study indicate that there is no relationship between student knowledge and attitudes in the prevention and control of COVID-19. This is because even though students have received a lot of knowledge about COVID-19 from various media, their family and peers play a very important role in students' daily attitudes. A study in Pakistan found that lack of knowledge also caused by limited access [19]. Lack of access to accurate information as well as nursing education also happened in Sri Lanka that the major impacts of COVID-19 on nursing education were unequal access for all students to online distance learning, disruption of academic calendars, cancellation of clinical placements, teaching and learning gap, lack of facilities for online learning, disruption towards professional development that suggests higher education institutions should take actions to provide material supports to close the gap between teaching and learning and training academics on different online teaching and learning strategies [20]. Lack of knowledge also impacted to students' behavior, there were still many students who do not apply health protocols in carrying out their daily activities. Therefore, the government closes public places as well as schools and colleges like the Jordanian government [18].

The subjects of this study were consist of FIKES UPNVJ students who were taking diploma and bachelor. Notoatmojo states that the level of education affects a person in their ability to think about the information received [21]. However, it is also influenced by other external factors, such as environmental, social and cultural factors. Motivation is also one of the internal factors of a person in absorbing the knowledge. Even though the source of knowledge, environmental, social and cultural support are good, if there is lack of motivation, it will affect the knowledge and attitude. Good motivation will make someone increase their curiosity to find sources of information, analyze, absorb, and implement it.

The results of this study also show that most of the students of the FIKES UPN VJ have good knowledge with good attitudes towards the prevention and control of COVID-19. However, this high level of knowledge has no effect on the attitude of prevention and control of COVID-19. A study that conducted in Saudi Arabia examined the knowledge, attitudes, and behavior of health workers against the MERS coronavirus and other infectious diseases found that almost all health workers (doctors, nurses, and other practitioners) had good knowledge of MERS-CoV disease [22]. However, two-thirds of respondents found that they were not aware of the health protocol to serve patients with MERS-CoV. Only about 22.8% reported training in managing infectious diseases, around 54.4% reported training in hand hygiene and 45.6% reported technical training using N95 masks. So it showed that high knowledge of disease prevention and control does not always have relation to attitudes.

4. Conclusion

The results of this study indicate that there is no significant relationship between the knowledge and attitudes of students in preventing COVID-19. Most of the FIKES UPNVJ students have good knowledge and attitude of prevention and control of COVID-19. The factors that influence attitudes in the prevention and control of COVID-19 are not only knowledge, therefore we should take into account other factors as well. Based on the findings in this study, it is suggested that further research needs to be carried out in relation to the factors that affect the prevention and control of COVID-19.

Acknowledgements

References

[1] BNPB, K., Adisasmito, W., Guru, P. D., FKM, B., & Indonesia, U. (2020). Task Force for the Acceleration of COVID-19 Handling 1 (MR 6. NHSG 7. RNSG 8. AFLSK Agus Heri Setiawan, SKM, MPH 2. dr. Shela Rachmayanti 3. Thifal Kiasatina S. KM 4. Ida Ayu Kadek Ratih Prisma Laksmi S. KM 5. dr. Budi Santoso (ed.); Pp. 1–39). Task Force for the Acceleration of COVID-19 Handling.

[2] Abdelhafiz, A. S., Mohammed, Z., Ibrahim, M. E., Ziady, H. H., Alorabi, M., Ayyad, M., & Sultan, E. A. (2020). Knowledge, Perceptions, and Attitude of Egyptians Towards the Novel Coronavirus Disease (COVID-19). Journal of Community Health. https://doi.org/10.1007/s10900-020-00827-7.

[3] COVID-19 GTPP. Pedoman Penanganan Cepat Medis dan Kesehatan Masyarakat COVID-19 di Indonesia [Internet]. International Review of Education. 2020. 1–39 p. Available from: www.COVID19.go.id.

[4] World Health Organization. (2020). World Health Organization Coronavirus Disease 2019.

[5] https://www.who.int/emergencies/diseasesnovel-coronavirus-2019.

[6] Huynh, G., Nguyen, T., Tran, V., Vo, K., Vo, V., & Pham, L. (2020). Knowledge and attitude toward COVID-19 among healthcare workers at District 2 Hospital, Ho Chi Minh City. Asian Pacific Journal of Tropical Medicine, 13 (6), 260–265. https://doi.org/10.4103/1995-7645.280396.

[7] Hutahaean, S., Anggraini, N. V், Rosiana, Tinambunan, M. E., & Atsariyah, S. Al. (2020). The Influence of Knowledge on Student Actions in Prevention and Control of COVID-19. 30 (Ichd), 248–252. https://doi.org/10.2991/ahsr.k.201125.043.

[8] Sazali, MF., Rahim, SSSA., Mohamed, MH., Omar, A., Pang, NTP., Jeffree, MS., Tat, YB., Giloi, N., Bahar, FHM., Afridah, W., Fasya, AHZ., Hassan, MH., Madrim, MF., Mokti, K., Ramdzan, AR., Ahmad, ZNS., Atil, A., Rahim, MAA., Ibrahim, MY. 2021. Knowledge, attitude and practice on COVID-19 among students during the early phase of pandemic in a university in Borneo, Malaysia. Journal of Public Health Research, 10 (2122).

[9] Reuben CR, Gyar SD. Knowledge, attitudes and practices of Lassa fever in and around Lafia, Central Nigeria. 2016. International Journal of Public Health and Epidemiology Research. 2 (1): 14–21.

[10] Hutahaean, S., Anggraini, N. V. and Nababan, D. (2019.'Analysis of Factors Related to the Head of the Nurses in the Implementation of Prevention and Control of Infections in the Hospital', Jurnal Medicoeticolegal dan Manajemen Rumah Sakit, 8 (3), pp. 158–162. doi: 10.18196/jmmr.83102.

[11] Wadood, M. a; Mamun, A; Rafi, M. A; Islam, K. M; Mohd. Suhail; Lee, L. L; Hossain, G. M. 2020. Knowledge, Attitude, Practice and perception regarding COVID 19 among students in Bangladesh: Survey in Rajshahi University. medRxiv.

[12] Agarwal, V., Gupta, L., Davalbhakta, S., Misra, D., Agarwal, V. 2020. Undergraduate medical students in India are underprepared to be the young-taskforce against COVID-19 amid prevalent fears. medRxiv.

[13] Baloran, E. T. 2020. Knowledge, attitude, anxiety and coping strategies of students during COVID-19 pandemic. Journal of loss and trauma 25 (8).

[14] Peng, Y; Pei, C; Zheng, Y; Wang, J; Zhang, K; Zheng, Z; Zhu, P. 2020. Knowledge, Attitude and Practice Associated with COVID-19 among. Research square.

[15] Ssebuufu, R., Sikakulya, FK., Binezero, SM., Wasingya, L., Nganza, SK., Ibrahim, B., Kyamanywa, P. 2020. Awareness, knowledge, attitude and practice towards measures for prevention of the spread of COVID-19 in the Ugandans: A nationwide online cross-sectional Survey. medRxiv.

[16] Roya, D; Tripathya, S; Kara, K. S; Sharmaa, N; Vermaa, K. S; Kaushalb, V. 2020. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. Elsevier Public Health Emergency Collection.

[17] Halton, K., Hall, L., Gardner, A., MacBeth, D., & Mitchell, B. G. (2017). Exploring the context for effective clinical governance in infection control. American Journal of Infection Control, 45 (3), 278–283. https://doi.org/10.1016/j.ajic.2016.10.022.

[18] Alzoubi, H; Alnawaiseh, N; Al-Mnayyis, A; Lubad, M. A; Aqel, A; Alshagahin, H. 2020. COVID 19 knowledge, Attitude and Practice among Medical and Non-Medical University Students in Jordan. Journal Of Pure And Applied Microbiology.

[19] Salman, M. et al., 2020. Knowledge, attitude and preventive practice related to COVID-19: a croos-sectional study in two Pakistan University Population. Nature Public Health Emergency Collection.

[20] Ilankoon, IMPS., Kisokanth, G., Warnakulasuriya, SSP. 2020. COVID-19: Impact on undergraduate nursing education in Sri Lanka. Journal of Public Health Research, 9 (s1): 1916.

[21] Notoatmodjo, S. 2014. Behavioral Health Sciences. Jakarta: Rineka Cipta.

[22] Alsahafi, A. J., & Cheng, A. C. (2016). Knowledge, attitudes, and behaviors of healthcare workers in the kingdom of Saudi Arabia to MERS coronavirus and other emerging infectious diseases. International Journal of Environmental Research and Public Health, 13 (12), 1–8. https://doi.org/10.3390/ijerph13121214.