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Research Article

Effect of Health Promotion on Knowledge and Practice of Health Protocols on Nursing Students in Lebak District

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Abstract

Aims: The impact of COVID-19 on human life is enormous, not only claiming many lives but also being able to cause setbacks in every aspect of life. Prevention of transmission of COVID-19 can be done by providing education about COVID-19 which can increase knowledge and awareness in implementing health protocols. This study will examine differences in knowledge and practice of health protocols before and after COVID-19 prevention interventions for nursing students in Lebak District.

Methods: Quantitative research with the pre-experimental method, sampling technique with total sampling, and a sample of 166 nursing students. 2-stage data collection with a questionnaire via Google Forms. The research analysis is Pair T.Test. Intervention is carried out in 2 sessions in 1 week by providing education about COVID-19 to students and conducting simulations of keeping their distance, washing hands with soap, and removing masks.

Results: The results showed an increase in the average value of knowledge before and after the intervention, from 9.14 to 9.62. Moreover, there is a significant difference in knowledge about COVID-19 after the intervention of 0.02. Meanwhile, in the practice of health protocols, there was also an increase in the average value from 28.19 to 28.60.

Conclusion: After the intervention, there was no relationship between the practice of health protocols for nursing students; this was because the behaviour of COVID-19 practice protocol had not yet become a lifestyle for nursing students. For this reason, it is recommended to provide education and simulation of health protocols to get the expected behaviour.

Keywords:

COVID-19; education; knowledge; nursing students

INTRODUCTION

Coronavirus Disease 2019 (COVID-19) is an infectious disease caused by Severe Acute Respiratory Syndrome. Coronavirus 2 (SARS-CoV-2) occurred in Wuhan, Hubei Province, China (1). Chinese authorities reported the first case of COVID-19 as a patient with pneumonia of unknown cause (2). Common symptoms in patients with

COVID-19 are shortness of breath, fever, and cough, with the shortest incubation period of 5-6 days and the longest being 14 days. Pneumonia, kidney failure, acute respiratory syndrome, and even death can occur in symptoms with moderately severe cases of COVID-19 (3).

The global COVID-19 situation from March 6 - April 2, 2023, found 3.3 million cases

and more than 23.000 deaths. In Southeast Asia on April 2, 2023, there were 60.816.269 (8%) confirmed cases of Covid-19 and 804.106 deaths (12%) (4). In Indonesia, as of January 24, 2023, there were 6.728.402 confirmed cases of COVID-19 and 160.793 deaths (5). In the province of Banten, confirmed cases of COVID-19 on April 10, 2023, were 1 case, 1 case of hospitalization, and 1 case of death (6). Meanwhile, in the Lebak district, on April 2, 2023, 1 confirmed COVID-19 and 1 case died (7).

COVID-19 has not only an impact on health but also on other sectors. COVID-19 makes the world's economic situation worse. The International Monetary Fund (IMF) predicts that the world economy will weaken by 4.4%. Meanwhile, in Indonesia, economic growth experienced a decline of 5.3%, which caused a widespread loss of jobs and people's incomes (8). The World Economy Outlook April 2020 said that many countries were affected by unemployment, but America stood out the most. In 2019 unemployment rate was 3.7%, increasing to 10.4% in 2020; Indonesia also increased its unemployment from 5.3% in 2019 to 7.5% in 2020 of the workforce (2.2 %) (9).

The education sector also gets an impact, and many countries make policies to close schools and universities. Teaching methods have changed from offline to online, which is untested and unprecedented, and students and teachers are experiencing it for the first time. The average learning outcomes of students also experience a decrease when compared to student learning outcomes when the schools open (10).

Health education can increase knowledge to change negative behavior into positive to prevent infectious diseases/epidemics (11). For example, research in China said that people who know about COVID-19 provide insight and strategies for controlling and managing the ongoing COVID-19 outbreak (12). Break the COVID-19 chain; various countries have implemented social

distancing policies (including school closures), using personal protective equipment (including masks), border closures, isolation of confirmed patients, quarantine of contacts with COVID-19 sufferers (13); (14). For example, in the GI Endoscopy unit of the Humanitas Rozzano Hospital (Milan), Italy, after health workers, protective measures, wearing PPE, N-95 masks, and gloves, washing hands, and maintaining a distance of \pm 2 meters with patients, the risk of being infected with COVID-19 between staff and patient was reduced (15).

Secondary tracing data was obtained at a hospital in Rangkasbitung, Indonesia, in April 2020; one nursing student (AKPER Yatna Yuana Lebak, Rangkasbitung, Indonesia) was diagnosed with Suspect Corona. Moreover, this motivated researcher to provide education about COVID-19 to increase nursing students' knowledge in Rangkasbitung, Indonesia, to practice health protocols to prevent COVID-19. Meanwhile, this study aimed to examine the differences in knowledge of the practice of health protocols before and after interventions in preventing COVID-19 for nursing students in Rangkasbitung, Indonesia.

METHODS

Study and Design

This research is a Pre-Experimental Design with a one-group pre-test-post-test model. Measurements were done twice: stage 1 was the pre-test before the intervention, and Stage 2 was the post-test. The intervention was carried out in 2 sessions in 1 week by providing education about the prevention of COVID-19 to all students of the Yatna Yuana Nursing Academy Lebak, Banten, via Windows 365 (Teams). They also simulated keeping their distance, washing their hands with soap, and removing their masks.

Population and Sample

This study used a total sampling technique of 166 people who met the inclusion

criteria, namely active nursing students who are skilled communicators and have access to Android devices. While the exclusion criteria were students who refused to participate in the survey or could not attend due to illness were excluded from the study.

Data collection

The researcher herself examined the validity and reliability of the questionnaire, which was used to collect the research data; the results were shown by a Cronbach Alpha value of 0.847 and r table = 0.273. The surveys, which were disseminated via Google Forms before and after the intervention, were completed by the respondents. Researchers used a Likert scale with 11 questions to obtain an average knowledge score of 1 for the correct answer and 0 for the wrong answer. The practice of following health protocols was evaluated using 11 Likert scale questions. The following criteria determine the average

score for implementing health protocols: 3 for always, 2 for sometimes, and 1 for never.

Processing and data analysis

This research type of analysis was bivariate analysis using parametric statistical tests: Pair T.Test, which was measured twice to see the results of the first and the second measurements of knowledge and health protocols practice before and after the intervention. The significance limit used is 95% ($\alpha < 0.05$) with the meaning of p -value < 0.05 , and the relationship between the independent and dependent variables is significant. Statistical analyses were performed using SPSS (version 23; IBM, Armonk, NY, USA).

ETHICAL CLEARANCE

Research Ethics Committee approved this study, Department of Nursing, Sekolah Tinggi Ilmu Keperawatan PPNI Jawa Barat No. III/100/KEPK-SLE/STIKEP/PPNI/JABAR/X/2020.

RESULTS

Table 1. Distribution of Average Knowledge Values between Before and After Intervention (n = 166)

Variable	Mean	SD	SE	p-value
Knowledge about COVID-19				
Before Intervention	9.14	1.42	0.11	0.02
After Intervention	9.62	1.22	0.09	

Note: SD = Standard Deviation; SE = Standard Error Mean; p-value was calculated using the Pair T.Test test. A p-value of < 0.05 indicates statistical significance

Table I shows that the average value of COVID-19 before intervention is 9.14, with a standard deviation of 1.42 and a standard error of 0.11. However, after the intervention, the average value was 9.62, with a standard deviation of 1.22 and a standard error of 0.09. The statistical test result was 0.02, which means there was a significant difference in covid 19 knowledge before and after the intervention.

Table 2. Distribution of Average Health Protocol Practice Scores between Before and After Intervention (n = 166)

Variable	Mean	SD	SE	p-value
Health Protocol Practice				
Before Intervention	28.19	3.21	0.25	0.24
After Intervention	28.60	3.20	0.24	

Note: SD = Standard Deviation; SE = Standard Error Mean; p-value was calculated using the Pair T.Test test. A p-value of < 0.05 indicates statistical significance

In Table II, the average value of health protocol practice before the intervention was 28.19, with a standard deviation of 3.21 and a standard error of 0.25; meanwhile, the mean practice of health protocols after the intervention was 2.60, with a standard deviation of 3.20 and standard error 0.24. The statistical test result was 0.24, meaning there was no significant difference in the practice of health protocols before and after the intervention.

DISCUSSION

Knowledge

This study showed increased knowledge about COVID-19 before and after the intervention. Furthermore, there was a relationship between increased knowledge and the desire of nursing students to prevent COVID-19. Students at the nursing academy who received instruction on Covid-19 prevention and control showed improved knowledge of Covid-19 in high-risk individuals and how the coronavirus can be lethal by 38.46% (16). Research in China states that 90% of respondents had good knowledge about COVID-19, and 97.1% had confidence that China could conquer COVID-19. Respondents also actively learned about COVID-19 through the information channel of the Wuhan National Health Commission (we chat account, official website). This study also said that good knowledge encourages respondents to increase their optimistic beliefs and practice health protocols to prevent COVID-19 (17).

The literature study results show that many people get COVID-19 information independently. This information can come from the educational institution they are pursuing, the people around them, and the mass media. This information shaped people's knowledge about COVID-19. To obtain valid information about COVID-19, the government must edit any publicly broadcast information and make efforts to educate the public, specifically through relevant agencies such as the Ministry of

Health and agencies related to COVID-19. The research results in this study stated that there was a positive relationship between the community's knowledge and positive efforts in preventing the transmission of COVID-19. Therefore, the public needs valid information about COVID-19 (18). Research Italian students to see the level of COVID-19 knowledge and how they behave during the lockdown. The results showed that students with good knowledge of COVID-19 showed better awareness and control of COVID-19 prevention during the lockdown (19).

Health students who were given COVID-19 education found their attitudes increased toward preventing COVID-19. The increase was from 25.7 to 26.3. Therefore, it can be concluded that increasing knowledge can affect attitudes toward preventing COVID-19 (20). Furthermore, knowledge is a prerequisite for building confidence in prevention, forming positive attitudes, promoting positive behaviour, and forming individual cognitions and attitudes that can affect the effectiveness of strategies and behaviours in overcoming disease (21). Respondents' knowledge about COVID-19 has a positive relationship with using masks when leaving the house, and knowledge is a significant predictor of increasing attitudes toward using masks when leaving the house (22). According to research conducted in Indonesia about the level of knowledge about COVID can reduce anxiety levels, respondents who agree that people with chronic diseases, those who are obese, and those who are older are more likely to have a greater likelihood of developing severe cases and early symptomatic and supportive treatment can help the majority of patients recovering from COVID-19 infection show significantly lower anxiety scores than respondents who disagree (23).

The practice of health protocols

In this study, there was also an increase in the practice of health protocols done by nursing students from Rangkasbitung-Indonesia. However, there was no

relationship between the practice of health protocols before and after the intervention. Likewise, research in Pakistan stated that although Pakistani students and employees had good knowledge and attitudes about COVID-19, the prevention practices were unsatisfactory. Only 36.5% of respondents had good prevention practices (24).

Research in Indonesia stated that although the Ministry of Health had facilitated several socializations, the government conveyed the complex, rapid flow of information on COVID-19. The three behaviours (staying at home, washing hands more often, and keeping a distance) were always recommended to prevent and reduce the transmission of COVID-19. However, the perception and awareness of the Indonesian people about the risk of COVID-19 were still relatively low. For example, when schools were closed nationally, some families decided to vacation in their hometowns (25).

Health behaviour is an individual's response to a stimulus related to health and illness and the factors that influence it. Health behaviour is all observable and unobservable individual activities to improve health. Moreover, the behaviour is formed from 3 factors, namely: 1. Predisposing factors, attitudes, knowledge, beliefs, motivations from personal experience or other people who are driving health behaviour, 2. Enabling factors, availability or unavailability of health facilities and the physical environment, 3. Reinforcing factors, attitudes, and behaviour of health (26).

This study showed an increase in the average value of health protocol practices in preventing COVID-19 before and after the intervention, which was 1.45%. However, there was no relationship between the practice of health protocols in preventing COVID-19 before and after the intervention. According to Green, behaviour formation requires support from the three factors that shape behaviour. The cause of the behaviour of Rangkasbitung-Indonesian

nursing students in carrying out health protocols has not been formed because this behaviour has not become a routine habit in daily life. However, the enabling factor was also one of the obstacles to practising health protocols. For example, throughout 2020, the price of masks and hand sanitisers was prohibitive and scarce, causing many communities/health students not to wear masks outside the house or wear masks that did not meet health standards because they were made of thin cloth. In contrast, other factors reinforce factors, such as the absence of sanctions from health workers/government for people who violate the provisions of health protocol practices, such as not wearing masks outside the home, not washing their hands, and keeping their distance. With education about COVID-19 and simulations of keeping distance, washing hands with soap and removing masks given to nursing students, it is hoped that the behavior of nursing students in carrying out health protocols will increase.

CONCLUSION

There was an increase in the average value of knowledge and practice of the COVID-19 Protocol after the intervention. Moreover, there was a relationship between knowledge before and after the intervention, but the COVID-19 Protocol was not practised. The practice behaviour of the COVID-19 Protocol has not become a daily habit for nursing students. Therefore, there is a need to continue education and simulation of health protocols so that the practice of health protocols can become a daily behaviour for nursing students and the community. In addition, also need sanctions from authorized officers for people who do not carry out health protocols.

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