Original Article

Health Education on Family Knowledge and Decisions in Efforts to Prevent COVID-19

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ABSTRACT

Public knowledge and awareness about COVID-19 are essential in efforts to prevent the spread of COVID-19. Respiratory tract infections that cause mild to severe symptoms range from patients recovering after one week to acute respiratory distress syndrome (ARDS), sepsis, and septic shock, as well as multi-organ failure, including acute kidney or heart failure. The family has a vital role in maintaining health by increasing knowledge, which will ultimately influence the family in making the right decisions in dealing with COVID-19. The study aimed to determine the effect of health education on COVID-19 on family knowledge and decision-making ability. The design of this study was a quasi-experimental group in 2 groups; the intervention and control groups were 25 people each. The test used is the dependent t-test in each group, which is 5%. The results of the study of knowledge in the intervention group obtained a p-value of 0.008 <0.05, and decision-making obtained a p-value of 0.000 <0.05. The results of the analysis show that there is an effect of health education on knowledge. While the knowledge variable in the control group had a p-value of 0.0952 > 0.05, The decision-making variable obtained a p-value of 0.000 < 0.05. Health education can improve health by increasing knowledge and decision-making about health behavior in dealing with COVID-19 disease.

Keywords : COVID-19, Decision Making, Health Education, Knowledge

INTRODUCTION

COVID-19 (Coronavirus Disease 2019) is a disease caused by the SARS-CoV-2 virus. The virus was first identified in Wuhan, China, in late 2019 and has since spread around the world, causing a global pandemic[1,2]. COVID-19 has become a serious and significant health issue. COVID-19 has had a wide-ranging and serious impact around the world. The COVID-19 pandemic has affected many aspects of life, including health, economics, and social systems. Efforts are being made around the world to slow the spread of the virus, including measures such as lockdowns, travel restrictions, and public health protocols such as the use of masks and physical distancing[3–5].

Outreach plays a crucial role in providing accurate, educational, and reliable information to the public so that they can understand, overcome, and reduce the risk of spreading the virus. Here are some important points that can be used as a background for counseling research for COVID-19 [6,7]. Counseling on COVID-19 aims to provide appropriate and up-to-date information to the public regarding how the virus is transmitted, symptoms, prevention, and treatment. The amount of information circulating on social media and other platforms is often inaccurate and can lead to confusion and uncertainty among the public. Outreach can provide guidance to the public on effective prevention measures, such as hand washing, physical distancing, wearing masks, and avoiding crowds. By understanding how important these

measures are, people will be more likely to follow the guidelines set by health authorities[6,8,9].

Counseling on COVID-19 can utilize technology such as mobile applications, online platforms, and social media to convey information more widely and quickly. However, it is also necessary to consider the accessibility and digital literacy of the community so that information can be accessed by all. Outreach also has a role in helping communities prepare for the post-pandemic recovery phase, including understanding vaccination, economic recovery, and adaptation to new situations[10–13].

The family's ability to maintain health during a pandemic includes detecting symptoms of infection or the risk of contracting COVID-19, making the right health decisions when family members experience COVID, and implementing COVID prevention behavior. Families are also expected to be able to create a healthy home environment free from the possibility of contracting the disease and be able to play a role in their environment as an agent of change (an innovator) in health[14,15]. All of these family abilities will be achieved if the family has high enough knowledge about the nature, dangers, and clinical symptoms of COVID-19, as well as family knowledge in detecting whether the family is at risk or infected with COVID-19, which in turn will allow the family to make the right decision if a family member experiences COVID-19 symptoms so that they can be treated quickly and prevent more severe conditions and the spread of the virus from the family to the wider community.

Increasing family knowledge can be done by providing health education to families about COVID 19. Several studies explain the effect of health education on increasing knowledge[15,16]. High knowledge will be the basis for a person's decisions and actions. Increased knowledge after health counseling also increases the family's ability to make decisions[17]. Neglasari Urban Village in Tangerang City is one of the urban villages in Tangerang City. This village is a densely populated area that has a high risk of infectious diseases such as COVID-19, so this area is the choice of location for this research. COVID-19 is a dangerous disease that causes high mortality in humans. One of the solutions is early termination, where families must have knowledge about the symptoms and knowledge of detecting or endangering COVID-19 infection.

METHOD

The design of this study was quasi-experimental. The study was conducted in 2 groups. Namely, the group that received the action and the control group, each of which was given an intervention, pre-test, and post-test, were compared with the two groups. The population in this study were families who lived in Neglasari village, Tangerang City, amounting to 4,549 households. The samples involved in the study were samples that met the inclusion criteria, namely: Families who live in the Negalsari village and have a family card, are willing to be respondents, the head of the family is between 25 years - 50 years old, the head of the family has a minimum education of junior high school or equivalent, has a smartphone, does not have an acute or chronic infectious disease

The data collection was carried out in several stages. The initial stage includes managing research permits, coordinating with the field team to distribute questionnaires, preparing research instruments, conducting research sampling, and preparing research questionnaires. The second implementation stage includes explaining and filling in the consent form and filling out the questionnaire by the respondent. Then the respondent was given a questionnaire which was a variable about questions about the respondent's knowledge and attitudes about the material of the covid 19 disease, recognizing early symptoms and knowing that they were infected and at risk of being infected with covid 19 as well as the decisions taken by the family regarding this condition. Respondents were given Health Education on COVID-19 disease material with lectures, discussion, and brainstorming methods. Meanwhile, to find out if someone has been infected or is at risk of being infected by using a smartphone application. Furthermore, a post-test is carried out to determine changes in the knowledge and abilities of respondents in making decisions.

The data were analyzed using univariate and bivariate analysis. Univariate analysis in this study was used to determine the frequency distribution of respondents' knowledge and ability in decision-making

before and after health education was carried out in the intervention and control groups. For the knowledge variable using, a questionnaire consisting of 10 questions

The univariate analysis also determined respondents' knowledge and ability to make decisions before and after health education was carried out in the intervention and control groups. Bivariate analysis was conducted to determine the difference between the two variables before and after using the T statistical test. Tests dependent, then tested with = 5% (0.05). If the p-value is 0.05, then the difference is significant (significant).

The research protocol has been approved by the Poltekkes Kemenkes Semarang ethics committee with registration no. 0545/EA/KEPK/2022. Written consent was obtained from all respondents

RESULTS

Table 1 shows that almost half (36%) of respondents in the intervention group are in the range of 26–45 years old and are adults, while based on gender, all of them (100%) are male. Based on the education level of the respondents, almost half (48%) have secondary education. By occupation, almost all (76%) are employed. Based on the type of family, the majority (64%) are of the extended family type. Based on having been infected with COVID-19, almost all (80%) have never contracted COVID-19.

In Table 1, it is known that the age of respondents in the control group is in the range of 26–45 years, which is an adult age, while based on gender, most (56%) are male. Based on the education level of the respondents, almost half (40%) have higher education levels. By occupation, most (56%) are employed. Based on the type of family, almost all (88%) are of the extended family type. Based on having been infected with COVID-19, almost all (76%) have never contracted COVID-19.

Table 1. Respondent Characteristic

Intervention Group			Control Group	
Age	n	(%)	n	(%)
17-25	0	0	2	8
26-45	9	36	20	80
46-55	8	32	2	8
>55	8	32	1	4
Total	25	100	25	100
Gender				
Male	25	100	14	56
Female	0	0	11	44
Total	25	100	25	100
Education				
Elementery	11	44	7	28
Junior	12	48	8	32
Degree	2	8	10	40
Total	25	100	25	100
Occupation				
Un employee	6	24	11	44
Employee	19	76	14	56
Total	25	100	25	100
Family Type				
Main	9	36	22	88
Big	16	64	3	12
Total	25	100	25	100
Have Been Infected Covid-19				
No	20	80	19	76
Yes	5	20	6	24
Total	25	100	25	100

Table 2. Distribution of Average Knowledge Before and After Activities in the Control Group and the Intervention Group

Variable: Knowledge	Mean	SD	Min	Max
Intervention Group				
Score before intervention	7.00	1.979	1	9
Score after intervention	7.92	1.441	4	9
Control Group				
Score before intervention	7.88	1.563	3	10
Score after intervention	7.88	1.394	5	10

Based on table 2 in the intervention group, the average pre-test value of knowledge was 7.00 and the standard deviation value was 1.979 with the lowest knowledge score before being given health education and the highest score of 9. After being given health education, the average score was obtained. the post-test value of 7.92 and the standard deviation of 1.441 with the lowest knowledge score of 4 and the highest score of 9. While in the control group, the average pre-test value of knowledge was 7.88 and the standard deviation value was 1.563. with the lowest knowledge score of 3 and the highest score of 10. Meanwhile, the post test results have an average value of 7.88 and a standard deviation of 1.394 with the lowest knowledge score of 5 and the highest score of 10.

Table 3. Distribution of Average Decision Making Before and After Action in Control Group and Intervention Group

Variable: Decision Making	Mean	SD	Min	Max
Intervention Group				
Score before intervention	23.28	3.680	18	33
Score after intervention	26.52	3.002	21	35
Control Group				
Score before intervention	21.88	3.778	15	28
Score after intervention	23.24	3.756	17	31

Based on table 3 in the intervention group, the average pre-test score for decision-making was 23.28 and the standard deviation was 3.680 with the lowest score before being given health education was 18 and the highest score was 33. After being given health education, the average score was obtained. The average post-test score is 26.52 and the standard deviation value is 3.002 with the lowest decision-making score of 21 and the highest score of 35. While in the control group, the average pre-test value of decision-making was 21.88 and the score was 21.88. the standard deviation of 3.778 with the lowest decision-making score of 15 and the highest score of 28. Meanwhile, the post-test results have an average score of 23.24 and a standard deviation of 3.756 with the lowest decision-making score of 17 and the highest score of 31.

Table 4. Differences in decision making before and after intervention through health education

Variable	Mean		p value
	Pre	Post	
Intervention	23.28	26.52	0.000
Control	21.88	23.24	0.005

Based on table 4, the results of the p-value of the t-dependent test on the decision-making variable of the intervention group are 0.000. These results mean less than 0.05, and it is concluded that health education affects decision-making in the intervention group. Meanwhile, the p-value of the t-dependent test in the control group is 0.005. These results mean that it is less than 0.05, and it can be concluded that Ha is accepted and that there is an increase in the decision-making of the control group in the second measurement.

DISCUSSION

Knowledge is the result of knowing, and this occurs after someone senses a certain object that is influenced by the learning process.[18] According to Putri, 2020 [19] there are several factors that influence knowledge, including age education, occupation, experience. In table 2 it is known that the average distribution of knowledge before health education is 7.00 and after intervention 7.92 with a mean difference of 0.92 and p value $0.008 < = 0.05$. While in the control group there was no change in the value of the second measurement. These results show that there is an effect of health education on increasing family knowledge.

Table 1 shows the characteristics of respondents in the intervention and control groups almost no different except for education. It can be seen that the intervention group is in the age range of 17-35 years (36%) which is the adult age group. At this age stage, mental and cognitive maturity has been perfectly formed so that it is easy to receive information that can increase knowledge from 7.00 to 7.92. Likewise in the control group where most of them are in the age range of 17-35 years (80%) with a pre-test result of 7.88 but in the second measurement the results are the same, which does not show an increase in knowledge. The educational characteristics of the intervention group were mostly at the secondary education level (48%) and the control group was mostly at the higher education level (40%). This provides information that the first measurement in the intervention group and the control group had different results. The educational characteristics of the control group are mostly higher education, while the intervention group are mostly secondary education so that in the first measurement the knowledge of the control group is higher than the intervention group, but after being given health education the intervention group has a higher knowledge value than the control group who is not given health education.

In this study, knowledge was provided through health education to families about covid 19. The material explained about the covid virus, transmission, clinical symptoms, signs of conditions that endanger covid 19. Then it was also explained how to prevent it and detect whether a person is at risk of being exposed to covid 19 disease and actions that can

be taken as an effort to overcome when exposed to covid 19.

The information submitted to the respondents became a new source of knowledge which further expanded the knowledge of respondents as shown in table 4.2 where there was an increase in knowledge from 7.00 to 7.92 after Health Education. This result is the same as the results of several studies with Health Education variables to increase respondents' knowledge about covid 19, such as research by Dyananingsih and Suprapti (2021)[15].

The family's ability to make the right decisions depends on the knowledge the family has about COVID-19, including the nature and characteristics and symptoms of mild and severe COVID-19. According to Notoadmojo, (2012) health education can change the knowledge of a person or society in taking health-related actions[18]. The results of the study in table 4.3 show an increase in decision-making abilities in the intervention group from a value of 23.28 to a value of 26.52 with a mean difference of 3.24. The maximum value of 33 became a value of 35, p value 0.000 <0.05, while in the control group there was also an increase in value but not as much as in the intervention group.

There are several family duties in health, including recognizing health problems obtained through knowledge and making decisions related to health problems that are happening in the family. Accuracy and speed of decision making are needed in dealing with the ferocity of the COVID-19 disease. Failure to make decisions in this case has a fatal impact because many people have died and this disease has even become a pandemic for two years.

Improved decision making in the intervention group begins with increasing knowledge because knowledge about covid 19, especially the symptoms, dangers and actions that must be taken in dealing with covid 19 becomes the basis for someone in making the right decisions. The results of this study are the same as the results of research by Fitri, (2022) entitled The Effect of Health Education About Covid-19 to Family Heads on Covid-19 Prevention Behavior in the Banjar I Community Health Center Work Area, although the dependent variable is different, namely covid prevention behavior[20].

There was an increase in the value of decision making in the second measurement of the control group because it was supported by the age range of 17-35 years (80%) and most of the education included college education (40%). These two factors affect the maturity and critical thinking of respondents in making decisions when facing a problem in health in the family

CONCLUSION

Decision-making in the intervention group obtained an average pre-test score of 23.28 and a standard deviation of 3.680, the lowest score was 18, and the highest score was 33. After being given health education, the average score was 26.52, and the standard deviation value was 3,002 with the lowest decision-making score of 21 and the highest score of 35. There is a mean difference of 3.24 with a p-value of 0.000 <0.05, which means that there is an effect of Health Education on the ability of families to make decisions

CONFLICTS OF INTEREST
The authors declare no conflict of interest.

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