

Conference Paper

Relationship Between Knowledge and Behavior in Facing the COVID-19 Pandemic in a Rural Community

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Abstract.

The best way to prevent COVID-19 transmission is to be well-informed about the virus, its symptoms, and how it spreads. It is important to protect ourselves and others from infection by implementing health protocols. However, many people ignore the health protocols. This could be due to a lack of knowledge about this disease. The aim of this study was to determine the relationship between knowledge and community behavior in dealing with the COVID-19 pandemic. This was a descriptive study with a cross-sectional approach. The sample included 153 households in Manggisari Village, a rural area in Malang Regency, who were chosen by simple random sampling. Data analysis involved the Spearman Rank correlation test. The results showed that the community had a moderate level of knowledge (71.8%) with moderate risk behavior towards COVID-19 transmission (65.5%). There was a significant relationship between knowledge and community behavior in facing the pandemic ($p = 0.02$).

Keywords: knowledge, behavior, COVID-19 pandemic, rural community

1. Introduction

Corona Virus Disease or referred to as the Covid-19 virus originating from the Chinese state of Wuhan area in 2020 which until now has spread to all parts of the country, especially the state of Indonesia. *Corona virus* is a type of virus that is contagious can cause sufferers to have mild symptoms to severe symptoms. This virus more often attacks the human respiratory part so that the average symptom caused is shortness of breath. The Covid-19 virus has two types of viruses that cause severe symptoms: *Middle East Respiratory Syndrome (MERS)* and *Severe Acute Respiratory Syndrome (SARS)* (1). Some of the signs and symptoms of someone who has Covid-19 is to have acute respiratory disorders accompanied by fever with a temperature of $>38^{\circ}\text{C}$, cough and shortness of breath. The average incubation period is 5-6 days within 14 days (2). In

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patients with severe symptoms can be accompanied by pneumonia due to the Covid-19 virus such as shortness of breath, high fever with a temperature of $>38^{\circ}\text{C}$, chest pain and loss of appetite (3).

Covid-19 cases as of October 14, 2020 mentioned that the country of Indonesia was ranked second in Southeast Asia with the highest number of cases of 344,749 people confirmed positive for Covid with cases that died 12,156 people, cases recovered from positive Covid-19 267,851 people. In the province of East Java with positive confirmation cases of Covid-19 amounted to 47,595 people and cases that died a total of 3,468 people, as well as cases recovered from positive Covid-19 41,144 people [4]. Due to the increase in positive confirmation cases of Covid-19 and the death rate in Indonesia that can have adverse effects on the community such as disruption of the learning process in schools that are required for online schools that are less effective for school children, disruption of the family economy, to make the community more anxious and afraid because of the virus and the increasing regulations from the government that require the public to keep health protocols and conduct a healthy and clean lifestyle during the pandemic. Some forms of health protocols that must be done by the community such as always wearing a mask when outside the house or traveling, always washing hands every activity with soap or *handsanitizer*, and maintaining distance with others as far as 1-2 meters, and coughing and sneezing effectively [5].

Lack of knowledge in the community related to the prevention of the Covid-19 virus and actions in carrying out health protocols is still not widely understood by the public, so it often occurs ignoring the importance of health protocols in the pandemic period. In the face of the Covid-19 outbreak, people are expected to carry out health protocols that have been established by the government with the aim to break the chain and prevent the transmission of the virus. Seen from the increasing condition of cases can be interpreted that there are still many people who often ignore health protocols such as the public there are still many who often huddle by not wearing masks and not washing hands when finished shaking hands with others. So that the spread of the virus will continue to grow and increase, and there are still some communities. With a lack of understanding related to Covid-19 disease and often ignoring health protocols can make people's behavior less good during pandemic times, so researchers are interested in conducting research on the relationship of knowledge with public behavior in dealing with the Covid-19 outbreak. The purpose of this study is to find out the relationship between knowledge and public behavior in the face of the Covid-19 outbreak.

2. METHOD

This research is a quantitative type of research using *cross sectional* type research design conducted on March 1, 2021 to April 10 conducted in Manggisari Village, Malang Regency, East Java Province. Using a study sample of 110 KK (Head of Household) taken from the study population of 153 KK (Head of Household) This study *sampling* technique uses a type of simple random *sampling* that already meets the inclusion criteria as follows the age of 18-55 years, and can read and write. In this research instrument used knowledge level questionnaires obtained from research journal [4] and behavioral questionnaires obtained from research journals [5] and [6] study [7] The questionnaire contains about Covid-19 knowledge consisting of signs of clinical disease symptoms, ways of disease transmission, prevention and control of the Covid-19 virus. Behavioral questionnaires that contain health protocol actions such as wearing masks when leaving the house, washing hands using soap or *handsanitazers*, always being inside the house when there is no need, and actions taken regarding information about Covid-19. This study was conducted *door to door* by complying with health protocols when at home every respondent. Data analysis in this study used uni-variate analysis and bi-variate analysis with *spearman correlation test*.

3. RESEARCH RESULTS

In the results of this study obtained in the form of a table consisting of the results of uni-variate analysis and bi-variate analysis as follows:

In table 1 shows that the domination of respondents based on gender is woman which number is 74 (67.3%), meanwhile the age of respondents mostly range in age of 45-55 years with the number is 36 (32.7%). The Occupation of RW 08 Manggisari Village, mostly as farmers which number is 46 persons (41.8%). And the last education of community of Manggisari village, mostly is elementary school with the number of 58 (52.7%).

In table 2 shows that the level of knowledge of Manggisari village community regarding Covid-19 disease has the most widely categorized knowledge level is moderate with the number of respondents is 79 (71.8%). In people who have a low level of knowledge amounted to 14 (12.7%) and those with a high level of knowledge amounted to 17 (15.5%). Based on the result, it can be said that the Manggisari Village Community has a moderate level of knowledge about Covid-19 disease.

TABLE 1: Characteristics of respondents based on Gender, Age, Occupation, and The level of Education among Community of Manggisari Village, Malang Regency, April 2021.

No.	Characteristic	Respondents	Frequency (F)	Percentase (%)
1.	Gender Man Woman	110	36 74	32,7% 67,3%
2.	Age (year) age range according to Ministry of Health 17 - 25 years old (late teens) 26 - 35 years old (early adulthood) 36 - 45 years old (final adulthood) 46 - 55 years old (early seniors)	110	18 27 29 36	16,4% 24,5% 26,4% 32,7%
3.	Occupation Farmer Farm labour Housewife Private Employee Student Jobless	110	46 11 38 10 14	41,8% 10,0% 34,5% 9,1% 0,9% 3,6%
4.	The Level of education Not Finish Elementary School Elementary School Junior High School Senior High School Higher Education	110	6 58 36 9 1	5,5% 52,7% 32,7% 8,2% 0,9%

TABLE 2: Knowledge Level of Manggisari Village Community, Malang Regency, April 2021.

No.	Knowledge Category	Level of Knowledge	Percentage (%)
1.	Low	14	12,7%
2.	Moderate	79	71,8%
3.	High	17	15,5%

TABLE 3: Behavior of Manggisari Village Community, Malang Regency, April 2021.

No.	Behavioral Categories	Level of Community Behavior	Percentage (%)
1.	Low Risk	12	10,9%
2.	Moderate Risk	72	65,5%
3.	High Risk	26	23,6%

It can be seen from the Table 3 above, that the behavior of the Manggisari Village Community in Facing against Covid-19 Pandemic mostly has a moderate risk category behavior which number is 72 (65.5%). Furthermore, there are 26 of respondents or 23.6% who has high risk behavior and just 12 of respondents or 10,9 % who has low risk level of behavior in facing against Covid-19 Out-brake.

From the Table 4 above, it can be seen that the results of *cross-tabulation* between the level of knowledge and behavior among Manggisari Village community in facing Covid-19 Pandemic obtained results of 14 (12.7%) with respondents who have low levels

TABLE 4: Crosstabulation of Knowledge Level with Community Behavior in The Face of Covid-19 Pandemic in Manggisari Village, Malang Regency, April 2021.

		Community Behavior			Total
		Low risk	Moderate risk	High Risk	
Knowledge Level	Low	5 (4,5%)	5 (4,5%)	4 (3,6%)	14 (12,7%)
	Moderate	5 (4,5%)	63 (57,3%)	11 (10,0%)	79 (71,8%)
	High	2 (1,8%)	4 (3,6%)	11 (10,0%)	17 (15,5%)
Total		12 (10,9%)	72 (65,5%)	26 (23,6%)	00%)

of knowledge, 5 (4.5%) respondents with low risk behaviors in the occurrence of Covid-19 transmission where the public always adheres to health protocols amounting to 5 (4.5%), moderate risk behaviors amounting to 5 (4.5%) and behaviors that fall into the category of high risk in the occurrence of Covid-19 transmission amounting to 4 (3.6%) with a total of 14 (12.7%). Respondents with a total of 79 (71.8%) who have a moderate level of knowledge, 5 (4.5%) respondents who are at low risk of Covid-19 transmission, moderate-risk behaviors amounting to 63 (57.3%), and high-risk behaviors amounting to 11 (10.0%). Respondents with a total of 17 (15.5%) who have a high level of knowledge, 2 (1.8%) respondents low risk behavior in the occurrence of Covid-19 transmission, moderate risk behavior 4 (3.6%), and high-risk behavior 11 (10.0%). These results show that the majority of study respondents in Manggisari village have a moderate level of knowledge with behaviors that fall into the category of moderate risk to Covid-19 transmission.

TABLE 5: Knowledge Level Relationship with Community Behavior in Facing Covid-19 Pandemic of Manggisari Village Community, Malang Regency, April 2021.

Correlations				
			Knowledge Level	Community Behavior
Spearman's rho	Knowledge Level	Correlation coefficient (2-Tailed) N	1.000 . 110	.290** .002 110
		Sig.		
	Community Behavior	Correlation coefficient (2-Tailed) N	.290** .002 110	1.000 . 110
		Sig.		

** . Correlation is significant at the 0.01 level (2-tailed).

In table 5.5 shows the results of *spearman's rho* correlation test that the value *p value* = .002 which is said to be a value of *p value* is smaller than *alpha* (0.05), then the result of H_0 is rejected and H_1 is accepted means that there is a relationship between the level of knowledge and public behavior in the face of the Covid-19 outbreak. In *correlation coefficient* shows the number (0.290) shows that both knowledge level relationships

with community behavior in the face of the Covid-19 outbreak fall into the category of weak cholera and have a positive relationship direction which means the higher the level of knowledge, the higher the behavior of the community in preventing Covid-19. In the results of this study it can be concluded that there is a relationship between the level of knowledge and the behavior of the community in dealing with the Covid-19 outbreak.

4. DISCUSSION

4.1. Knowledge Level of Manggasari Village Community, Malang Regency in Facing the Covid-19 Pandemic

From the results of the study, it can be found that the people of Manggisari village Malang regency majority has a moderate level of knowledge with a percentage of 71.8% with the number of 79 respondents, while other people have the level of knowledge in a low category which number is 14 (12.7%) and minority of people who has high category of knowledge which number is 17 (15.5%). The justification of these result can be relates with several factors which possibly affecting the level of knowledge [8] such as education, occupation, age and external factors consist of environmental and sociocultural factors. Each level of knowledge of a person has some six levels such as know, understand, application of analysis, synthesis and evaluation. Knowledge influenced by education is said that someone who has a higher education will be easier to get information, and for occupation, it is affecting the level of knowledge which means one has a lot of experience in the work. This can be supported by a research [9] Covid-19, but not all respondents who have higher education but preventive behavior against Covid-19 is still not good and vice versa in low education but prevention behavior is good. As in the research respondents who have the last education is the level of starting elementary school or not finishing elementary school to Bachelor with the majority of the last education is elementary school.

This. Study respondents had a moderate level of knowledge with a moderate category of 79 (71.8%) knowing some about the signs of Covid-19 symptoms (fever), maintaining distance, self-isolation, and transmission of the virus. This is the majority of respondents get information circulating in the community and news heard about Covid-19 disease, especially in the treatment of the Covid-19 vaccine. The research is in line with research conducted by [10] Public knowledge still needs to be improved again about Covid-19 in detail, especially on the benefits of the Covid-19 vaccine. From the

results above the community of Manggisari Village, Malang Regency can be concluded that the majority of respondents have a level of knowledge with a moderate category of Covid-19 disease. These results are supported by research from [9] that a good level of knowledge will have good behavior. The high and low education and work experience of each individual can shape one's knowledge.

4.2. The Behavior of Manggisari Village Community, Malang Regency in Facing the Covid-19 Pandemic

From the research, it also can be showed that the majority of respondents' behavior category in preventing the transmission of Covid-19 is in moderate risk behavior. This is because most of the people of Manggisari Village who still adhere to health protocols such as wearing masks, washing their hands and staying at home, but there are some people who have not adhered to health protocols that have behavior in prevention with the rate of transmission to Covid-19 as many as 26 respondents (23.6%). There are several factors that can affect a person's behavior, namely predisposing factors such as age, work, education and attitude [8] This is in line with research [11] behavior can also be influenced by the level of education and knowledge level of each individual, each individual who has known certain information will be able to make decisions and determine how to behave towards the prevention of Covid-19 [12] In the study of (11) explained that several factors that affect a person in complying with health protocols are age, education, knowledge level and attitude. The results of the study explained that there are 74.19% of the public who have high adherence to health protocols, the majority of respondents are adults (72.4%).

4.3. Relationship Between Knowledge and Behavior in Facing Covid-19 Pandemic among The Community of Manggisari Village, Malang Regency

Spearman *rank* correlation test results obtained a *p value* of 0.002 which is said to be smaller than *alpha* (0.05), then H_1 is accepted and H_0 is rejected. The results of this study can be concluded that there is a relationship between knowledge and community behavior in the face of the Covid-19 outbreak in rw 08 community in The Mangosteen Village of Malang Regency, on the results of *spearman rank* correlation test strength has a value of 0.290 which shows that the strength of the relationship between knowledge and community behavior in the face of the Covid-19 outbreak belongs to the category of weak correlation and unidirectional positive correlation. Some communities say they

only know a few of the common signs of Covid-19 symptoms, transmission of the virus as well as self-isolation measures and keeping their distance and knowing the importance of wearing masks when going out and washing their hands. The public only knows the information news obtained from television or news that has been delivered by the village head or village head. But there are some people who do not know in detail about Covid-19 disease and still do virus prevention behavior such as wearing a mask and staying at home unless working. This research in line with (12) shows that the people of Wonosobo have a good level of knowledge and good behavior in doing Covid-19 prevention such as obediently using masks when out of the house, washing hands with soap, and avoiding crowds, the level of knowledge in the wonosobo community is very high about Covid-19. Good knowledge is obtained from the information circulating about Covid-19.

In this study the community has a moderate level of knowledge, the public only knows some understanding of Covid-19 such as general symptoms such as fever and cough, self-isolation, *social distancing* and the way of transmission of the virus, it is the public receives incomplete information related to the Covid-19 virus and there are some people who still do not believe in the existence of the virus. In addition, the level of knowledge is also influenced by higher education which also affects behavior towards the prevention of Covid-19, but not all people who have higher education have good behavior (11). This can make some levels of public awareness good and not good to information related to Covid-19 virus disease, so that some communities have adhered to health protocols and some have not adhered to health protocols that put people's behavior at moderate risk of Covid-19 transmission. This is in line with the research (12) said that the knowledge of the people of Sumatra Kelod Village has good knowledge because the majority of the people have the correct answers on the question items listed in the study, so that the public has good knowledge and can have good behavior towards the prevention of the Covid-19 virus.

5. CONCLUSION

To sump up, this study shows that the Majority level of knowledge of Manggisari Village Community, Malang Regency is 71.8% of respondents has moderate level of knowledge, it means in general, the community has a moderate level of knowledge about what is Covid-19, the signs of symptoms of Covid-19, and how to prevent the transmission of Covid-19. Furthermore, in line with the knowledge, it also can be seen from the result of the study that the majority of Manggisari Village Community behaviour in preventing

of Covid-19's transmission is in the moderate risk level, and in the result of bi-variate analysis that there is a relationship between knowledge and the behavior of the people of Manggisari Village in facing the Covid-19 Pandemic, this community knowledge can affect the occurrence of community behavior.

This research has been approved by the health research ethics commission of the University of Muhammadiyah Malang on April 29, 2021 with the number E.5.a/067/KEPK-UMM/IV/2021

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