

Persepsi Ancaman dengan Perilaku Pencegahan COVID-19 pada Masyarakat di Sukoharjo

Threat Perception with COVID-19 Prevention Behavior in Community in Sukoharjo

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ABSTRACT

Background: Currently, almost all countries in the world are experiencing cases of the COVID-19 pandemic. The COVID-19 disease has been declared as a pandemic by the World Health Organization (WHO) after almost most of the countries in the world were infected with COVID-19. One of the ways to prevent COVID-19 is determined by perception of threat to COVID-19 that occurs in the community. **Objectives:** This study aims to determine the relationship between threat perception and COVID-19 prevention behavior in Sukoharjo Regency. **Methods:** The type of research used was analytical observational with a cross-sectional approach. The population was all residents aged 15-65 years in Sukoharjo Regency of 618,992 in 2018 with a total sample of 246 people from simple random sampling technique. The research was conducted in October-December 2020. The research instrument used was questionnaires which were filled out directly by the respondents through google form. The research variables were threat perception and COVID-19 prevention behavior. Bivariate statistical test using chi square test. **Results:** The results showed that respondent's perception of the threat of COVID-19, the perception was high (67.1%) with high COVID-19 prevention behavior as well (58.8%). Threat perception influenced mask wearing behavior ($OR= 2.68$; P value<0.031), hand washing behavior ($OR= 3.39$; P value<0.001), and social distancing behavior ($OR= 3.39$; P value<0.001). There was a relationship between threat perception and COVID-19 prevention behavior in Sukoharjo Regency (P value<0.000). **Conclusion:** The study concluded that threat perception was related to COVID-19 prevention behavior, both the behavior of using masks, washing hands and social distancing. There is a need for regional government policies to maintain the behavior of preventing COVID-19 in order to reduce the number of COVID-19 cases in Indonesia

Keywords: threat perception, preventive behavior, COVID-19.

INTRODUCTION

Currently, almost all countries in the world are experiencing cases of the COVID-19 pandemic. After most of the countries in the world were infected with COVID-19, the World Health Organization (WHO) declared the COVID-19 disease as a pandemic. The COVID-19 pandemic started in Wuhan, Hubei Province, China in December 2019, and then quickly spread to many countries around the world (WHO, 2020).

COVID-19 has severely affected various countries including the United States, Italy, France, Spain, Germany,

Switzerland and Iran. However, the highest death rates were found in Italy, Spain, England, France and Iran. There is an increasing trend in the transmission, prevalence, and mortality rate due to COVID-19. The increasing number of cases and the estimated risk of death indicate that increased public health mediation, good hygienic conditions, social distancing and limited movement can control the COVID-19 epidemic (Taghrir, Borazjani and Shiraly, 2020). Given the epidemiological characteristics of COVID-19, it is very important to stop the spread of the virus through endemic prevention and control methods such as isolating

infected patients and controlling the source of infection (Li *et al.*, 2020).

Global COVID-19 confirmed cases in early August 2020 were 18,354,342 cases with 696,147 deaths (CFR 3.8%) spread across 215 affected countries and 171 local transmission countries. Confirmed cases in Indonesia were 116,871 cases with 5,452 deaths. The highest cases were found in East Java (23,412 cases), DKI Jakarta (23,026 cases), and Central Java ranked third (10,764 cases) (Kemenkes Republik Indonesia, 2020). In Central Java, the highest cases were in Semarang Regency while Sukoharjo Regency was ranked sixth with a total of 297 COVID-19 cases (Dinas Kesehatan Propinsi Jawa Tengah, 2020). The 297 cases with 1,451 cases of close contact and 810 suspected cases in Sukoharjo Regency were spread across all sub-districts in Sukoharjo Regency with the highest cases being in Grogol District with 56 cases (Dinas Kesehatan Kabupaten Sukoharjo, 2020).

Beyond the danger to health, increased stress factors with consequent increased anxiety and emotional development occur because of emergencies and constant worries (Bauer *et al.*, 2020; Jin *et al.*, 2019). A person's perceived threat to health can be seen from the perceived susceptibility (i.e. beliefs in vulnerability and the possibility of contracting the disease) and perceived severity (i.e. beliefs related to changes in the disease experienced) (Kan and Zhang, 2018). Characteristics of high threat perception are shown in a state of excessive alertness, a feeling of life-threatening danger and a strong sensitivity to the emergence or recurrence of disease (Chang, 2017). Thus, beyond physical health, fear of the consequences of infection such as death or severe physical disability can be experienced by people at risk and patients diagnosed with COVID-19 (Moreira *et al.*, 2020). Such emotional disturbances combined with the boredom, loneliness, and anger that can arise in quarantine (Zhao *et al.*, 2020).

Based on the number of COVID-19 cases in Sukoharjo Regency, until August 2020, there was an increase and the perception of the threat to COVID-19 could encourage the occurrence of COVID-19 prevention behavior in the community (Dinas Kesehatan Kabupaten Sukoharjo, 2020). Therefore, it is important to obtain

information related to threat perception and COVID-19 prevention behavior in Sukoharjo Regency.

This research is expected to provide information about the perception of the threat and behavior of COVID-19 prevention in Sukoharjo Regency, so that it can be used to make policies for the COVID-19 disease prevention and control program in Sukoharjo Regency. This study provides an overview of the relationship between threat perceptions and COVID-19 prevention behavior in people in Sukoharjo Regency. The purpose of this study is to determine the relationship between threat perception and COVID-19 prevention behavior in Sukoharjo Regency.

METHODS

This research was an analytic observational study with a cross-sectional research approach design. The population in this study was the entire population aged 15-65 in Sukoharjo Regency, which was 618,992 in 2018 (BPS Sukoharjo, 2019). Using the sample size formula as follows (Lameshow and Pramono, 1997):

$$n = \frac{Z_{1-\alpha/2}^2 p(1-q)N}{d^2(N-1) + Z_{1-\alpha/2}^2 p(1-q)}$$

With N=250, $P\ value=80\%$ and $d=0.05$, the sample size in this study was 246 people. Sampling was done using simple random sampling technique (Sugiyono, 2015). The research was conducted in October-December 2020 with a google form distributed through the whatsapp group owned by the research team.

The instrument in this study was an interview with a questionnaire via google form. The independent variable was threat perception and the dependent variable was COVID-19 prevention behavior. Demographic data and characteristics of respondents in this study were obtained through a google form questionnaire.

The research variables were threat perception and COVID-19 prevention behavior. Threat perception explains the respondent's perception regarding the danger, impact and prediction of the increase in COVID-19. Threat perception was obtained through

a questionnaire consisting of 5 questions. COVID-19 prevention behavior explains the behavior of wearing masks, washing hands, keeping a distance, seeking information about COVID-19, and socializing about COVID-19. COVID-19 prevention behavior was obtained through a questionnaire consisting of 8 questions.

Data analysis was carried out by means of descriptive analysis to describe the threat perception and COVID-19 prevention behavior. Bivariate analysis used chi square test to determine whether there was a relationship between variables.

RESULTS AND DISCUSSION

This study found that more than half of the respondents were old adults (72.8%) and female (71.5%). From the education level of the respondents, most of them were undergraduate (42.7%) and the highest occupation in amount was State Civil Apparatus (24.4%) and other private sectors (24.4%). Judging from the respondent's perception of the threat of COVID-19, the perception was high (67.1%) with high COVID-19 prevention behavior as well (58.8%).

Table 1. Univariate Analysis Results

Variable	n	%
Age		
Young adults (20-39 year)	66	26.8
Old adults (40-60 year)	179	72.8
Elderly (>60 year)	1	0.4
Gender		
Female	176	71.5
Male	70	28.5
Education		
Middle school	6	2.4
High school	71	28.9
Diploma	34	13.8
S1	105	42.7
S2	30	12.2
Profession		

Variable	n	%
Does not work	4	1.6
Student/College Student	53	21.5
Housewife	28	11.4
Farmer	3	1.2
Labor	4	1.6
Entrepreneur	34	13.8
State Civil Apparatus	60	24.4
Other private sectors	60	24.4
Threat Perception		
Low	81	32.9
High	165	67.1
COVID-19 Prevention Behavior		
Low	102	41.5
High	144	58.5
Total	246	100

The statistical test results showed that a low COVID-19 prevention behavior had the same perception of the threat (50%) and the high COVID-19 prevention behavior had a high threat perception (67.1%) and the P value of 0.000. It means that there was a relationship between threat perception and COVID-19 prevention behavior in Sukoharjo Regency.

This study is in line with research in Wonosobo which found that most of the respondents were women (64.5%), productive age (26-45 years), with higher education (63.2%), and private employment (29.2%) (Purnamasari *et al.*, 2019). This indicates that women participate more in research than men. The questionnaire was filled out with a google form and was disseminated through a whatsapp group so that the respondents were mostly in the productive age with higher education.

Table 2. Results of Bivariate Analysis

Threat Perception	COVID-19 Prevention Behavior				Total	P value		
	Low		High					
	n	%	N	%				
Low	51	50	30	20.8	81	32.9		
High	51	50	114	79.2	165	67.1		
Total	102	100	144	100	246	100		

Research conducted in West Java, Banten, and Jakarta found that people in the Capital of Jakarta did not have sufficient risk perceptions to protect themselves with COVID-19 prevention behavior (Permatasari *et al.*, 2020). Research in the United Kingdom (UK) found that threat perceptions in 10 different countries around the world were high. This threat perception was related to the experience of people who had been infected by the COVID-19 virus and the different socio-cultural factors of each country. In addition, threat perception was also influenced by gender where men tended to have lower threat perceptions than women. Another finding was that trust in government actions in preventing the transmission of COVID-19 was also one of the factors that caused people to have high threat perceptions (Dryhurst *et al.*, 2020).

Research in India found that 80% of respondents were busy with the COVID-19 pandemic and around 40% of respondents felt paranoid about the thought of contracting a COVID-19 infection. Around 70% of respondents reported feeling worried about themselves and those closest to them being infected with COVID-19 during the pandemic. This concern caused around 12% of respondents to be unable to sleep during the pandemic. Almost half of respondents felt panic by reports of the COVID-19 pandemic through printed and electronic media. This finding shows that COVID-19 was a threat to them so there was concerns about contracting COVID-19 (Roy *et al.*, 2020).

The research in United States found that respondents rated the risk of being infected as relatively high and they considered the COVID-19 disease as a threat to health. They would be aware of the potential for transmission, which

indicates that if they got infected, they would more likely spread it to others (Wise *et al.*, 2020).

Research in Wonosobo found that in general, the community's COVID-19 prevention behavior included washing hands with soap or hand sanitizer, keeping a distance, carrying out calls to stay at home, avoiding crowds, and physical and social distancing (Purnamasari *et al.*, 2019). Another study on COVID-19 prevention behavior in Prenggan village, Kota Gede, Yogyakarta, found that community behavior in preventing COVID-19 was good except for the use of disinfectants and smoking cessation (Pascawati and Satoto, 2020). Compliance with COVID-19 prevention behavior in the Bengkulu Health Polytechnic Academic or *Politeknik Kesehatan Bengkulu* community was only 59.1% with the highest adherence in educators and the lowest in students. Bad behavior would increase the number of cases and death rates due to COVID-19. The highest prevention behavior was not leaving the house unless there was an important business (76.6%) and implementing clean living behaviors such as washing hands before eating and before touching the face (74.3%) (Simbolon *et al.*, 2020).

Research in India found that as many as 82% of respondents had reduced social contact and about 90% of respondents began to avoid gatherings and parties. Nearly 33% of people accepted that they felt obligated to purchase and store essential items at home. In addition, the preventive behaviors carried out were using a mask without clear signs and symptoms of infection (37%) and more than 75% felt the need to use sanitizer and gloves (Roy *et al.*, 2020).

One effective way to kill germs is by washing hands, because it is known

that the COVID-19 virus can stick on the body, especially on hands that have touched other objects infected by droplets. Splashing saliva on objects can transmit the COVID-19 virus by 75% (Kemenkes Republik Indonesia, 2020).

This behavior can prevent transmission of COVID-19 infection because based on research results, washing hands with soap and running water can prevent transmission of bacterial and viral infections (Ataee *et al.*, 2017). The use of masks as personal protective equipment can prevent the transmission of COVID-19 through splashes of saliva where 72.2% of the Wonosobo people have complied with using masks (Purnamasari *et al.*, 2019). Although the most effective masks to prevent COVID-19 are surgical masks, people can still use cloth masks as an effort to prevent COVID-19 from splashing saliva (Ika, 2020). Research by Emely E *et al* showed that the fitted filtration efficiency increased from the use of health masks by 55% to 66% when using double masks (health masks and cloth masks) (Emily E. Sickbert-Bennett *et al.*, 2021).

Research in the UK using a newly developed scale found that FCV-score 19S was associated with positive changes in COVID-19 prevention behavior. This study found that individuals were more involved in preventive behavior when they had a severe threat perception, so this threat perception can act as a motivating factor to perform behaviors that facilitate the prevention of COVID-19 (Harper, 2020). An Iranian study conducted on medical students found that threat perceptions differed significantly between students trained in the emergency room (ED) and non-ED. This study also found a significant correlation between threat perception and COVID-19 prevention behavior (Taghrir, Borazjani and Shiraly, 2020).

Another study conducted in 10 different countries around the world (United Kingdom, United States of America, Australia, Germany, Spain, Italy, Sweden, Mexico, Japan, and South Korea) found that there was a correlation between threat perception and COVID-19 prevention behavior in 10 countries (Dryhurst *et al.*, 2020). This is also in line with research in America which found that the perception of the risk of being infected with COVID-19 in oneself affects protective behavior such as washing

hands, maintaining distance, avoiding social interactions, staying at home, and traveling less frequently (Wise *et al.*, 2020).

The government of Indonesia has issued a policy in order to prevent the spread of COVID-19, namely washing hands with methamphetamine, wearing masks, maintaining distance, and avoiding crowds. However, the behavior of preventing and spreading COVID-19 has not been implemented by the entire community.

CONCLUSION

People in the Sukoharjo area have already possessed a high perception of the threat to COVID-19 to be able to implement COVID-19 prevention behavior (washing hands with soap/hand sanitizer, wearing masks, keeping a distance, avoiding crowds). Local government policies are needed to maintain COVID-19 prevention behavior (washing hands with soap/hand sanitizer, wearing masks, keeping distance, avoiding crowds) in order to reduce the number of COVID-19 cases in Indonesia. In addition, proper education was needed about perception of the threat like the dangers, impacts and prediction of the increase in COVID-19 on the community.

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