The Health Belief Model Approach to Covid-19 Prevention Protocol Compliance in the Indonesian Population

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ABSTRACT

Prevention of COVID-19 can only be done by changing behavior. The recommended behavior change is 3M's behavior. The Health Belief Model (HBM) theory can be used to predict the behavior of 3M people. The purpose of this study is to find out how 3M's behavior is viewed from the HBM theoretical framework. The research design used a cross sectional with a sample of 96 people of Pasir Endah Village, Bandung City, which were taken at stratified random. With independent variables: perceptions of vulnerability, severity, benefits, barriers and self-efficacy and the dependent variable: community 3M behavior. The research instrument used a Gform questionnaire which was processed with the Chi Square test. The results showed that most of the people implemented 3M behavior and had high perceptions of vulnerability, severity, benefits, barriers and self-efficacy, there was a relationship between perceived vulnerability (p-value: 0.025), perceived severity (p-value: 0.004), perceived benefits (p-value: 0.010), and self-efficacy (p-value: 0.025), and there is no relationship between perceived barriers (p-value: 0.064) and 3M people's behavior. The Puskesmas is expected to be able to increase the perception of vulnerability, severity, benefits, and self-efficacy related to COVID-19 so that the whole community applies 3M behavior properly.

KEYWORDS: health belief model, 3M's Behavior, COVID-19

INTRODUCTION

Global pandemics such as those caused by COVID-19 have never happened before in terms of the global spread of infection that not only causes morbidity, mortality, but also burdens the health care system. Reducing the transmission of this virus requires rapid and widespread behavioral changes to protect the entire population.(1)

Globally, the total number of confirmed cases of COVID-19 as of June 1, 2021 is 171,598,743 cases, with a total number of deaths from COVID-19 of 3,567,709 deaths spread across 219 regions and countries, while the total number of confirmed cases of COVID-19 in Indonesia itself is up to 1 June 2021 was 1,826,527 cases with a total number of deaths from COVID-19 of 50,723 deaths, there were 144,311 active cases of COVID-19 in Indonesia with the number of people being tested per one million population as many as 40,894 and deaths per one million population as many as 137 deaths. This number of COVID-19 cases causes Indonesia to become the country with the highest COVID-19

cases in the Southeast Asia Region and is ranked 18th globally.(2)

The total number of COVID-19 cases in West Java until June 1, 2021 is 313,949 cases with a total of 4,199 deaths due to COVID-19. From a total of 1,236,471 PCR specimens obtained from the West Java Health Lab and Network Laboratory data, there are 266,454 positive confirmed COVID-19 cases in West Java, this shows the Positivity Rate in West Java until June 1, 2021 is 21.55%. (3) For the city of Bandung itself, the total number of COVID-19 cases is 19,575 with a total of 342 deaths due to COVID-19.(4)

The pandemic forces people to make behavioral changes to protect their health. Behavior change requires understanding the risks involved, learning how to effectively mitigate risks, and keeping these behaviors into a habit. Efforts to adopt changes in healthy living behavior are carried out to minimize exposure to pathogens that are transmitted through droplets. Healthy living behavior in question is maintaining hand hygiene by always washing hands, wearing masks properly, not shaking hands or sharing items with other

people, following cough etiquette and avoiding exposure to those who are sick.(5)

In Indonesia, the behavior that must be carried out is related to individual health as a preventive effort against the transmission of COVID-19, which is arranged in the 3M behavior (Washing Hands with Soap, Wearing Masks, and Maintaining Distance). This is the most important strategy that must be implemented by all members of the community, without exception. During this pandemic, changing behavior and raising awareness in the community becomes very important due to the role of the community as the front guard with behavioral changes as the spearhead. With compliance in carrying out 3M's behavior, it can help break the chain of virus transmission so that it can reduce the spread of COVID-19.(6)

The purpose of this study was to determine community compliance with the Covid-19 prevention protocol in Indonesia with the HBM approach.

MATERIAL AND METHODS

Quantitative research, observational-analytic study. Based on data collection, this study used a cross-sectional design. The population in this study is the community in Pasir Endah Village, Ujung Berung District, Bandung City, Indonesia. The sampling method in this study used the Stratified Random Sampling method, with a sample size of 96 respondents. The independent variables in this study, perceptions of susceptibility to COVID-19, perceptions of severity of COVID-19, perceptions of benefits in implementing 3M behaviors as a COVID-19 prevention, perceptions of barriers to implementing 3M behaviors as COVID-19 prevention, and self-efficacy in implementing 3M behaviors. 3M's behavior as a prevention of COVID-19. The independent variable in this study was COVID-19 prevention behavior.

The instruments used in data collection were questionnaires and interview sheets. Univariate analysis was used to determine the frequency distribution, and bivariate analysis with chi-square was used to determine the relationship between variables.

RESULTS

At the beginning of the research results were analyzed univariately to determine the frequency distribution of each variable, while the results of the analysis are as follows:

Table 1. Distribution of Research Variables

3M Behavior Category	n	%
Good	51	53.1
Not Good	45	46.9
Total	**96**	**100**
Vulnerability Perception		
High	49	51
Low	47	49
Total	**96**	**100**
Severity Perception		
High	48	50
Low	48	50
Total	**96**	**100**
Benefit Perception		
High	57	59.4
Low	39	40.6
Total	**96**	**100**
Barriers Perception		
High	49	51
Low	47	49
Total	**96**	**100**
Self Efficacy		
High	49	51
Low	47	49
Total	**96**	**100**

Based on table 1 shows that 51 people or 53.1% of the total respondents who filled out the research questionnaire had good 3M behavior while 45 people or 46.9% of the total respondents had bad 3M behavior. It is also known that 49 people or 51% of respondents have a high perception of vulnerability, 48 people or 50% of respondents have a high perception of severity, 57 people or 59.4% of respondents have a high perception of benefits, 49 people or 51% of

respondents have a high perception of barriers and 49 people or 51% of respondents have high self-efficacy related to COVID-19.

After the univariate analysis was carried out, it was continued with bivariate analysis using chi-square to determine the relationship between variables. The results of the analysis are as follows:

Table 2. Relationship Between Variables

Variable	3M Behavior				Total		P-Value	POR 95% CI
	Good		Not Good					
	n	%	n	%	n	%		
Vulnerability Perception								
High	32	62.7	17	37.8	49	100	0.025	2.774 (1.212-6.348)
Low	19	37.3	28	62.2	47	100		
Severity Perception								
High	33	64.7	15	33.3	48	100	0.004	3.667 (1.575-8.536)
Low	18	35.3	30	66.7	48	100		
Benefit Perception								
High	37	72.5	20	44.4	57	100	0.010	3.304 (1.411-7.736)
Low	14	27.5	25	55.6	39	100		
Barriers Perception								
High	21	41.2	28	62.2	49	100	0.064	0.425 (0.187-0.966)
Low	30	58.8	17	37.8	47	100		
Self Efficacy								
High	32	62.7	17	37.8	49	100	0.025	2.774 (1.212-6.348)
Low	19	37.3	28	62.2	47	100		

Based on table 2, the results of the Chi Square Test showed the relationship between perceived vulnerability and 3M behavior with a p value of 0.025, meaning that there was a significant relationship. It is also known from the table that people who have a high perception of vulnerability are 2.7 times more likely to have good 3M behavior than people who have a low perception of vulnerability.

The results of the analysis of the relationship between perception of severity and 3M's behavior showed p value = 0.004, where p value <0.05 means there is a significant relationship. The data above also shows that people who have a high perception of severity are 3.6 times more likely to have good 3M behavior than people who have a low perception of severity.

The results of the analysis of the relationship between perceived benefits and 3M behavior p value = 0.015, where p value < 0.005 so there is a significant relationship. From the data above, it can also be seen that people who have high perceptions of benefits are 3.3 times more likely to have good 3M behavior than people who have low perceptions of benefits.

The results of the analysis of the relationship between perceived barriers and 3M's behavior p value = 0.064, where p value > 0.05 so there is no significant relationship. This shows that the subjective assessment of the community regarding the obstacles or losses obtained when implementing 3M behavior does not affect the community to have good 3M behavior.

The results of the analysis also show the relationship between self-efficacy and 3M behavior, p value = 0.025, where p value <0.05, so there is a significant relationship.

From the data, it can also be seen that people who have high self-efficacy are 2.7 times more likely to have good 3M behavior than people who have low self-efficacy.

DISCUSSION
Correlation of Vulnerability Perception with 3M Behavior

The results of the study found a relationship between the perception of vulnerability and 3M's behavior as an effort to prevent COVID-19 in the community of Pasir Endah Village. Similar results were revealed by the results of research conducted by Jose (2021) which found a relationship between perceived vulnerability and behavior change (7) and the results of Zareipour et al's (2020) research regarding the determinants of COVID-19 prevention behavior in the elderly using the Health Belief Model application show a relationship between perceptions of elderly vulnerability and COVID-19 prevention behavior, where the results of the study obtained a P Value of 0.02.(8)

Individuals who judge themselves to be at risk of being exposed to COVID-19 will take proper precautions to minimize the risks they have. In contrast to individuals who consider themselves not at risk who tend to be more indifferent to 3M's behavior because they feel they are less likely to be exposed to COVID-19 or they feel that 3M's behavior does not reduce their vulnerability to COVID-19. Kim and Kim (2020) in their research also stated that the perception of an individual's perceived vulnerability is subjective in relation to the health risks they have. Individuals with a high perception of vulnerability tend to take the necessary actions to reduce the risk of exposure to a disease,

while individuals with a low perception of vulnerability tend to ignore the recommended behavior that needs to be done in an effort to prevent exposure to a disease. (9). From the results of this study, it was also found that people who have a high perception of vulnerability are 2.7 times more likely to have good 3M behavior, this is due to the subjective assessment of individuals who consider themselves vulnerable to being exposed to COVID-19 so it is necessary to implement preventive behavior so that the risk of exposure to COVID-19 is necessary. can be reduced.

Different results regarding the effect of vulnerability perception with predictions of COVID-19 prevention behavior in Golestan, Northern Iran conducted by Shahnazi (2020) show that there is no relationship between perceived vulnerability and prediction of COVID-19 prevention behavior, where a P Value of 0.067 is obtained.(10) This difference can be caused by many factors, ranging from differences in the characteristics of respondents, the place of research and the time. Research respondents conducted by Shahnazi in 2020 did not experience a pandemic period with a duration if the respondents in this study, so the results obtained were different.

Correlation of Severity Perception with 3M Behavior

There is a relationship between perceived severity and 3M behavior, where people who have a higher severity 3.6 times have a good 3M behavior compared to those who have a low severity. The results of the study from Zareipour et al (2020) regarding the determinants of COVID-19 prevention behavior in the elderly with the Health Belief Model application also showed a relationship between the perception of severity in the elderly and COVID-19 prevention behavior, where the results of the study obtained a P Value of 0.03.(8)

Perceived severity refers to an individual's subjective assessment of the severity of a health problem and the risk of consequences arising from the health problem. The more seriously the individual considers a health problem, the more the individual tries to reduce the possibility of the health problem happening to him, on the contrary, the more the individual underestimates the risk of a disease, the more the individual will not apply healthy living behavior.(9)

Different results were obtained by research conducted by Shahnazi et al (2020) which found no significant relationship between perceived vulnerability and prediction of COVID-19 prevention behavior where a P value of 0.3 was obtained.(10) Differences in research results obtained by Shanazi and this study can be caused by differences in the characteristics of research respondents. The characteristics of the respondent affect the respondent's subjective assessment of himself and the risk of severity he will face related to a health problem. Perception is subjective so that the results of research from one place of research cannot be generalized to other places of research.

Correlation of Benefit Perception with 3M Behavior

The perceived benefits of the community are related to the evaluative values and perceived efficacy when implementing health behaviors that are promoted as an effort to reduce the risk of getting a disease.(9) The benefits that are felt by the community for implementing the 3M behavior they do, tend to encourage them to continue to implement the 3M behavior.

From the above it also shows that there is a relationship between perceived benefits and 3M's behavior as an effort to prevent COVID-19. The data above also shows that people who have a high perception of benefits tend to be 3.3 times more likely to have good 3M behavior than those who have a low perception of benefits. The same thing was found by Shahnazi's research (2020) in his research which stated that there was a relationship between perceived benefits and COVID-19 prevention behavior in the Golestan community, Northern Iran. From the research results obtained V Value of 0.00.(10)

A high perception of benefits is expected to be owned by the community to encourage the community to adopt the recommended behavior. People who consider that 3M's behavior as a COVID-19 prevention behavior brings benefits to their safety will apply this behavior in their daily life. A high perception of benefits, supported by a high perception of vulnerability and severity, then driven by good self-efficacy will cause people to feel able to seek their health by implementing the recommended behavior.

Different results were found by the results of research by Zareipour et al (2020) regarding the determinants of COVID-19 prevention behavior in the elderly using the Health Belief Model application.(8) This difference can be caused by many factors, because perception is a subjective assessment so that the results of research on people with different characteristics can produce different perceptions.

Correlation of Barrier Perception with 3M Behavior

Mirzae et al (2021) in a research journal entitled Application of the Health Belief Model to predict COVID-19 prevention behavior among a sample of the Iranian adult population stated that an individual should be able to feel the benefits of the suggested behavior and be able to overcome the obstacles encountered in implementing it. the behavior. In addition, individuals must also be confident in their ability to carry out the recommended healthy lifestyle behaviors.(11)

Although most people have a high perception of benefits, this is not followed by a low perception of barriers so that there are still people who do not apply 3M behavior. The table description above also shows that there is no relationship between perceived barriers and 3M's behavior as an effort to prevent COVID-19. Different things were obtained by Jose (2021) who found that perceived barriers had a relationship with people's perceptions and readiness to face a pandemic in relation to behavior change. Where found P value of 0.001 and POR of 9.449. In the research conducted

by Jose et al., it was found that despite the perception of high barriers, people still follow the recommended behavior.(7)

Correlation of Self-Efficacy with 3M Behavior Behavior

Most of the people who become respondents have high self-efficacy and most of the people have also implemented 3M behavior well. Yıldırım and Güler (2020) in their research stated that self-efficacy was significantly correlated with knowledge, preventive behavior, and mental health. Where preventive behavior is also significantly correlated with mental health.(12)

The results of the study indicate that there is a relationship between self-efficacy and 3M behavior as an effort to prevent COVID-19. Self-efficacy is needed because to keep an individual from continuing to implement preventive behavior against COVID-19 for a long time, the individual must have high self-efficacy related to the individual's self-confidence to successfully implement a recommended behavior.(11) With high self-efficacy will encourage individuals to continue to apply 3M behavior. This is in line with the results of research showing that individuals who have high self-efficacy are 2.7 times more likely to have good 3M behavior than those who have low self-efficacy.

Research conducted by Jose (2021) also found a relationship between self-efficacy and people's perceptions and readiness to face a pandemic in relation to behavior change. Where it is found that the P value is 0.001 and the POR is 8.75, which means that people who have high self-efficacy are 8.75 times more likely to have good perceptions and readiness in facing a pandemic. (7) High self-efficacy shows the confidence of the community to implement the recommended behavior for their health. The existence of high self-efficacy coupled with a high perception of benefits can help the community in overcoming the perception of existing obstacles.

CONCLUSION

Based on the discussion in the previous chapter, several conclusions can be drawn, namely that most respondents apply 3M behavior well, most respondents have high perceptions of vulnerability, severity, benefits, barriers, and self-efficacy, there is a relationship between perceived vulnerability and 3M behavior. , There is a relationship between perceived severity and 3M behavior, there is a relationship between perceived benefits and 3M behavior, There is no relationship between perceived obstacles and 3M behavior, there is a relationship between self-efficacy and community 3M behavior.

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