Health Belief Model Analysis of Behavior Prevention of Covid-19 Transmission to Junior High School

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ABSTRACT

The Indonesian government has made several efforts to prevent the spread of Covid-19; however, it has not been entirely successful. The reason is different perceptions among the people regarding susceptibility or their belief about the Covid-19 virus. The research aims to identify the relationship between susceptibility, severity, and benefit perceptions and the Covid-19 infection prevention behaviour. The research design was analytical observational with cross-sectional and probability sampling using stratified random sampling. The research population was 530 students and 238 students as the samples. It used the questionnaire as the instrument using Google Form, whereas the Data was tested using Spearman rho. The research results showed that most of the students were categorized as poor in their susceptibility perception (56.1%) and severity perception (45.6%). In comparison, the benefit perception was (79,4%) in the good category, and Covid- 19 prevention behaviour was (80,3%). Spearman rho test results disclosed that there was no relationship between susceptibility perception and Covid-19 prevention behaviour ($\rho = 0.230$), and there was a relationship between severity perception ($\rho = 0.015$) and benefit perception ($\rho = 0,000$) with Covid-19 prevention behaviour. Health behaviour is critical to preventing Covid-19 issues. However, it must be based on individual perceptions of the danger that the Covid-19 disease may cause.

Keywords: Perception; Health Belief Model; Covid-19; Health Protocol

INTRODUCTION

Prevention efforts have also been carried out by the government to prevent the spread of Covid-19 by socializing the 5M health protocol, namely wearing masks, maintaining distance, washing hands, avoiding crowds, and reducing mobility[1]. However, this health protocol has not been implemented in an orderly manner [2]. This occurs as a result of the perception that they feel they are not susceptible to infection or believe that it is impossible to be infected with Covid 19 [3]. Someone who feels they have a low risk of being infected with a disease will usually ignore health protocols, whereas if someone feels they have a high risk of getting the disease they will be more involved in carrying out health protocols to reduce the risk of being infected or exposed to the disease [4].

A person must believe that he or she has the possibility of being infected with Covid-19. They must know how the impacts and symptoms will be if they are infected with Covid-19, this refers to the individual's perception of the seriousness of the impact of the Covid-19 disease. Thus, individual perceptions of susceptibility and severity can lead to behavioural changes so that they feel the benefits they get if they can apply the health protocol, namely 5M.

Based on data from the WHO globally, there were 360,578,392 cases as of January 27, 2022. Data from the Covid-19 task force in Indonesia, as of January 28, 2022, positive cases of Covid-19 in Indonesia had reached 4,309,270 confirmed with 4,129 .305 people declared cured and 144,261. people died [5]. According to the Indonesian Pediatrics Association (IDAI), there were 676 cases of Covid-19 in children on January 24, 2022 [6]. East Java Province has the fourth positive case of Covid 19 after Central Java province. Positive cases of Covid-19 in East Java were 401,542 cases with 370,966 people declared cured and 29,771 people. Sidoarjo Regency has positive cases as of January 27, 2022, as many as 25,363 cases with 24,321 people declared cured and 967 people dying [7].

Schools are places where children gather and spend more time at school, making them the easiest place to spread Covid-19. Health protocol facilities such as places for washing hands and an appeal to implement the Covid-19 prevention health protocol are available in every corner of the school, but most of the students do not wear masks and ignore health protocols. Based on a preliminary study conducted by researchers on 28 students, it was found that almost 50% of students answered that they did not keep their distance when interacting with friends while in the school environment and 80% of students did not bring lunch from home so that it could cause a crowd in the school canteen. The decline in compliance with school students is influenced by their perceptions and knowledge of Covid-19 transmission. Likewise, from the date of the Covid-19 task force since November 2022, public compliance with the implementation of health protocols continues to decline. Therefore, awareness is needed to implement this health protocol.

The existence of a wrong perception about Covid-19 can affect individual behaviour based on what is perceived so that it is closely related to individual compliance with the health behaviour of the Covid-19 protocol [8]. Based on this, this study aims to find out how the perceptions of susceptibility, severity, and benefits of Covid 19 prevention behaviour in students by using three variables in the theory of health beliefs (Health Belief Model).

METHOD

The research design used quantitative methods using analytical observational with a cross-sectional approach. The research location is at SMPN 2 Porong. The sampling technique used Probability Sampling with Stratified Random Sampling method. The sample of this study was some students in grades 7 and 8 who were randomly selected as many as 228 students. Data were collected using a questionnaire via google form and the collected data was then processed and analysed using IBM Statistical Package for Social Science (SPSS) Statistics 24. Data analysis was carried out in univariate and bivariate using the Spearman correlation test.

RESULTS

The results of this study will show the results of univariate and bivariate test results. The univariate test in this study was used to describe the data on the characteristics of the respondents which included gender and age. In addition, the univariate test was also used to describe the three components of the theory of health beliefs which include the components of perceived susceptibility, perceived severity, and perceived benefit. The bivariate test in this study was used to analyse the relationship between each variable including the perception of susceptibility, perception of severity, and perception of benefits with the respondent's Covid-19 prevention behaviour.

Table 1. Characteristics of Respondents by Gender

Gender	Frequency (f)	Percentage (%)
Man	123	53.9
Woman	105	46.1
Total	228	100

Based on table 1, male respondents were 123 students (53.9%) and female respondents were 105 students (46.1%).

Table 2. Characteristics of Respondents by Age

Age	Frequency (f)	Percentage (%)
12 years	42	18,4
13 years	95	41.7
14 years	86	37.7
15 years	5	2.2
Total	228	100

Based on table 2 shows that from 228 respondents, 42 respondents (18.4%) aged 12 years, 95 respondents (41.7%) aged 13 years, 86 respondents (37.7%) aged 14 years and 5 respondents (2, 2%) aged 15 years.

Table 3. Characteristics of Respondents Based on Student Susceptibility Perceptions

Susceptibility Perceptions	Frequency (f)	Percentage (%)
Good	53	23.2
Moderate	47	20.6
Poor	128	56.1
Total	228	100

Table 3 shows that 53 students with a good perception of susceptibility (23.2%), 47 people with moderate susceptibility perception (20.6%), and 128 students with poor susceptibility perception (56.1%).

Table 4. Characteristics of Respondents Based on Students' Severity Perceptions

Persepsi Keparahan	Frequency (f)	Percentage (%)
Good	80	35.1
Moderate	44	19.3
Poor	104	45.6
Total	228	100

Table 4 shows that 80 students (35.1%) with good severity perception, 44 students (19.3%) perception of moderate susceptibility, and 104 had poor severity perceptions (45.6%).

Table 5. Characteristics of Respondents Based on Perceived Benefits

Benefit Perception	Frequency (f)	Percentage (%)
Good	181	79.4
Moderate	30	13.2
Poor	17	7.5
Total	228	100

Table 5 shows that students with good perceptions of benefits were 181 people (79.4%), 30 students had moderate benefits (13.2%), and 17 students had Poor benefits (7.5%).

Table 6. Characteristics of Respondents Based on the Behaviour of Preventing Covid-19 Transmission

Preventive Behavior Covid-19 transmission	Frequency (f)	Percentage (%)
Good	183	80.3
Moderate	28	12.3
Poor	17	7.5
Total	228	100

Table 6 shows that students with good Covid-19 transmission prevention behaviour are 183 people (80.3%), moderate Covid-19 transmission prevention behaviour is 28 people (28%), and 17 people are Poor Covid-19 transmission prevention behaviour (7,5%).

DISCUSSION

Perception Susceptibility

The results of the cross-tabulation show that the behaviour of preventing Covid-19 transmission is good, the proportion of moderate susceptibility perception is 85.1% greater than 82.8% for bad susceptibility perception and good susceptibility perception is 69.8%. In moderate Covid-19 transmission prevention behaviour, the proportion of moderate susceptibility perception is 12.8%, the perception of poor susceptibility is 9.4% and good is 6.5%. The behaviour of preventing Covid-19 transmission is bad, the proportion of good susceptibility perception is 18.9% bigger than bad susceptibility perception 7.8% and moderate susceptibility perception is 2.1%. Spearmen Rho Correlation statistical test results the result is value = 0.230 > = 0.05. This shows a result of > 0.05 meaning that there is no relationship between the perception of susceptibility and the behaviour of preventing the transmission of Covid.19 in students at SMPN 2 Porong.

The results of this study are different from the results of research conducted by Rahma dkk (2021) who said that the perception of vulnerability has a relationship with efforts to prevent Covid-19. The theory of health beliefs, explains that a person's behaviour can be influenced by individual beliefs and perceptions based on experiences he has experienced. In addition, research conducted by Sahputri & Sofia (2021) said that respondents with a high perception of susceptibility to being infected with Covid-19 tended to follow health protocols, while respondents with a low perception of vulnerability tended to pay less attention to health protocols. Individuals' thoughts on perceived susceptibility describe how they are at risk of exposure to a disease. The greater the perceived risk, the greater the opportunity to behave to prevent the disease.

Perceived susceptibility is a person's belief about their health condition or the possibility of them being infected with a disease that will encourage individuals to take preventive behaviour against the disease [4]. Risk perception is one of the main factors that contribute to increasing community participation in disease prevention measures [11].

Severity Perception

The results of the cross-tabulation show that the behaviour of preventing Covid-19 transmission is good, the proportion of perception of good severity is 88.8% greater than the perception of moderate severity is 72.7% and the perception of bad severity is 76.9%. In moderate Covid-19 transmission prevention behaviour, the proportion of perception of moderate severity is 15.9% greater than the perception of severity, either 8.8% or bad, by 13.5%. The behaviour of preventing Covid-19 transmission is bad, the proportion of perception of moderate severity is 11.4%, the perception of severity is good at 2.5% and the perception of severity is bad at 9.6%. The results of the Spearmen Rho Correlation statistical test showed that value = 0.015 < = 0.05. This shows a result of <0.05, which means that there is a relationship between the perception of severity and the behaviour of preventing the transmission of Covid.19 in students at SMPN 2 Porong.

A person's beliefs about the severity or seriousness of an illness are often based on information or knowledge, and can also stem from a person's belief that he or she will get into trouble as a result of the disease and will make or have an effect on life as a whole [12]. For example, a study of women cancer patients found that those who adopted "avoidance coping" strategies had beliefs that illnesses source from individual, psychological, social, environmental, and supernatural aspects, while those who adopted "approach coping" strategies had less severe consequences in psychological, interpersonal, and physiological domains [13].

Another study found that illness representations in obesity are shaped by experiences of weight-cycling, with men being particularly influenced in the representations of timeline and consequences as well as the emotional representation [14]. In addition, a longitudinal study of patients with mental disorders found that illness and treatment beliefs predicted early response in psychosomatic rehabilitation, with important illness beliefs referring to perceived symptoms, consequences, and comprehensibility of the illness, and important treatment beliefs referring to expectations about rehabilitation structure, processes, and concerns [15]. Finally, a study of juvenile correctional officers found that their attitudes surrounding mental health, mental health training, and treatment needs were generally positive, but suggested the need for increased mental health training for juvenile correctional officers [16].

Research conducted by Rahma dkk. (2021), showed that the variable perception of seriousness had a relationship with efforts to prevent Covid-19. In contrast to the results of research conducted by Rusyani dkk (2021), this study shows that there is no relationship between perceived severity and COVID-19 prevention behaviour. In addition, research conducted by Shahnazi (2020) in which the perception of severity also does not have a significant influence on Covid-19 prevention behaviour. This

is different from the concept of health belief theory which says that the perception of seriousness is an individual's belief in the severity of the disease faced.

In this study, what is meant by disease severity is the severity of a symptom caused if the individual does not carry out the Covid-19 prevention behaviour recommended by the government, namely 5M which includes maintaining distance, washing hands, wearing masks, avoiding crowds, and limiting mobility. Perception of severity is very important to encourage someone to take preventive action.

Benefit Perception

The results of the cross-tabulation show that the behaviour of preventing Covid-19 transmission is good, the proportion of perceived benefits is good 90.1% greater than the perception of moderate benefits is 43.3$ and bad is 41.2%. In moderate Covid-19 transmission prevention behaviour, the proportion of perceived benefits being moderate is 36.7% greater than the perception of good benefits is 8.3% and bad is 11.8%. The behaviour of preventing the spread of Covid-19 is bad, the proportion of bad benefits perception is 47.1% greater than the average benefit perception is 1.7% or good is 20.0%. The results of the Spearmen Rho Correlation statistical test showed value = 0.000 < = 0.05. This shows a result of <0.05, which means that there is a relationship between perceived benefits and behaviour to prevent transmission of Covid.19 in students at SMPN 2 Porong.

The results of this study are not in line with research conducted by Rahma, dkk (2021) which showed that there was no significant relationship between perceived benefit variables and efforts to prevent Covid-19. According to Widayati,dkk (2020)) the greater the perceived benefit (benefits in performing healthy behaviour) an individual has, the higher the individual's tendency to perform a healthy behaviour that is deemed effective to avoid unwanted conditions or diseases.

Perceived benefits in the form of positive results from the way of behaving. Individuals will feel the benefits if they take steps to prevent the transmission of Covid-19. Having a perception of the benefits of the 5M health protocol (wearing masks, washing hands, maintaining distance, avoiding crowds, and reducing mobility) can be a strong motivation to take preventive measures against Covid-19. A person who has a good perception of benefits will motivate himself to implement health protocols. In the case of Covid-19, a person has the perception that if health protocols can be useful, then that person has a high motivation to carry out these preventive behaviours [18].

According to several studies, having a perception of the benefits of the 5M health protocol (wearing masks, washing hands, maintaining distance, avoiding crowds, and reducing mobility) can be a strong motivation to take preventive measures against Covid-19[20–22]. Another study conducted on

pregnant women in Isfahan found that the perceived severity and susceptibility scores were higher than other constructs, indicating women's proper understanding of the risks of Covid-19 [23].

If someone knows the value and benefits of Covid-19 prevention behaviour, it will reduce the risk of getting infected with Covid-19 so they will tend to implement the health protocols that have been recommended by the government. Health promotion, especially for school students, still has to be done because currently many students have ignored health protocols so that the benefits of Covid-19 prevention behavior can be applied by students in everyday life.

CONCLUSION

Based on the results of research findings and test results in the discussion carried out, the following conclusions can be drawn: The perception susceptibility of students at SMPN 2 Porong is mostly in the poor category, The perception of the severity of students at SMPN 2 Porong is mostly in the poor category. The perception of student benefits at SMPN 2 Porong is mostly in the good category. The behaviour of preventing the transmission of Covid-19 of students at SMPN 2 Porong, most of the respondents in good category. There is no relationship between the perception susceptibility and the behaviour of preventing the transmission of Covid-19 in students at SMPN 2 Porong. There is a relationship between the perception of severity and the prevention behaviour of Covid-19 transmission in students at SMPN 2 Porong. There is a relationship between the perception of benefits and the behaviour of preventing the transmission of Covid-19 in students in students at SMPN 2 Porong.

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