
Determinants of Health Protocol Implementation During Covid-19 Pandemic in Kupang Regency Using the Health Belief Model Approach

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Abstract

The spread of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) known as Covid-19 has persisted throughout Indonesia, as well as in Kupang Regency, since it was first reported in 2020. To prevent the spread of Covid-19 in the community, efforts must be made to apply health protocols in a disciplined manner. The purpose of this study is to find out what factors are associated with the implementation of health protocols in Kupang Regency using the Health Belief model approach. This is a cross-sectional study with a quantitative design. A survey using Google Forms was used to obtain data from 322 respondents in Kupang Regency. Data was collected during March to April of 2021. To determine the relationship of factors associated to the implementation of health protocols, data were examined using the Chi-Square: Fisher Test. According to the findings, the factors related to the health protocol were perceived susceptibility variables (p value 0.00) and perceived benefit variables (p value 0.00). During the Covid-19 epidemic in Kupang Regency, the perceived barrier variable was shown to have no relationship with the implementation of health protocols. As a result, it is advised that the government continue to conduct widespread socialization by incorporating community members such as cadres, religious leaders, and community leaders. The general public must likewise follow health protocols.

Keywords: Health protocol; Covid-19; Health belief model.

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1. Introduction

Severe Acute Respiratory Syndrome Coronavirus 2, also known as Covid-19, is a new virus that targets the respiratory system. The China Country Office initially reported this virus on December 31, 2019 as pneumonia of uncertain cause in Wuhan City, China. Because of the virus's quick spread and high fatality rate over the world, WHO designated Covid-19 a pandemic on March 11, 2020. [1]. Since it was initially reported at the end of December 2019 through March 31, 2021, the global spread of Covid-19 has totaled 128,820,659 cases, with 103,950,679 cases recovering and 2,816,452 others dying [2]. Indonesia discovered positive cases of Covid-19 for the first time on 2 (two) March 2020, and data up to March 30, 2021 showed that positive cases of Covid-19 reached 1,505,775 people, cases recovered 1,342 695 people, and 40,754 people died [3]. On April 9, 2020, East Nusa Tenggara (NTT) became the 33rd province to be proven positive for Covid-19, with 1 (one) case. According to data up through March 30, 2021, the number of positive cases reached 12,398 people, 11,982 individual recovered, and 353 people died. On July 13, 2020, Kupang Regency became the 14th district in NTT Province to be exposed to Covid-19, with 1 (one) positive verified case; by December 30, 2020, there were 43 positive patients, 38 recovered, and 3 died. As of March 30, 2021, there were 588 positive cases, 568 people recovered, and 18 people died [4]. Based on the data shown above, it is clear that the transmission of Covid-19 continues to be considerable on a daily basis, and the number of deaths continues to rise; thus, efforts must be made to control the transmission of this virus. The government has made various efforts to suppress the spread of Covid-19, but the most effective step to prevent the spread is to pay attention to personal hygiene, always washing hands before and after carrying out activities with soap and running water, and when coughing or sneezing must cover the mouth and nose or maintain a distance of 1-2 meters, known as health protocol [1]. With PMK Number 382 of 2020, the Central Government and local governments established several rules, including those for facilities and the general public. Regent Regulation Number 36 of 2020 was issued by the Kupang Regency Government [7]. The greatest way is to make the community the driving force in determining Covid-19 transmission [8]. Changes in community behavior are intended to boost everyone's willingness and motivation to follow health protocols. The Health Belief Model (HBM) is a form of psychosocial theory elaboration that is used to explain preventative behavior. According to Champion and Skinner, the six components of HBM Perceived susceptibility measures perceptions of vulnerability, perceived severity, a person's impression of how dangerous or severe a disease is, perceived benefit, meaning beliefs about the effectiveness of different present efforts to lessen the threat of illness, perceived barriers, that is, perceptions regarding the severity of the hurdles that a person perceives as making it difficult to take action, Cues to action, or things that urge people to modify their behavior, and self-efficacy [9]. Several studies on HBM during the Covid-19 period were conducted, including the study of Chu and his colleagues (2020), which discovered that transmission of the Covid-19 virus at a distance of more than 1 meter was less than if the distance was less than 1 meter, and that the use of masks can reduce the risk of major infection [10]. According to the findings of Afro's (2020) research on the people of East Java, the variables that influence compliance with health protocols include perceived benefits and perceived barriers [12]. Based on the findings of the following research, it is possible to infer that the community plays a crucial role in breaking the chain of transmission through the implementation of health protocols, and HBM may be utilized as a model for behavior change. The present spread is caused not just by travelers, but also by local transmission and transmission within the family (family

cluster). The issue presented in this study is how the perceived susceptibility, perceived benefit, and perceived barrier in applying health protocols during the Covid-19 pandemic in Kupang Regency are connected. The goal of this study was to see if there was a relationship between perceived susceptibility, perceived benefit, and perceived barrier with the implementation of health protocols during the Covid-19 pandemic in Kupang Regency.

2. Research Methods

This is a quantitative study using a cross-sectional design. Data was obtained using a survey utilizing a Google form from April to May 2021. By chance, samples were drawn from all communities in Kupang Regency, ranging in age from 17 to 54 years. The data was collected and cleaned (data cleaning), and the data that was ready to be evaluated included 322 Kupang Regency residents. The chi-square test was used for the analysis. The Undana Faculty of Medicine provided research ethics approval with letter number 14/UN15.16/KEPK/2021.

3. Results

3.1 Univariate Analysis

Factor Modification (Individual Characteristics)

Table 1: The Frequency Distribution of Respondent Characteristics in the Kupang Regency.

Characteristic	Category	Respondent	
		n	%
Age	17-25 years old	139	42.2
	25 -45 years old	151	46,9
	46-54 years old	32	9,9
Total		322	100
Gender	Male	127	39,4
	Female	195	60,6
Total		322	100
Education	Primary	59	18.3
	Secondary	150	46.6
	High	113	35.1
Total		322	100
Occupation	Have jobs	158	49.1
	Do not have jobs	164	50.9
Total		322	100
Knowledge	Lack	128	39.8
	Enough	135	41.9
	Well	59	18.3
Total		322	100

Table 1 shows that the majority of respondents are between the ages of 25 and 45, that the gender category is dominated by women, and that the level of education is dominated by those with a secondary education. More respondents do not have a job in the occupational category, while more respondents have a moderate level of knowledge in the knowledge category.

Individual Perception and Implementation of Health Protocols

Table 2: The Frequency Distribution of Individual Perceptions and the Implementation of Health Protocols

Variable	Category	Respondent	
		n	%
Perceived susceptibility	Not Susceptible	124	38.5
	Susceptible	198	61.5
Total		322	100
Perceived benefit	Useful	138	42.9
	Not useful	184	57.1
Total		322	100
Perceived barrier	There are obstacles	204	63.4
	There are no obstacles	118	34.6
Total		322	100
Implementation of Health Protocols	Doing the protocol	166	51.6
	Not doing the protocol	156	48.4
Total		322	100

Table 2 shows that in individual perceptions, more respondents believe they are susceptible to Covid-19 transmission for the perceived susceptibility variable, while the perceived benefit variable shows that respondents believe health protocols are useful, and the perceived barrier variable shows that most respondents believe there are obstacles during the Covid-19 pandemic and in the implementation of health protocols. The health protocol variable shows that respondents are willing to carry out health protocols, taking into consideration Covid-19 vulnerability and the benefits of implementing the protocol despite perceived obstacles.

3.2 Bivariate Analysis

The purpose of this study is to determine the relationship between individual perceptions and the implementation of health protocols.

Table 3 shows the results of the relationship test between perceived susceptibility variables and the implementation of health protocols in Kupang Regency during the Covid-19 pandemic, with a correlation coefficient of 0.000 (p value < 0.05) indicating that there is a relationship between perceived susceptibility and the implementation of health protocols. The results of the perceived benefit analysis test with the application of health protocols indicate a p value of 0.000 ($< p$ value 0.05), indicating that there is a connection between perceived benefits and the implementation of health protocols, whereas the test analysis of the relationship between perceived barriers and health protocol implementation indicates a p value of 0.059, which is larger than ($< p$ value 0.05), indicating that there is no relationship between perceived barriers and health protocol implementation.

Table 3: The Relationship between Individual Perception Variables and the Implementation Of Health Protocols

Variable	Category	The Implementation of Health Protocols						Chi-square Test <i>p value</i>
		Doing the Protocol		Not Doing the Protocol		Total		
		n	%	n	%	n	%	
Perceived susceptibility	Not Susceptible	90	72.6	34	27.4	124	100	0,000
	Susceptible	66	33.3	132	66.7	198	100	
Total		156	48.8	166	51.2	322	100	
Perceived benefit	Not useful	85	61.6	53	38.4	138	100	0,000
	Useful	71	38.6	113	61.3	184	100	
Total		156	48.6	166	51.3	322	100	
Perceived barrier	There are no obstacles	49	41.5	69	58.5	118	100	0,065
	There are obstacles	107	52.5	97	47.5	204	100	
Total		156	48.4	166	51.6	322	100	

4. Discussion

4.1 Modification of factors (individual characteristics)

The age characteristics revealed that the research subjects were dominated by the age of 26-45 years, indicating that they were in the adult phase, and the second most at the age of 17-25 years, indicating that they were in the late adolescence phase, where the respondents did a lot of activities outside the home. The study's findings are consistent with the Indonesian Internet Service Providers Association's (APJII) report that internet service customers are primarily between the ages of 15 and 34. [20]. The female gender predominates in this study, which is consistent with Thomson's (2005) research, which states that some women find it easier to channel their stressors by explaining what they are experiencing to people who make them feel comfortable [21]. The burden on women is particularly acute during the current pandemic, according to Sri Mulayani, Minister of Finance. "They (women) have to battle WFH while still doing schoolwork and assisting children who go to school via the Internet. This has never been attempted before" [22]. Secondary education, according to the *Kamus Besar Bahasa Indonesia* (KBBI), is education that focuses the growth of knowledge and skills; higher education is supposed to improve knowledge [21]. The work factor reveals that the majority of respondents do not have a job. Work is an activity that generates income; in this study, the majority of research subjects were

students and housewives whose financial requirements were met by other sources, such as parents or spouses. The respondent has a medium level of knowledge regarding Covid-19 and health protocols. Educational aspects can impact knowledge, with the higher the degree of education, the greater one's knowledge. However, a person with a low level of education does not inevitably have a poor level of knowledge. According to James (2003), information has an impact on knowledge; the more information collected, the more knowledge a person has, which might influence a person's behavior when it comes to prevention [23].

4.2 *The relationship between perceived susceptibility and the implementation of health protocols*

According to the study's results, there is a relationship between perceived susceptibility and the implementation of health protocols during the Covid-19 pandemic in the Kupang Regency. The more a person believes he/she is at risk of Covid-19 transmission, the more they will attempt to implement health protocols. The respondent's vulnerability is that the respondent is aware that Covid-19 is an infectious disease spread through saliva splashes (droplets) that can attack anyone with or without symptoms, and that symptoms can be more severe in people with co-morbidities such as hypertension, diabetes, asthma, or heart disease. The findings of this study support the HBM theory, which states that individual beliefs about their vulnerability to illness risk will push people to adopt healthier behaviors [24]. Several studies that support the findings of this study include Fauziah (2017)'s research, which shows that the perception of vulnerability has a self-acceptance relationship with HIV and AIDS sufferers in the KDS (Peer Support Group) Mahameru Foundation Surabaya, where patients will seek treatment to prevent worsening of health conditions [21]. According to Attamy's (2017) research, there is a relation between feelings of vulnerability and dengue fever prevention [25]. Sari's (2021) study yielded contradictory results, according to Sari "People are not frightened to break the 3M health protocol, especially if they live alone and do not have an older person in their home, since they believe they are not at danger of transmitting the virus. Many people continue to violate the health protocol because they are unsure of Covid-19, the dangers of transmission, and the benefits of implementing 3M [26]". The foregoing disagreement shows that perceived susceptibility refers to a subjective evaluation of the risk of health problems. Persons who feel they have a low risk of disease are more likely to participate in unhealthy habits, whereas individuals who feel their risk is high are more likely to participate in disease-prevention measures [27]. People who have not applied health protocols may be the result of a lack of understanding about the dangers of COVID-19, as well as habitual causes. As a result, public awareness must be increased through increased socializing, both through the media and via community involvement.

4.3 *Relationship of Individual Perceptions: Perceived benefits with the implementation of health protocols*

According to the results of the study, there is a relationship between perceived benefits and the implementation of health routines. According to people surveyed, the health plan is an effective advice for protecting themselves, their families, the surrounding environment, and the community against Covid-19 transmission. Several studies, including Afro (2020), support this research by stating that the majority of people have a positive perception of benefits. This demonstrates that practically all people are aware of the benefits that will be received if the health protocol is followed. Compliance with the implementation of health protocols

mandated by the government has a significant impact on a person's ability to avoid the transmission of covid-19 (Jose Regi and his colleagues) (2020) [12]. According to the HBM theory, perceived benefits are perceptions that individuals will profit from activities performed to prevent threats. The efficacy of the individual's action can prevent the danger of an illness from being regarded as a benefit. A person who feels susceptible to a disease will find a way to get out of the predicament by doing a good activity in order to avoid or recover from the disease [27]. The discipline of applying health protocols has the benefit of suppressing the spread of Covid-19, and it is anticipated that one day this virus will vanish and people will be able to return to regular life without having to continually wear masks and congregate without any distance. Every member of society should be aware of this fact.

4.4 Relationship of Individual Perceptions: Perceived barriers to the implementation of health protocols

In this study, perceived barriers had no association with the implementation of health protocols. Perceived barrier in HBM theory refers to a person's impression of perceived obstacles and hurdles from an action, which may be due to cost, side effects, danger, or an unpleasant sensation, which prevents taking action or recommendations [27]. According to the findings of the research on the perceived barriers, it is believed that there are quite a few. The perceived barriers include respondents believing that Covid-19 is interfering with their work and activities, additional expenses, discomfort in wearing masks, difficulty in maintaining a safe distance in public places (banks, markets, party venues, etc.), and the belief that many government employees and officials are not implemented health protocols. The obstacles in this study were high in the Covid-19 pandemic, implying that if the barriers were strong, the application of health protocols would be inadequate or undisciplined. According to Conner and Norman, negative healthy behavior occurs when someone feels hindered from engaging in healthy behavior [28]. However, in this study, respondents' perceived obstacles were significant but had no relationship with the implementation of health protocols, implying that respondents desired to use health protocols despite the obstacles. Awareness and understanding of the current situation, in which the transmission of Covid-19 might be life-threatening and also the various rules and sanctions issued by the government make health protocols an action that must be taken. This study supports Attamimy's (2017) findings that there is no relation between perceived barrier assessment factors and dengue fever prevention behavior in the Sukorame Public Health Center's working area in Mojoroto District, Kediri City [25]. Fauziah's research (2017) found that perceived barriers had no impact on HIV and AIDS patients' self-acceptance in the KDS [Peer Support Group) Mahameru Foundation Surabaya [21]. Changes in behavior toward disease prevention are a combination of benefits and obstacles. Even if the current barriers enable a person to do or not take an action, if the benefits are larger, a person's behavior will be influenced to desire to take action that will protect that person from a greater risk [14]. The negative consequences of action might operate as a barrier and produce contradictory avoidance motives [27].

5. Conclusion

Based on the research, it can be concluded:

- 5.1 There is a relationship between perceived susceptibility and the implementation of health protocols

during the Covid-19 pandemic in Kupang Regency.

5.2 There is a relationship between perceived severity and the implementation of health protocols during the Covid-19 pandemic in Kupang Regency.

5.3 There is no relationship between perceived barriers and the implementation of health protocols during the Covid-19 pandemic in Kupang Regency.

6. Suggestions

6.1 The government conducted extensive public education on Covid-19 and health protocols, not just through the media, but also by involving cadres, religious leaders, and community leaders, as well as by supervising and enforcing sanctions for strict adherence to health protocols.

6.2 The community must take proactive measures to protect themselves and people around them by following the protocols.

Acknowledgement

All praise, respect, and appreciation belong to God Almighty because it is only by His grace that the writer was able to complete this writing. The writer also acknowledges the supervisors who offered advice, comments, and took the time to complete this paper, as well as the family for their support throughout the writing process until it was completed. May God bless us all.

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