

The Correlation of Knowledge and Attitude with Community Compliance in 5M Health Protocol Implementation

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ABSTRACT

Background: COVID-19 is a disease that is currently endemic in almost all parts of the world. Based on data from the Riau Province COVID-19 Task Force, it is known that Tampan District is the area with the highest number of COVID-19 cases because the implementation of the 5M Health Protocol by the community has not run optimally, health promotion is still lacking, and Tampan District is also an area with cross-border Kampar Regency. Community adherence to COVID-19 prevention health protocols is influenced by knowledge about COVID-19 and attitudes towards COVID-19. **Objective:** This study aimed to determine the correlation between knowledge and attitudes and community compliance in 5M health protocol implementation in Sidomulyo Health Center in Pekanbaru City in 2022. **Methods:** This study was an analytic observational study across-sectional sectional study design. The sampling technique used was Accidental Sampling with a sample size of 40 people. Data analysis was carried out by bivariate analysis with the Spearman correlation test. **Results:** Findings showed that there was a correlation between knowledge and attitudes (p-value = 0.000; r = 0.616), knowledge and compliance in 5M health protocol implementation (p-value = 0.000; r = 0.569), and attitudes with compliance in 5M health protocol implementation (p-value = 0.000; r = 0.525) in the community. **Conclusion:** There was a correlation between knowledge and attitudes about COVID-19 and community compliance in 5M health protocol implementation with a positive direction and a strong correlation in the community in the Sidomulyo Health Center in Pekanbaru City in 2022.

Introduction

China identified pneumonia of unknown etiology as a new type of Coronavirus Disease (COVID-19) on January 7th 2020. Furthermore, WHO has stated COVID-19 as a Public Health Emergency of International Concern (PHEIC) on January 30 2020. The increase in the number of COVID-19 cases took place very quickly and has spread outside of China to the rest of the world. As of February 16th 2020, there were 51,857 confirmed positive cases of COVID-19 in 25 countries with 1,669 deaths globally (Case Fatality Rate/CFR 3.2%) (1). The World Health Organization (WHO) designated COVID-19 as a pandemic urging all countries to take action to detect infection and prevent its spread (2). Based on data as of March 31st 2022, as many as 6,012,818 confirmed cases of COVID-19 had been reported with 155,089 deaths, 6,111 suspected cases, and 106,927 active cases (1).

Each country must continue to implement National Action Plans based on a community approach and a realistic assessment of what must be achieved first to slow the spread of COVID-19 and reduce deaths from COVID-19 (3). Indonesia as one of the countries affected by the COVID-19 pandemic has carried out an emergency response period for handling COVID-19 since early March 2020, then modified the regional quarantine policy to become Large-Scale Social Restrictions (PSBB) which began on April 10th 2020 to prevent the spread of COVID-19 in the community, starting from the ministerial level to regional heads at the provincial, district, and municipal levels (4). There are three factors that influence health behavior.

The first factor is predisposing factors such as knowledge, attitudes, beliefs, values, and socioeconomic level (occupation). The second factor is enabling factors such as health facilities and infrastructure and health workers. Meanwhile, the third factor is reinforcing factors such as infrastructure and access to information (5). Based on a survey on compliance levels in health protocols implementation in the workplace conducted by the Indonesian Central Bureau of Statistics in 2020, the results obtained were 27.38% of respondents admitted that their workplace environment had not implemented mandatory physical distancing, as many as 17.44% of respondents admitted that the work environment has not implemented washing hands or using hand sanitizers, as many as 5.65% of respondents admit that their workplace environment has not implemented wearing masks, and as many as 5.65% of respondents admit that their work environment has not implemented inspections with a thermogun (6). Based on the Survey of the Indonesian Health Research and Development Agency regarding knowledge, attitudes, and healthy living behaviors in the community in dealing with the COVID-19 pandemic in Indonesia, it was reported that the respondents' knowledge, attitudes, and behavior were good enough, namely 70.67%. However, this was not followed up with disciplinary practices by community members, because there were still as many as 5.3% of respondents who did not implement the COVID-19 prevention health protocol well (7).

The Pekanbaru City Health Office has mapped the sub-district areas where there is still a spike in positive cases of COVID-19, one of which is the Tampan District. Data from the Pekanbaru Health Office, for the distribution of positive cases on April 15, 2022, 1 new positive case was recorded, a total of 61,740 recovered cases, with zero deaths. The Riau Province COVID-19 Task Force stated that Tampan District was the area with the highest COVID-19 rate in Riau Province because the implementation of the 5M Health Protocol by the community had not been running optimally, there were many gathering places because there were several campuses in this area so there were many students, and Tampan District as well is an area with cross-border Kampar Regency. Based on the description of the background, the researcher is interested in conducting research on "The Correlation of Knowledge and Attitudes About COVID-19 with Community Compliance in the 5M Health Protocol Implementation in the Sidomulyo Health Center in Pekanbaru City in 2022" taking medications in patients with hypertension and type 2 diabetes mellitus was formed the Chronic Disease Management Program (Prolanis) by the Social Security Organizing Agency (BPJS). Then, the government also provides a program, namely the Refer Back Program (DRR) to improve the quality of health services and facilitate access to health services for chronic disease patients in taking medicines at the First Level Health Facility (7). Therefore, this current study hypothesizes that there is a correlation between knowledge and attitudes with community compliance in 5M health protocol implementation in Sidomulyo Health Center in Pekanbaru City. This current study also aimed to provide input for the Sidomulyo Health Center so that they can provide COVID-19 prevention health protocol implementation for the community after the COVID-19 vaccination program at the Sidomulyo Health Center in Pekanbaru City.

Methodology*Study design and participants*

This research is analytic observational using a cross-sectional approach, which is a study to study correlation dynamics (reciprocal relationships between risk factors and effects, through approaches, observations or data collection at one time) (8). This research is located at the Sidomulyo Health Center in Pekanbaru City on April 13-19th 2022. The variables in this study are knowledge and attitudes about COVID-19, and community compliance in 5M health protocol implementation in Sidomulyo Health Center Pekanbaru City. The population of this study was all people living in the work area of the Sidomulyo Inpatient Health Center in Pekanbaru City who had received the COVID-19 Vaccination in the period December 2021-January 2022 as many as 913 people. The sample of this study were patients who came to the General and Elderly Polyclinic at the Sidomulyo Health Center in Pekanbaru City.

Test procedure

This study used the Accidental Sampling technique, which is a sampling technique based on chance and there is no set minimum sample size, that is, anyone who meets the researcher by chance can be used as a sample, if it is deemed that the person concerned is fit to be used as a data source (12).

Intervention Procedure

This research lasted for 1 week with a sample size of 40 respondents. Inclusion criteria in this study included respondents who were patients registered at the Sidomulyo Inpatient Health Center in Pekanbaru, aged 18-70 years, and were willing to become research respondents by signing an informed consent form. This study used primary data sources obtained through a questionnaire instrument research which consists of questions containing demographic data, history of COVID-19 vaccination, as well as question items about knowledge, attitudes, and community compliance in health protocols implementation (9-11).

Statistical Analysis

Data collection was carried out by filling out a questionnaire conducted by researchers based on the results of interviews with respondents. The confirmation results are then recorded on a questionnaire sheet. The researcher is a team consisting of 1 lecturer and 5 medical students. Data analysis in this study used univariate and bivariate analysis. Bivariate analysis used the Spearman correlation test because the data ratio scale and the data were not normally distributed. This bivariate analysis will produce a p-value indicating whether there is a correlation and a correlation coefficient (r) indicating the strength and direction of the correlation.

Result

1. Univariate Analysis

Table 1. The Characteristics of Respondents

No	Variables	N	%
1	Age (years)		
	18-45	26	65
	> 45	14	35
2	Sex		
	Male	19	47,5
	Female	21	52,5
3	Profession		
	Housewife	16	40
	Private sector employee	9	22,5
	Student	6	15
	Others	9	22,5
4	COVID-19 Vaccination Status		

Already vaccinated	30	75
Not yet vaccinated	10	25

Based on Table 1, it can be seen that the majority of respondents have an age range of 18-45 years, namely 26 people (65%), 21 people (52.5%) are female, and have received the COVID-19 vaccine, namely 30 people (75%). In addition, the most respondents have jobs as housewives, namely as many as 16 people (40%).

Table 2. Overview of Knowledge and Attitudes About COVID-19 and Respondent Compliance in 5M Health Protocol Implementation

No	Variables	N	%
1	Knowledge About COVID-19		
	High	28	70
	Moderate	7	17,5
	Low	5	12,5
2	Attitude About COVID-19		
	High	31	77,5
	Moderate	6	15
	Low	3	7,5
3	Compliance in 5M Health Protocol Implementation		
	Very compliant	32	80
	Compliant	5	12,5
	Not compliant	3	7,5

Based on Table 2 it can be seen that most of the respondents had a high level of knowledge about COVID-19, namely 28 people (70%), a high level of attitude about COVID-19, namely 31 people (77.5%), and the level of compliance in 5M health protocol implementation which is included in the very compliant category, namely 32 people (80%).

2. Bivariate Analysis

Table 3. Results of the Spearman Correlation Test on the Correlation between Knowledge and Attitudes of COVID-19

			Knowledge About COVID-19	Attitude About COVID-19
<i>Spearman's rho</i>	Knowledge	<i>r</i>	1.000	.616**
	About COVID-19	<i>p-value</i>	.	.000
		N	40	40
	Attitude About COVID-19	<i>r</i>	.616**	1.000
		<i>p-value</i>	.000	.
		N	40	40

Based on Table 3 it can be seen that there was a significant correlation between knowledge and attitudes about COVID-19 in Sidomulyo Health Center in Pekanbaru City with a positive direction and strong correlation strength (p-value 0.000; $r = 0.616$).

Table 4. Results of the Spearman Correlation Test on the Correlation between Knowledge About COVID-19 and Community Compliance in 5M Health Protocol Implementation

			Knowledge About COVID-19	Community Compliance in 5M Health Protocol Implementation
<i>Spearman's rho</i>	Knowledge About COVID-19	<i>r</i>	1.000	.569**
		<i>p-value</i>	.	.000
		N	40	40
	Community Compliance in 5M Health Protocol Implementation	<i>r</i>	.569**	1.000
		<i>p-value</i>	.000	.
		N	40	40

Based on Table 4 it can be seen that there was a significant correlation between knowledge about COVID-19 and community compliance in 5M Health Protocol implementation in Sidomulyo Health Center in Pekanbaru City with a positive direction and strong correlation strength (p-value 0.000; $r = 0.569$).

Table 5. Results of the Spearman Correlation Test on the Correlation between Attitude About COVID-19 and Community Compliance in 5M Health Protocol Implementation

			Attitude About COVID-19	Community Compliance in 5M Health Protocol Implementation
<i>Spearman's rho</i>	Attitude About COVID-19	<i>r</i>	1.000	.525**
		<i>p-value</i>	.	.000
		N	40	40
	Community Compliance in 5M Health Protocol Implementation	<i>r</i>	.525**	1.000
		<i>p-value</i>	.000	.
		N	40	40

Based on Table 5 it can be seen that there was a significant correlation between attitude about COVID-19 and community compliance in 5M Health Protocol implementation in Sidomulyo Health Center in Pekanbaru City with a positive direction and strong correlation strength (p-value 0.000; $r = 0.525$).

Discussion

Based on Table 1, it can be seen that the majority of respondents have an age range of 18-45 years, namely 26 people (65%), 21 people (52.5%) are female, and have received the COVID-19 vaccine, namely 30 people (75%). In addition, the most respondents have jobs as housewives, namely as many as 16 people (40%). Meanwhile, based on Table 2 it can be seen that most of the respondents had a high level of knowledge about COVID-19, namely 28 people (70%), a high level of attitude about COVID-19, namely 31 people (77.5%), and the level of compliance in 5M health protocol implementation which is included in the very compliant category, namely 32 people (80%).

Based on theory that people's behavior is influenced by two main factors, namely behavioral causes and non-behavioral causes. The causes of human behavior are influenced by 3 factors, namely predisposing factors, enabling factors, and reinforcing factors. The first factor is predisposing factors such as knowledge, attitudes, beliefs, values, socioeconomic level (occupation). The second factor is enabling factors such as health facilities and infrastructure and health workers. Meanwhile the third factor is reinforcing factors such as infrastructure and access to information (5). Public knowledge about COVID-19 is a very important aspect during a pandemic which includes the causes of COVID-19 and the characteristics of the virus, signs and symptoms, terms related to COVID-19, necessary examinations and transmission processes and efforts to prevent COVID-19 disease (13).

Knowledge is a very important domain for the formation of one's actions. Knowledge is treated as support in growing self-confidence as well as attitudes and behavior every day, so that it can be stated that knowledge is a fact that supports one's actions. One of the factors that can affect compliance is knowledge. A citizen who has good knowledge is expected to apply his knowledge in compliance, in this case 5M health protocol implementation (14). The purpose of bivariate analysis in this study is to determine whether there is a correlation between knowledge and attitudes about COVID-19 with community compliance in 5M health protocol implementation in Sidomulyo Health Center in Pekanbaru City. Before testing the hypothesis, the researcher conducted a data normality test to find out whether the data was normally distributed or not. The normality test uses the Shapiro Wilk test because the number of samples studied is 40 samples (<50 samples). Based on Table 3, it can be seen that the significance value of each variable from this normality test is 0.000, which means that the data is not normally distributed, so the hypothesis test uses the Spearman correlation test.

Based on the Spearman correlation test results in Table 3, a p-value of 0.000 was obtained indicating that there was a significant correlation between knowledge and attitudes about COVID-19 in Sidomulyo Health Center in Pekanbaru City. The correlation coefficient is 0.616 which means that the correlation has a positive correlation direction with strong correlation strength. The direction of the correlation in this study is positive, which means that the higher the score of knowledge about COVID-19 owned by the respondent, the higher the score of the respondent's attitude about COVID-19 and vice versa. The results of this study are supported by previous study results which shows the level of knowledge of the people of North Sulawesi about COVID-19 in the good category, namely 388 respondents (95.8%) (15). Another results of research on the community in Potorono Banguntapan Hamlet, Bantul Yogyakarta stated that knowledge in the good category regarding prevention of COVID-19 in the community, namely 86 respondents (82.7%) (16). According to another researchers, it is stated that public knowledge regarding prevention of disease transmission will further reduce the spread of COVID-19. Researchers assume that people's knowledge is good because they have knowledge in accordance with the concept of health protocols for preventing COVID-19 such as keeping a distance, wearing masks, washing hands, avoiding crowds, and increasing knowledge about prevention of COVID-19 (17).

There are factors that affect knowledge, namely education, age, employment and other external factors (14). The results of this study indicate that most respondents are in the age category 36-45 years (35.2%). According to Budiman dan Riyanto, (2013) the older one gets, the better one's mindset and comprehension so that one has good knowledge. However, at an advanced age (> 65 years) a person's ability to remember and receive information will decrease. Based on the occupation, the majority of respondents worked as housewives, namely 16 people (40%). It can be explained that respondents who have free time also obtain information about preventing the transmission of COVID-19 from various sources such as television, the internet, and health education in their surroundings (18). Based on the Spearman correlation test result in Table 4, a p-value of 0.000 was obtained indicating that there was a significant correlation between knowledge about COVID-19 and community compliance in 5M health protocol implementation in Sidomulyo Health Center in Pekanbaru City. The correlation coefficient is 0.569 which means that the correlation has a positive correlation direction and a strong correlation strength. The direction of the correlation in this study is positive, which means that the higher the score of knowledge about COVID-19 owned by the respondent, the higher the score of the respondent's compliance with 5M health protocol implementation and vice versa.

This is in line with previous results of research on the correlation of knowledge, perceptions, and attitudes to the behavior of preventing COVID-19 in Medan which stated that there is a relationship between attitudes and behavior of preventing COVID-19 in the people of Medan City (19). Likewise, another research also stated that there is a

positive correlation between the level of knowledge and the behavior of teaching staff regarding the handling and prevention of COVID-19 in Kampar Regency, Riau Province (20). The results of another research conducted on 84 respondents also resulted that respondents who have a good level of knowledge also have good behavior in preventing COVID-19 on the medical faculty students (21).

Attitude is a factor that exists within an individual that is able to have an impact on the behavior that will be carried out (14). According to previous research, it is stated that attitude is a reaction to receive or reject information messages received by reason, so if the information received is understood it is not necessarily that the information is implemented. However, according to the results of this study, it shows that there are other factors besides attitudes that can influence COVID-19 prevention behavior (22). This is because attitude itself is a predisposing factor for a behavior to occur because attitude is still a closed response to an object or stimulus (14). There are three factors that influence human behavior, namely endogenous genetic factors (race, gender, nature, intelligence), exogenous factors (environment, education, religion, social, economy), and other factors (perceptions and emotions) (23). Likewise with attitudes, where attitudes can be influenced by personal experience, the influence of other people who are considered important, the influence of culture, mass media, educational and religious institutions, and emotional factors (24). Thus, behavior is not only influenced by knowledge, but can be influenced by other predisposing factors, supporting factors, and driving factors (14).

Based on the Spearman correlation test result in Table 5, The p-value of 0.000 indicates that there is a significant relationship between attitudes about preventing COVID-19 and community compliance in implementing the 5M Health Protocol in the work area of the Sidomulyo Inpatient Health Center in Pekanbaru City. The correlation coefficient is 0.525, which means that the correlation has a strong correlation strength. The direction of the correlation in this study is positive, which means that the higher the attitude score about COVID-19 owned by the respondent, the higher the respondent's compliance score with 5M health protocol implementation and vice versa.

This research is in line with the previous research of which shows that the majority of the people of Depok City, West Java have a good attitude towards preventing COVID-19, namely 168 people (54.9%) (25). As for the results of another study that as many as 722 (70.7%) respondents had a good attitude regarding the prevention of COVID-19 in DKI Jakarta Province (26). A positive attitude from the community in dealing with the COVID-19 pandemic can make people take concrete actions to reduce the risk of contracting COVID-19, so that people who have good knowledge also have good attitudes and behavior as well (27).

A good attitude can be supported by acceptance of information circulating in the community about COVID-19 (28). From this understanding, actual, accurate and transparent information and data will encourage people to take the desired actions to reduce the risk of spreading the virus (29). In other words, when a person has information about COVID-19, he will be able to determine how he should act and behave (30). The results of this study indicate that the relationship between attitude and adherence to the implementation of the Health Protocol is very strong, and the relationship between knowledge and action is very strong, but there are still people who have an attitude of not complying with the implementation of the 5M Health Protocol. This is because attitudes and behavior must also be based on public awareness. Many people already know various knowledge related to health protocols or the COVID-19 pandemic but cannot implement them properly in their daily lives (31).

This study has limitations in guaranteeing a temporal time relationship related to the cross-sectional research design where the research is only conducted to measure both independent and dependent variables at one time. Therefore, it cannot be known with certainty whether knowledge and attitudes or community compliance occurred first and influenced each other. In addition, this study has a small sample size, namely only 40 respondents, so it cannot properly describe the actual situation in the population. However, this study has advantages in terms of ratio data scale and bivariate data analysis with a correlation test so that it can describe the direction and strength of the relationship of the two variables studied.

Conclusion

The conclusions of this study are there were a correlation between knowledge and attitudes about COVID-19 (p-value = 0.000; $r = 0.616$), knowledge about COVID-19 and community compliance in 5M health protocol implementation (p-value = 0.000; $r = 0.569$), attitudes about COVID-19 and community compliance in 5M health

protocol implementation in the community in Sidomulyo Health Center in Pekanbaru City (p-value = 0.000; r = 0.525), which shows a positive correlation direction and a strong correlation strength.

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