



## Research Article

# The Relationship Between COVID-19 Knowledge Levels and Practice with Public Stigma in Indonesian Community

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### Abstract

**Introduction:** The spread of coronavirus disease (COVID-19) is currently being a public health issue threatening the world. This pandemic has been affecting many aspects of life, including the emergence of panic buying behavior and social stigma against COVID-19 in Indonesian community. These ongoing behaviors are believed to be affected by the level of public knowledge in understanding COVID-19. **Aim:** To determine the relationship between knowledge and practice levels of COVID-19 with public stigma in Indonesian community. **Methods:** This research used cross-sectional epidemiological study. The research was carried out from March to June 2020. The total sample were 2.240 Indonesian people that met the inclusion criteria and taken using the purposive sampling method. Data collection was taken from the questionnaire which consisted of opinion polls regarding the knowledge, attitudes, and stigma of the community about COVID-19. Data analysis was carried out using univariate, bivariate data analysis. **Results:** There were significant relationship between the level of knowledge to the attitudes of the community ( $p=0.0001$ ) and the level of knowledge to the stigma of society ( $p=0.001$ ). There was no significant relationship between attitudes and the stigma of the community ( $p=0.923$ ). **Conclusions:** The level of knowledge and public stigma about COVID-19 in Indonesian community was good. This study showed a significant relationship between the knowledge level and practice of COVID-19 with public stigma in Indonesian community. **Keywords:** Dengue Infection, Disseminated, Encephalomyelitis, dead-liest

**Keywords:** Coronavirus Disease, Level of Knowledge, Public Stigma

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## 1. Introduction

The emergence and spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is currently being a public health issue threatening the world. The coronavirus disease (COVID-19) is a contagious respiratory disease caused by SARS-CoV-2, a newly discovered coronavirus. It was initially identified as the cause of respiratory disease in Wuhan, Hubei Province, China in December 2019.<sup>1</sup> The virus originated in bats and was transmitted to humans through yet unknown intermediary animals. At the international level, World Health Organization (WHO) declared that the corona virus outbreak has become a global pandemic in March 2020 because the number of cases and deaths is increasing day by day. There have been 1.305.432 confirmed cases and 32.084 reported deaths at the time of this study.<sup>2</sup> On a national scale, starting from March 2, 2020, the government officially confirmed two positive COVID-19 patients in Indonesia. In its peak on March 14, 2020, the Indonesian government declared the COVID-19 pandemic as a National Disaster with 9.330 confirmed cases and 369 deaths reported at the time of this study.<sup>2,3</sup>

This pandemic phenomenon gives economic, social, cultural, and religious impacts affecting the survival of society. To date, no definite cure has been found or made to control this wild disease, although a handful of promising vaccines and treatments showed promising results to resume the routine social lives.<sup>4</sup> Apart from the challenges to control COVID-19, the society are also dealing with the discrimination against COVID-19 patients, including those who are still suspected of having COVID-19, the corpses of COVID-19 patients, and even the healthcare personnel that take care the patients of COVID-19.<sup>5</sup> Fear of prevalence of unknown contagious disease with no definite cure or vaccine on one side, and numerous hoax on social media bombarding people with false informations about COVID-19, have led to extreme public stigma among some people and put an extra burden on the healthcare system.<sup>6</sup> Aside from the social discrimination against COVID-19 patients and healthcare personnel, the presence of panic buying behavior also presented in Indonesia society.<sup>7,8</sup> Panic buying behavior will cause an imbalance between supply and demand. Therefore, if it persists, it can affect both market price stability and the availability of goods. Besides, in its process, panic buying behavior will also trigger crowds which becomes a risk factor for COVID-19 transmission.<sup>9</sup> These ongoing behaviours of the society related to COVID-19 are believed to be affected by the level of public knowledge in understanding COVID-19.<sup>10</sup>

The level of public knowledge is mostly affected by the education experienced, starting from elementary school (SD/MI), junior high school (SMP/MTs), senior high

school (SMA/MA), or even Higher Education. The Net Enrollment Rate (NER) of SD/MI reached 97.58%; that

of SMP/MTs reached 79.35%; that of SMA/MA reached 60.70%; and Higher Education reached 18.85 in 2019 (Statistics Indonesia, 2020). Based on these statistical data, it is found that at the primary and secondary education level, the percentage of net enrollment has exceeded 70% of attainment, but at the upper level and higher education, it is below 70%.

According to a Nurse and Midwifery Journal on the Relationship between Knowledge Level and Diabetic Recurrence Prevention Behavior, which was published on December 28, 2018, there were 12 people (80%) out of 29 DM patients with a good level of knowledge with adequate preventive behavior. Furthermore, the Coefficient Correlation value obtained was 0.404, indicating the direction of positive correlation with moderate correlation strength.<sup>11</sup> Therefore, this study was conducted to determine the relationship between the level of knowledge and practice in understanding COVID-19 with public stigma in Indonesian Community.

## Methods

This research used an epidemiological study with a cross-sectional study design. The target population in this study were all Indonesian people. The research population that can be reached was the Indonesian people who were scattered in each city/regency in Indonesia, and the sample was the population that can be reached and met the inclusion criteria, also was not included in the exclusion criteria. Samples were taken using the purposive sampling method. Determination of the number of the samples used the infinite formula with purposive sampling method and added with an estimated drop-out of 15% of the total sample so that the total sample obtained was 2,240.

Data collection in this study was taken from the results of filling out the questionnaire. The reliability of the questionnaire was measured before it was distributed to the entire community with a minimum number of 30 control population samples presented in the format of Google Form. The validated questionnaire was then distributed to all levels of Indonesian society until it met the minimum sample size.

The questionnaire consisted of opinion polls regarding the knowledge, attitudes, and stigma of the community about COVID-19. The knowledge segment had 15

questions with a yes/no assessment. The attitude segment had 41 question items with yes/no and believe/do not believe assessment points. The stigma segment had 15 questions with an assessment of the agree/disagree statements in the form of multiple choices. After all data was collected, data analysis was carried out using univariate, bivariate, and multivariate data analysis.

## 2.Results

out.

**Table 1.** Characteristics of Research Respondents

Variabel	N (2358)	Percentage(%)
<b>Gender</b>		
Men	983	41,7
Women	1375	58,3
<b>Regions</b>		
Western Indonesia	1904	80,7
Central Indonesia	427	18,1
Eastern Indonesia	27	1,1
<b>Latest Education</b>		
SD-SMA	1572	66,7
S1-S3	786	33,3

In this study, there were more women than men, totaling 58.3%. Respondents in the study lived in almost all regions of Indonesia with the largest area of western Indonesia of 80.7%, followed by central Indonesia of 18.1%, and eastern Indonesia of 1.1%. Based on the characteristic of the latest education obtained from 2358 respondents in this study, 66.7% of respondents had education at elementary to high school levels.

**Table 2.** Sources that are often used by the community in obtaining information

Variabel	Frequency	
	Total (n=2358)	Percent (%)
<b>TV</b>		
Often	1283	54,4
Rarely	1075	45,6
<b>Social Media</b>		
Often	1585	67,2
Rarely	773	32,8
<b>Health Agencies</b>		
Often	1645	69,8
Rarely	713	30,2
<b>Influencer</b>		
Often	356	15,1
Rarely	2002	84,9

Table 2 above shows that people often use TV as a means of obtaining information, totaling 54.4%. For the distribution of respondents using Social Media, it was found that 67.2% of the research subjects often used it to obtain information. In this study, 69.8% of the respondents

## Univariate Analysis

The sample was obtained by using a consecutive non-random sampling technique and a questionnaire with a total of 2420 respondents who filled out the Google Form questionnaire. However, 32 respondents were not willing to continue the questions when filling out informed consent and 30 respondents filled in repeatedly. Therefore, 62 respondents were included in the criteria for drop

obtained information about COVID-19 from health agencies such as the Ministry of Health, the COVID -19 task force. Meanwhile, 84.9% of the public do not often obtain information about COVID-19 from influencers.

**Table3.** Overview of Stigma, Knowledge, and Attitudes of the Community

Variabel	Total	
	N	Percentage
<b>Stigma</b>		
Good	1800	76,3%
Poor	558	23,7%
<b>Knowledge</b>		
Good	1741	73,8%
Poor	617	26,2%
<b>Attitude</b>		
Good	1201	50,9%
Poor	1157	49,1%

This study used a research subject of 2,358 respondents. The description of the stigma shows that of the total respondents, most of them had a good stigma, totaling 1,800 people (76.3%). Based on the knowledge, it shows that out of 2,358 respondents, most of them had good knowledge of 1,741 people (73.8%). Based on the attitude, it shows that some out of 2,358 respondents have good attitudes, totaling 1,201 people (50.9%).

## Bivariate Analysis

**Table 4.** Results of the Chi-Square Test of the Level of Knowledge on Attitudes of the Community

Knowle dge	Attitude				p value
	Good		Poor		
	Tot al	Percent age	Tot al	Percent age	
<b>Good</b>	941	54.0%	800	46.0%	0.000
<b>Poor</b>	260	42.1%	357	57.9%	1*
<b>Total</b>	1201	50.9%	1157	49.1%	

\*Significant (p<0.05)

Table 4 shows that out of 2,358 respondents, most of them had good attitudes, totaling 941 people (54.0%) with good

knowledge and 260 people (42.1%) with poor knowledge. The Chi-Square test shows  $p=0.0001$  where  $p<0.05$ . Therefore, it can be said that the level of knowledge is related to the attitudes of the community.

**Table 5.** Results of the Chi-Square Test of the Level of Knowledge on Stigma of the Community

Knowle dge	Stigma				<i>p</i> <i>valu</i> <i>e</i>
	Good		Poor		
	Tot al	Percent age	Tot al	Percent age	
Good	136		380	21.8%	0.00 1*
Poor	439	78.2%	178	28.8%	
Total	180	76.3%	558	23.7%	

\*Significant ( $p<0.05$ )

Table 5 shows that out of 2,358 respondents, most of them had a good stigma, totaling 1,361 people (78.2%) with good knowledge and 439 people (71.2%) with bad knowledge. The Chi-Square test shows  $p=0.001$  where  $p<0.05$ . Therefore, it can be said that the level of knowledge is related to the stigma of society.

**Table 6.** Results of the Chi-Square Test of Attitudes on Stigma of the Community

Attitu de	Stigma				<i>p</i> <i>value</i>
	Good		Poor		
	Tot al	Percenta ge	Tot al	Percenta ge	
Good	918	76.4%	283	23.6%	0.923
Poor	882	76.2%	275	23.8%	
Total	180	76.3%	558	23.7%	

\*Significant ( $p<0.05$ )

Table 6 shows that out of 2,358 respondents, most of them had a good stigma, totaling 918 people (76.4%) with good attitudes and 882 people (76.2%) with unfavorable attitudes. The Chi-Square test shows  $p=0.923$  where  $p>0.05$ . Therefore, it can be said that attitudes are not related to the stigma of the community.

### 3. Discussions

Based on the study conducted on the Indonesian community which was carried out from March to June 2020 using the Google Form questionnaire on the link [bit.ly/RisetCOVID19](https://bit.ly/RisetCOVID19), the research respondents obtained were 2,420 with highly varied demographic characteristics. Not all respondents answered the questions completely and in accordance with the inclusion criteria so that 62 samples had dropped out.

The variable of stigma shows a percentage of the good stigma of 76.3% and poor stigma of 23.7% at the level of knowledge about COVID-19 transmission. These results are in accordance with the results of a survey by Statistics Indonesia regarding the response to people infected with COVID-19 in the surrounding environment, showing that the most responses with a percentage of 45% people had good stigma by tightening health protocols in their surrounding environment when someone is positive for COVID-19.

In the variable of knowledge level, 73.8% of respondents had a good level of knowledge about COVID-19, while 26.2% had poor knowledge. According to the results of a survey by Statistics Indonesia on the behavior of the community during the COVID-19 pandemic, a fairly good percentage was obtained for knowledge of community protocols when traveling. The survey results show 85.97% of the public were aware of the protocols to apply at work, 80.71% in shopping centers, 68.96% in places of worship, and 83.84% in public services.

Of the 100% percent of the variable of respondents' attitude towards COVID-19 transmission, 50.9% of them showed a good attitude, while 49.1% showed a poor attitude. The results of this percentage are in accordance with those of the survey on community behavior during the pandemic published by Statistics Indonesia in September 2020, showing that 79.5% of people were good and obedient to regulations during the pandemic, while 20.5% were not good by not implementing health protocols during the pandemic.

This study found that 57.7% of the research subjects had poor knowledge and attitudes. This study shows a significant relationship between public knowledge about COVID-19 and attitudes of the community with the results of the Chi-square test of  $p=0.0001$ . It causes the incidence rate in Indonesia to continue to increase, indicating with the data on 25 September 2020 cases per day reached 4,823 confirmed positive for COVID-19.<sup>(1)</sup>

This study was in line with a study conducted by Saefi M, et.al. which was carried out at more than 10 universities in Indonesia which produced 6,249 responses, indicating that people with good knowledge have a good attitude.<sup>5</sup>

The results obtained show that 78.2% of people with good knowledge had a good stigma. The statistical results also show that there was a relationship between knowledge and community stigma with a  $p\text{-value}<0.005$ . In this study, the public already understands the way to deal with COVID-19 and to prevent it so that they can avoid COVID-19. Therefore, it does not cause a bad stigma to people infected with COVID-19 and to medical personnel. The relationship between knowledge and stigma has never been studied so that prior data cannot be obtained.

76.4% of respondents in this study had a good attitude with good stigma and statistical testing showed no significant relationship between attitude and stigma with a  $p$  value  $> 0.005$ .

It is in contrast to a study conducted by Ramaci T, et.al. in a correlational design study that included 260 health care workers in a large hospital in southern Italy, stating that there was a correlation between attitude and stigma. Stigma is highly influential in guiding management communication strategies related to pandemic risk for health workers.<sup>6</sup>

Researchers have paid less attention to the pandemic situation and how it could impact the attitudes of the community towards health workers. Stigma is a diagnosable problem but can have more serious direct consequences for health care workers' results and performance.<sup>12</sup> When healthcare workers experience escalated stress related to stigma, they can prevent a person from administering treatment.<sup>13</sup>

#### 4. Conclusion

The level of knowledge about COVID-19 in Indonesian was good at 73.8%. The public stigma about COVID-19 in Indonesian community was good at 76.3%, and an unfavorable attitude at 49.1%. This study showed a significant relationship between the knowledge level and practice of COVID-19 with public stigma in Indonesian community.

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