

A Study of Knowledge and Practice Related to COVID-19 in Parepare City, Indonesia

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ABSTRACT

Background: Coronavirus recently spread throughout the world since the first case was found in China. Coronavirus infects many people in Indonesia. The best way to prevent transmission is to do preventive way such as washing hands and using a mask. It should also be supported by the knowledge itself.

Aim: This study aimed to know the relationship between knowledge to practice after controlled by confounding variables.

Methods: This quantitative research, a cross-sectional study design used primary data conducted from May to June 2020. The data was collected through an online questionnaire that was distributed via WhatsApp. The respondent must be a resident in Parepare City who had to fill the sub-district where they lived to convince them as a sample. While the exclusion criteria was a resident who refused to be a respondent. The total sample was 281 residents. The Independent variable was knowledge and dependent was the practice. The data was analyzed through frequency for univariate, chi-square for bivariate analysis, and logistic regression for multivariate analysis.

Results: Most of the respondents tend to have good basic knowledge and good practice toward COVID-19. Besides, good knowledge contributed 1.533 times the possibility of having good practice of preventive action toward COVID-19 compared to respondents with poor knowledge after controlled by education.

Conclusions: As a suggestion, knowledge especially the basic one toward COVID-19 needed to improve so the awareness of practices some preventive action can also be formed to reduce the number of positive cases.

Keywords: Coronavirus, COVID-19, Knowledge, Practice

INTRODUCTION

A novel coronavirus infection was found in Wuhan, Hubei Province, China. It became an outbreak in several countries including Indonesia. World Health Organization (WHO) declared that disease caused by a novel coronavirus called Coronavirus Disease 2019 (COVID-19). COVID-19 is a public health concern of most countries and designated as a pandemic. [1,2]

The scariest thing of COVID-19 is the rapid transmission because it can transmit from person to person by respiratory droplets. A person can get infected by a coronavirus when an infected person gets cough, sneeze, or even talk. [3] The common incubation period of coronavirus is 2-14 days. While the symptoms are varied, can be no symptom, mild, or severe illness. [4,5]

WHO (2020) reported that on June 27 2020 there were 9.653.048 cases and 491.128 deaths globally caused by COVID-19. [6] The high number of COVID-19 is exacerbated by the fact that vaccines have not been discovered as an effective treatment for this disease. [7] Indonesia as the fourth larger number of citizens also had COVID-19 as its outbreak. COVID-19 is predicted to be spread with a long time and caused great suffer. [8]

The latest update was on June 27 2020 showed that 54.010 people who got infected by a coronavirus in Indonesia. While there were 2.754 deaths or 5.1% from confirmed

cases. South Sulawesi also became the only one province outside Java that includes 10 highest cases of the province in Indonesia with 4.807 confirmed cases.^[9] Parepare is one of the cities in South Sulawesi that became the sixth-highest number of cases with 60 confirmed cases.^[10]

The high transmission of COVID-19 may be influenced by the knowledge of a person in the pandemic area. Good knowledge of COVID-19 can lead to an awareness that implemented in practice to prevent transmission.^[11,12] Preventive action to avoid transmission of coronaviruses such as wash hands with soap and water; avoid to touch eyes, nose, and mouth when hands are not clean; do not shake hands and embrace others; keep doing physical distancing; avoid to go to a crowded place; use a face mask and even gloves as Personal Protective Equipment (PPE); do self-isolation when returning to a place affected with COVID-19 for 14 days.^[13]

It was confirmed from the lesson learned of the SARS outbreak in 2003 that knowledge and attitudes about SARS were related to the level of panic emotion. Panic emotion can lead to preventing the transmission of the disease.^[12,14,15] Therefore, it is important to know the description of basic knowledge toward COVID-19 on Parepare residents. Besides, the practice of preventing transmission also needs to find out. According to the health protocol of COVID-19, it was decided to implement physical distancing. Referring to that reason, this research was conducted through an online survey.

METHODS

This quantitative research, a cross-sectional study design used primary data collected from May to June 2020. The data was collected through an online questionnaire that was distributed via WhatsApp from May 21 until May 23, 2020. The respondent must be a resident in Parepare City who had to fill the sub-district where they lived to make sure that they could be included as a sample. While the exclusion criteria were a resident who

refused to be a respondent while the informed consent was given on the first page of the questionnaire. Total residents who filled the questionnaire were 282 while one respondent was excluded. Therefore, the total sample was 281 residents from four sub-district in Parepare City.

The online questionnaire consisted of three parts which were demographic characteristics, knowledge about COVID-19, and practice of preventive action to eliminate coronavirus transmission. The answers of respondents were scored before analyzed. It was accumulated and decides the cut-off point through mean value. After that, it was categorized as "Poor" and "Good" based on mean value.

The Independent variable was knowledge of COVID-19. The dependent variable was the practice of COVID-19 prevention. While demographic variables were supposed to be potential confounder variables but it was according to the final model after multivariate analysis had been done. The data was analyzed through frequency for univariate analysis, chi-square for bivariate analysis, and logistic regression for multivariate analysis to find the final model correlation of knowledge toward the practice of preventive action among Parepare residents after controlled by potential confounder variable.

RESULT

There were 281 samples that were varying from four sub-district in Parepare City. Sample who lives in Soreang and West Bacukiki Sub-District was 77 people; Ujung Sub-district was 64 people; Bacukiki was 64 people. According to demographic variables consisted of gender dominated by women (73.3%); age dominated by teenager (78.6%); marital status dominated by single (84.3%); education dominated by the respondent who graduated from school (60.1%); and occupation dominated by student and worker (85.8%). Based on the information source of COVID-19, most of the respondents were used social media to receive information (70.8%).

While 64.8% of respondents had never join webinars about COVID-19. According to the knowledge variable, it is dominated by the respondent who had good knowledge (68.0%). While for the practice variable, most of the respondents had good practice to prevent the transmission of COVID-19 (88.3%) (Table 1).

Table 1. Frequency Distribution of Demographic Characteristics, Knowledge, and Practices related to COVID-19 (n=281)

Variables	n	%
Gender		
Men	75	26.7
Women	206	73.3
Age		
Teenager (12 – 25 years)	221	78.6
Adult (26 – 45 years)	45	16.0
Elderly (≥46 years)	15	5.3
Marital Status		
Single	237	84.3
Married	44	15.7
Education		
Graduated from School	169	60.1
Graduated from University	112	39.9
Occupation		
Unemployment	40	14.2
Student and Worker	241	85.8
COVID-19 Information Source		
News on TV	66	23.5
Social Media	199	70.8
Government Official Website	14	5.0
Others	2	0.7
Involvement in COVID-19 Webinars		
Yes	99	35.2
No	182	64.8
Knowledge		
Poor	90	32.0
Good	191	68.0
Practice		
Poor	33	11.7
Good	248	88.3

Practice toward COVID-19

According to the result, both genders had good practices for preventing COVID-19. While the higher percentage that had good practices was women (90.8%). The Odds Ratio (OR_{crude}) of gender and practice was 2.259 means women would be at 2.259 times of having good practice toward COVID-19 compared to men. A similar model also showed with age variable in which teenagers, adults, and the elderly category tend to have a good practice. While the higher percentage of good practice was dominated by adults (93.3%).

Marital status, education, and occupation also depicted a similar tendency while all categories in all variables had good practice toward COVID-19. The married category dominated the good practice (88.6%) in the marital status variable. While respondents who had graduated from university dominated good practice in the education variable (94.6%). It also showed that respondents who graduated from university would be at 3.359 times of having good practice toward COVID-19. Students and workers dominated the good practice compare to unemployment (89.2%) which respondents who occupied as students or workers were at 1.754 times higher possibility of having good practice toward COVID-19 (Table 2)

Table 2. Demographic Characteristics and Practice related to COVID-19 (n=281)

Characteristics	Practice				OR _{crude}
	Poor		Good		
	n	%	N	%	
Gender					2.259
Men	14	18.7	61	81.3	
Women	19	9.2	187	90.8	
Age					-
Teenager (12 – 25 years)	28	12.7	193	87.3	
Adult (26 – 45 years)	3	6.7	42	93.3	
Elderly (≥46 years)	2	13.3	13	86.7	
Marital Status					1.045
Single	28	11.8	209	88.2	
Married	5	11.4	39	88.6	
Education					3.359
Graduated from School	27	16.0	142	84.0	
Graduated from University	6	5.4	106	94.6	
Occupation					1.754
Unemployment	7	17.5	33	82.5	
Student and Worker	26	10.8	215	89.2	

Knowledge of Practice toward COVID-19

Based on bivariate analysis, showed that respondents with poor and good knowledge still had good practice toward COVID-19. The relationship between knowledge and practice were depicted in OR value (1.668). Respondents with good knowledge would be at 1.668 times of having good practice to prevent the transmission of COVID-19 (Table 3).

Table 3. Knowledge and Practice toward COVID-19 using Chi-Square (n=281)

Characteristics	Practice				OR _{crude}	95% CI (Lower-Upper)
	Poor		Good			
	n	%	n	%		
Knowledge						
Poor	14	15.6	76	84.4	1.668	0.795 – 3.500
Good	19	9.9	172	90.1		

Multivariate analysis was done to know the real correlation of knowledge and practices after other variables were controlled. Multivariate logistic regression additionally reveals that respondents with good knowledge were at 1.533 times higher possibility of having good practice compared with those with poor knowledge after controlled by education (Table 4).

Table 4. Final Model of Knowledge and Practice toward COVID-19 (n=281)

Independent variables	Coefficient B	p-value	OR _{adjusted}	95% CI	
				Lower	Upper
Knowledge of COVID-19	0.427	0.266	1.533	0.722	3.252
Education	1.177	0.012	3.244	1.289	8.163

DISCUSSION

COVID-19 still becomes a public health concern for most countries. The transmission is very rapid that spread from humans to humans. [16,17] Because of its novelty, the handling to prevent this disease is still developed. Knowledge about COVID-19 is important to influence the attitude and also the practice to decrease the transmission possibility. [11]

The previous study examined practice with two actions consisted of going to a crowded place and wearing a mask. Those questions were the basic preventive action to avoid the transmission of COVID-19. According to the preventive action, all categories in all variables tended to avoid crowded place and wearing a mask. Female, respondents with 30-49 years of age, married, master's degree and above, mental labor, and lives in Hubei dominated the percentage to did not go to crowded places and wearing masks. [12]

In our research, we conducted practice with six questions while two basic practices in the previous study were included. The result was in line that all categories in all variables did a good practice to prevent COVID-19 transmission. It is a good sign that people in Parepare City care more about their health by doing health protocol that was instructed by the Government. Nevertheless, respondents with a small percentage who had a poor practice of COVID-19 should be persuaded

to obey the health protocol so they cannot be a carrier of COVID-19. Lack of information or miscommunication can be the reason for them to ignore the warning. [18]

Most of the respondents found information about COVID-19 on social media. Nowadays, the availability of the internet was good in almost all area. It makes people can get information about anything easily. [19] The high number of social media as the main source of COVID-19 information is similar to the study conducted by Bhagavathula *et al* (2020) that 60% of Healthcare Workers also choose social media as a source of COVID-19 information. Social media in this case was WhatsApp, Instagram, Twitter, etc. It happened because people put their time more on gadgets and routinely check their social media. Since the panic of social media traveled more quickly than the spread of COVID-19. [20] Even though social media increase the spreading of COVID-19 information but it also had the potential to spread false information. Therefore, clarifying the truth of information is very needed. [21]

Good knowledge can lead to good practice especially for practices of COVID-19 prevention. Present studies showed the similarity that good knowledge had a relationship to appropriate practices of COVID-19. [2,12] It has happened because the knowledge will bring awareness and it

leads to implement preventive action to avoid transmission of COVID-19. [2] The willingness of practice is also can be influenced by the education of respondents. Respondents with higher education tend to have good knowledge as well as good practice toward COVID-19. A previous study was found that education has no significant correlation with the sample's response of COVID-19. [22] It is different from our finding showed that education was the only demographic variable that became confounders in knowledge and practice relationships. Beyond all the findings, it is still needed to continues education programs like webinars about updated information of COVID-19 to improve the knowledge on each educational level.

One of the practice questions was hand hygiene depicted in do respondents wash their hands after going outside. Hand hygiene was an action that had been considered the leading measure of preventing health infections. [23] Related to hand hygiene, the present study also showed that knowledge had a significant relationship to the level of practicing hand hygiene. [24] These findings clearly showed that it is important to improve the knowledge of people toward COVID-19 via trusted and true information to create a good practice of COVID-19 prevention. Good practices are expected to reduce the number of positive COVID-19. COVID-19 outbreak creates a new habit for human-being. A new habit can be shown with some people start to wash their hands with soap routinely, using masks even if they are not in a dusty place, and doing physical distancing.

The total of respondents became one of the limitations of this study. Because the respondents who had willing to fill this online questionnaire were 281 people while Parepare had 142.097 residents in 2017. [25] It might have happened because of the time-range to fill the questionnaire only three days. Other than that, respondents who fill the online questionnaire might be not honest or randomly answer the question. Therefore, the mechanism of an online questionnaire to

know knowledge and practices toward residents must be improved.

CONCLUSION

As noted, most of the respondents tend to have good basic knowledge and good practice toward COVID-19. Besides, good knowledge contributed 1.533 times the possibility of having good practice of preventive action toward COVID-19 compared to respondents with poor knowledge after controlled by education. As a new disease with pandemic status, it is needed to improve the knowledge of COVID-19 so the awareness of practices some preventive action can also be formed. The practice of preventive action of COVID-19 is expected to reduce the number of positive cases. The knowledge itself has to be obtained from trusted sources.

ACKNOWLEDGEMENT

The author would like to thank the residents of Parepare City who became a respondent in this research.

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How to cite this article: Ekasari R, Widiastuty L, Wijaya DR et.al. A study of knowledge and practice related to COVID-19 in Parepare city, Indonesia. *International Journal of Science & Healthcare Research*. 2020; 5(4): 26-32.
