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Risk Communication and the Prevention of COVID-19 Transmission Among Community of Educators in Dangerous Zones

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ABSTRACT

Until the beginning of June 2020, the COVID-19 virus has spread to more than 215 countries, infected more than 6 million people and killed more than 300,000 people in the world. This causes public panic and misperceptions about COVID-19. Under circumstances like this, risk communication is needed to control and mitigate information about this plague to reduce the spread of this disease and manage public fear. The main objective of this study is to assess COVID-19 information searching behaviour and explore how risk communication is associated with personal hygiene habits in preventing transmission of COVID-19 in dangerous zones. This study was conducted among a community of educators in Jakarta, Bogor, and Tangerang, Indonesia. Questionnaires were distributed to 132 respondents, consisting of lecturers and teachers who are living in the red zone area. The results showed that there was no relationship between the perception of risk communication, both on personal hygiene habits and prevention of COVID-19 transmission. This can be attributed to two possibilities. Firstly, the risk communication message strategy is seen as irrelevant to people's personal hygiene habits and prevention of COVID-19 transmission. Secondly, personal hygiene habits and prevention of COVID-19 transmission are not influenced by risk communication from the government and at media level.

Keywords: *Risk communication, prevention, COVID-19, transmission, dangerous zones.*

INTRODUCTION

The COVID-19 virus has been the talk of the public since the outbreak in Wuhan, China in December 2019. Within 2 months, the COVID-19 virus has spread to more than 28 countries, infected more than 40,000 people and killed more than 1,000 people in China. Until early June 2020, the COVID-19 virus has spread to more than 215 countries, infected more than 6 million people and killed more than 300,000 people in the world (World Health Organisation, 2020). This caused mass panic and various misperceptions on COVID-19.

Understanding disease transmission and control measures are essential to mitigate the spread of the virus in the population. It is important for everyone to understand and practice prevention measures, as well as adhere to all instructions given by the government (Vijayasankari & Janarthanan, 2020). Health authorities in Indonesia, especially in Jakarta and some satellite cities surrounding Jakarta have made more efforts to control the disease through various strategies. Public health education is considered as one of the most important measures to control pandemic outbreaks.

In taking into account the current pandemic situation, risk communication is needed to straighten out any misinformation regarding the outbreak of this disease. Wrong information would incorrectly advise the public about the virus and cause unnecessary panic that could worsen the situation of the outbreak. Risk communication provides a means of dialogue and information about how the virus is transmitted, the risk of infection and what can be done to prevent transmission of the outbreak (Mohamad & Azlan, 2020).

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According to Fillaili and Tamyis (2020), in order to minimize the risk of COVID-19 transmission and reduce false feelings of security, the government needs to improve and strengthen their communication strategy by promoting the principle of information disclosure when disseminating information on COVID-19 transmission. Secondly, supporting changes in people's adaptive behaviour is needed in implementing health protocols consistently and continuously. Thirdly, the government has to strengthen public participation in communicating the risk of COVID-19 transmission and ensure adaptive behaviour of the community in implementing health protocols. Fourthly, the government has to build a system of periodic monitoring and evaluation of the communication strategy in managing the COVID-19 pandemic and its effectiveness.

Although there are currently many scientific publications presenting novel findings on COVID-19, these studies may not necessarily be easily understood by the general public. This may result in the public seeking other sources of information to gain knowledge pertaining to the virus and its transmission, even though the source of the information is doubtful. It is feared that when people get incorrect information, it will encourage them to perform the wrong prevention behaviour (Nagler, Vogel, Gollust, Rothman, Fowler & Yzer, 2020).

Risk communication can be developed based on background analysis of target groups such as educational background, age, gender and also socioeconomic level. By analyzing target groups, risk communicators could formulate better COVID-19 messages that could help with audience's understanding (World Health Organization Indonesia, n.d.). Persuasive messages delivered with the help of pictures or short films are expected to help reduce public anxiety, suppress false information cycles and encourage disease prevention behaviour (Alam, 2020). The importance of this research is to facilitate the government and stakeholders in conveying information about Covid-19 to all walks of life.

Based on the background of the problems above, this study aims to explore how the relationship between perceptions of risk communication carried out by the government through information conveyed by the COVID-19 task force and personal hygiene habits. In addition, this study also investigates the relationship between perception of risk communication and prevention of transmission of COVID-19 in dangerous zones in Jakarta, Bogor, Tangerang (Jabota) in Indonesia.

The benefit of this research is to encourage citizen awareness in adopting a clean and healthy lifestyle to avoid the risk of the increasingly widespread COVID-19 outbreak. In addition, the recommendations from results of this study may help the government to formulate an effective risk communication strategy in preventing the further spread of the COVID-19 outbreak. This research seeks to bridge the research gap regarding risk communication related to clean and healthy living habits in preventing the COVID-19 pandemic.

LITERATURE REVIEW

Risk Communication

Risk communication is the exchange of information about risk and factors related to risk among actors working in risky situations, whether related to health, business, or other fields. The main purpose of risk communication is to provide information that is meaningful, relevant and accurate in language that is easily understood to the public (Vaughan & Thinker, 2009).

In addition, the purpose of risk communication is to increase awareness and understanding of specific issues that must be considered by all participants during the risk analysis process; increase consistency and openness in risk management decision making and implementation; provide a secure basis for understanding risk management decisions that are proposed or implemented; improve the overall effectiveness and efficiency of the risk analysis process.

Risk communication must be able to build public trust and dispel rumors (Vaughan & Tinker, 2009) and help to convey messages convincingly, positively, easily digested, trusted, clear and concise. Therefore, in order to plan for a proper risk communication strategy, we must know what our audience's fears are and what the public's perception of the situation is, at hand. Risk communication must consist of an interactive process where all parties are given access to multiple messages representing all relevant views (Zhang, Li & Chen, 2020).

According to Robert and Powel (2010, as cited in Fillaili & Tamyis, 2020), there are four important concepts in carrying out risk communication strategies. First is "trust determination" which consists of empathy, dedication and commitment, as well as competence. Empathy means people need to know that you care before they care about what you know, verbally and non-verbally. Dedication and meaningful commitment avoid conveying empty promises, and finding ways to convey the truth without hurting people. Competence means experience and expertise in the field. Competencies can be built by showing references obtained from third parties which may give the impression that information is relayed with supporting evidence, not just our own subjectivity.

The second is "risk perception", which consists of trust, control and profit. Trust is convincing audiences that they can rely on the information given. Control is where the audience must feel that he/she is in a calm, supervised state. The advantage of this strategy is to convey the opportunities that can be obtained from a crisis situation without sounding forced (Outila, Mihailova, Reiche & Piekkari, 2020). Third is considering "mental noise", where people who are disappointed, angry or sad can only catch a little message and give little attention. Therefore, the message must be conveyed clearly and concisely. The fourth is "negative dominance" which happens when we talk to people who make us feel angry and disappointed. In this situation, it is easier to register emotions, impatience and negative information rather than remembering the positive (Syabira, 2020). The purpose of this concept is not to repeat negative sentences from statements or allegations and avoiding using negative words such as can't, don't, never, nothing, none; and its kind.

According to WHO (2020), the elements of risk communication are very dependent on the message and to whom the message is delivered. Risk communication messages can firstly contain information regarding the nature of the risk (characteristics and importance of the threat of danger that is a concern, the magnitude and intensity of the risk and the urgency of the situation, risk trends, and the threat of danger). Secondly, the nature of the benefits (actual or expected benefits in relation to each risk, who gets the benefits and how). Thirdly, risk management options (actions taken to control or manage risk, actions taken by someone to reduce individual risk, justification in choosing specific risk management options, effectiveness of a specific choice, benefits of a specific choice, risk management costs and who finances it and risks).

Risk perception is the basis for understanding the impact of risk communication. The elements that build risk perception consist of three things. First is an assessment of perceived risk. This assessment covers the qualitative aspects of the hazards received and the level of

control that is exercised. Second, audience characteristics, individual attitudes, cultural affiliations and institutions. Third, the existence of evidence of general principles in preventing harm received (Cori, Bianchi, Cadum & Anthonj, 2020).

Preventive measures to curb COVID-19

Behaviors that are strongly related to the COVID-19 transmission prevention are personal hygiene habits (Yoo & Song, 2021). These behaviours are all health behaviours that are carried out due to personal awareness so that the family and all members are able to help themselves be healthy and have an active role in community activities. Personal hygiene habits are basically an effort to transmit experiences about healthy lifestyles through individuals, groups or the wider community.

In Indonesia, vulnerable groups affected by the spread of COVID-19 are often the marginalized groups. These marginal groups are mainly from the poorest groups who are most economically affected (Suryahadi, Al Izzati & Suryadarma, 2020). The President of the Republic of Indonesia, Joko Widodo, advised each individual to implement physical distancing to control the spread of COVID-19. Physical distancing is one of the necessary steps to prevent and control infection by encouraging healthy people to limit visits to crowded places and direct contact with others. When applying physical distance, a person is not allowed to shake hands and keep a distance of at least 1 meter when interacting with others.

Aside from physical distancing, self-isolation protocol is also promoted whereby people are encouraged to stay indoors in their own homes and exercise physical restrictions with others. The Indonesian government calls on everyone to practice independent isolation and a requirement to certain groups, such as people with symptoms of COVID-19 like fever, cough and shortness of breath and do not have concomitant diseases, such as diabetes, heart disease, and HIV infection (World Health Organization Indonesia, n.d.). This also applies to those suspected or confirmed COVID-19 positive, people who have a history of travelling to the red zone or endemic COVID-19 region within the past 2 weeks and people who have undergone COVID-19 rapid test. The self-isolation protocol is carried out whereby all activities, including work, rest, study, and worship, are carried out in the individual's room.

Interventions in preventing contagious pain can be done by quarantine, contact tracing and setting social distance in public places. This action can be done without the need for vaccines or the use of drugs for the prevention of infectious diseases. Tracking and isolation of cases will increase the chances of controlling the transmission of the virus to and from several places (Kissler, Tedijanto, Lipsitch & Grad, 2020).

Aside from that, individuals should wear face masks and always keep a minimum distance of 1 meter when interacting with others with interaction time to a maximum of 15 minutes. One must also avoid gatherings, for example eating together, while undergoing independent isolation, as well as using tableware and baths separate from others in the house. As a measure of precaution, individuals should also monitor daily body temperature, live a clean and healthy lifestyle by routinely washing hands with soap and clean water, clean each house and room with disinfectants every day, and live a healthy diet.

Several previous studies have explained the relationship between risk communication strategies and hygiene and healthy living habits. Damayanti and Yuriawan (2020) found that risk communication strategies through social media (especially Instagram) contain many messages encouraging social media users to carry out pandemic prevention behaviour by adopting clean and healthy living habits.

Likewise, Komalasari (2020) states that information technology is increasingly optimal during the COVID-19 pandemic in delivering messages that encourage the public to prevent disease. Information technology allows people to keep their distance as a way of life to stay healthy. Clean and healthy living habits are not only promoted by simply washing hands or bathing, but also by keeping people at a distance so that there is no direct transmission of the virus.

Najih (2020) found that risk communication is also needed to reduce people's irrational behaviour related to excessive hygiene and healthy living behaviour. For instance, the public will make massive purchases such as hand soap, disinfectant liquid, or wet tissue during a pandemic. Risk communication is a government effort to encourage people to adopt a normal clean and healthy lifestyle instead of panic-based behaviour.

In addition, during this pandemic, risk communication using the word-of-mouth method tends to be more effective than risk communication using mass media advertising. This is because face-to-face or word-of-mouth communication has a two-way interaction that encourages participatory action and dialogue between parties. Advertising is considered subjective and one-way in nature, that it is less attractive to the public. People tend to not trust promotional messages on healthy living behaviours via advertisements (Nasution & Fanani, 2021). Considering findings from previous literature, this study poses two research questions:

RQ1: Is there any relationship between risk communication and personal hygiene habits?
RQ2: Is there any relationship between risk communication and prevention of COVID-19 transmission?

RESEARCH METHODS

This research utilises quantitative research methods which applies an explanatory approach using a survey to find the relationship of risk communication variables at the level of information seeking, media usage, group discussion, personal hygiene habits and prevention of COVID-19 transmission. Thus, this study consists of three variables. These variables are one independent variable (X), namely risk communication and two dependent variables (Y), namely personal hygiene habits (Y1) and physical distancing (Y2). The sampling population in this study is a small group concerned with education for homeless children consisting of teachers that are domiciled in Jakarta, Bogor, and Tangerang City.

The composition of respondents is made up of the club members whose education levels are above high school and college. The respondents work as lecturers, teachers and students, totalling 198 people. Of these, a simple random sampling is used so that a sample size of 132 people is obtained. This study was designed as a web-based survey, conducted in June 2020.

The research has chosen this club because it tends to have more physical contact with other people such as with students and communities outside the campus like homeless children. However, they are also considered a social group that acts as a role model in the community, who obey the rules related to healthy living.

The instrument includes basic information of respondents' socio demographics, sources of information in relation to COVID-19, and personal hygiene habits in preventing COVID-19. The choice of answers uses a nominal scale. Descriptive analysis used a frequency

table (percentage) and to analyse the relationship between variables, an inferential Eta analysis was used. Collected data was entered in MS Excel and analysed by using SPSS-23.0.

The survey collects information about COVID-19, media usage to look for COVID-19 information, the dissemination of information on COVID-19, types of messages, and results of the discussion on COVID-19 to measure risk communication (Robert and Powel, 2010). Meanwhile, questions about how to behave in a clean and healthy life include how to wash hands, how to maintain distance, how to avoid crowds, and the media used in obtaining information on prevention of transmission, and to measure clean and healthy living habits during the COVID-19 pandemic (Kissler et al., 2020).

The researcher distributed questionnaires by using Google Forms. Previously, the researcher made a sampling frame from the population. After compiling the population framework, the researcher determined the type of sampling. The reason for using Google Forms is efficiency. In addition, online surveys are ideal to avoid direct contact with respondents to avoid spreading COVID-19.

Before distributing questionnaires, validity and reliability of the measuring instrument (questionnaire) were tested. The results of the validity and reliability of this study are as follows;

Table 1: Test Results of the Validity and Reliability of the Risk Communication Variables

Variabel	Number	Coefficient	Critical Point	Conclusion
Risk Communication (X)	5	0.375	0.361	Valid
	6	0.390	0.361	Valid
	7	0.746	0.361	Valid
	8	0.736	0.361	Valid
	9	0.758	0.361	Valid
	10	0.876	0.361	Valid
	11	0.607	0.361	Valid
	12	0.466	0.361	Valid
	13	0.407	0.361	Valid
	14	0.876	0.361	Valid
	15	0.876	0.361	Valid
	16	0.447	0.361	Valid
	17	0.527	0.361	Valid
	18	0.736	0.361	Valid
	19	0.876	0.361	Valid
	20	0.693	0.361	Valid
	21	0.679	0.361	Valid
	22	0.629	0.361	Valid
Reliability Coefficient (KR-20)			0.907	
Critical Point			0.700	
Conclusion			Reliable	

The validity test of the nominal scale with risk communication variable uses the point biserial correlation method. The reliability test used was the Kudher Richardson 20 (KR-20). From the test results, eighteen (18) statements produce a validity coefficient > 0.361 which

means that all statements are declared valid. The reliability test results are 0.907, exceeding the critical point (0.700). Therefore, the statement prepared to describe the Risk Communication variable is declared reliable. From these results, the Risk Communication questionnaire prepared has met the valid and reliable requirements.

Table 2: Results of Validity and Reliability Test of Variable Clean and Healthy Living Behaviour

Variable	Number	Validity Coefficient	Critical Point	Conclusion
Clean and Healthy Living Behaviour (Y_1)	27	0,655	0,361	Valid
	29	0,648	0,361	Valid
	30	0,667	0,361	Valid
	31	0,797	0,361	Valid
	32	0,589	0,361	Valid
Reliability Coefficient (KR-20)			0,722	
Critical Point			0,700	
Conclusion			Reliabel	

The validity test of the nominal scale with risk communication variable uses the point biserial correlation method. The reliability test uses the Kudher Richardson 20 (KR-20). From the test results, all five statements produce a validity coefficient > 0.361 which means all statements are declared valid. The reliability test results show the number 0.722, exceeding the critical point (0.700). Therefore, the statement prepared to describe the Clean and Healthy Living Behaviour variable is declared reliable. From these results, the Clean and Healthy Behaviour questionnaire compiled has met the valid and reliable requirements. Meanwhile, the results of the reliability test of this questionnaire are as follows;

Table 3: Results of Validity and Reliability Test of Variable Physical Distancing

Variable	Number	Validity Coefficient	Critical Point	Conclusion
Physical Distancing (Y2)	23	0,741	0,361	Valid
	24	0,709	0,361	Valid
	25	0,610	0,361	Valid
	26	0,686	0,361	Valid
	28	0,669	0,361	Valid
	33	0,588	0,361	Valid
Reliability Coefficient (KR-20)			0,763	
Critical Point			0,700	
Conclusion			Reliable	

The validity test of the nominal scale risk communication variable uses the point biserial correlation method. The reliability test uses the Kudher Richardson 20 (KR-20). From the test results, the six statements produce a validity coefficient > 0.361. Hence, all statements are declared valid. The reliability test results show the number 0.763, exceeding the critical point (0.700). Therefore, the variable of physical distancing behaviour is declared reliable. Based on the results above, the physical distancing behaviour questionnaire has met the validity and reliability requirements.

DATA ANALYSIS

The Task Force for the Acceleration of Handling COVID-19 (in Bahasa Indonesia: *Gugus Tugas Penanganan COVID-19*) has mapped the level of risk of the spread of COVID-19 in every district and city in Indonesia. Chairman of the COVID-19 Task Force for the Acceleration of Handling, Doni Monardo said, there were three categories of regions based on the mapping: red zone, orange zone, yellow zone, and green zone. According to the Chairperson of the Cluster, Green zone means regencies / cities that have not been affected by COVID-19, yellow zone means districts / cities with low risk level, orange zone means districts / cities with moderate risk level, and red zone means districts / cities with levels of risk that are not high. In the red zone, the risk of transmission and the potential for uncontrolled viruses is still high, the epidemic is widespread and many new clusters have emerged. People are asked to stay at home and travel is not allowed (Ramadhan, 2020).

Monardo said that the COVID-19 Task Force for the Acceleration of Handling had prepared strategies for each regional category (COVID-19 Jakarta, n.d.). The red zone is prioritised to be changed to an orange condition, then the orange zone is controlled so that it becomes yellow, and the green zone is maintained so it does not turn yellow or orange. Based on data from the COVID-19 Task Force for the Acceleration of Handling, 102 districts / cities are included in the green zone. Then. 139 districts / cities enter the yellow or medium risk zone, 180 districts / cities enter the orange or medium risk zone, and 85 districts / cities enter the red or high risk zone.

Chief of the Expert Team for the Acceleration of Handling COVID-19, Wiku Adisasmito revealed that there were a number of indicators used to determine the mapping. The indicators are a decrease in the number of positive cases and the number of probable cases (ODP and PDP), a decrease in the number of positive and probable cases that died and are hospitalised. Finally, the positivity rate or number of samples stated to be positive is only 5 percent and the effective reproduction rate is below 1 (one). Monardo stated that the Task Force, in making decisions, would always involve experts, scientists, and guided by international standards.

The following is a map of the distribution of COVID 19 in the area of the target population of this study and the three cities labelled as red zone are Jakarta, Bogor and Tangerang.

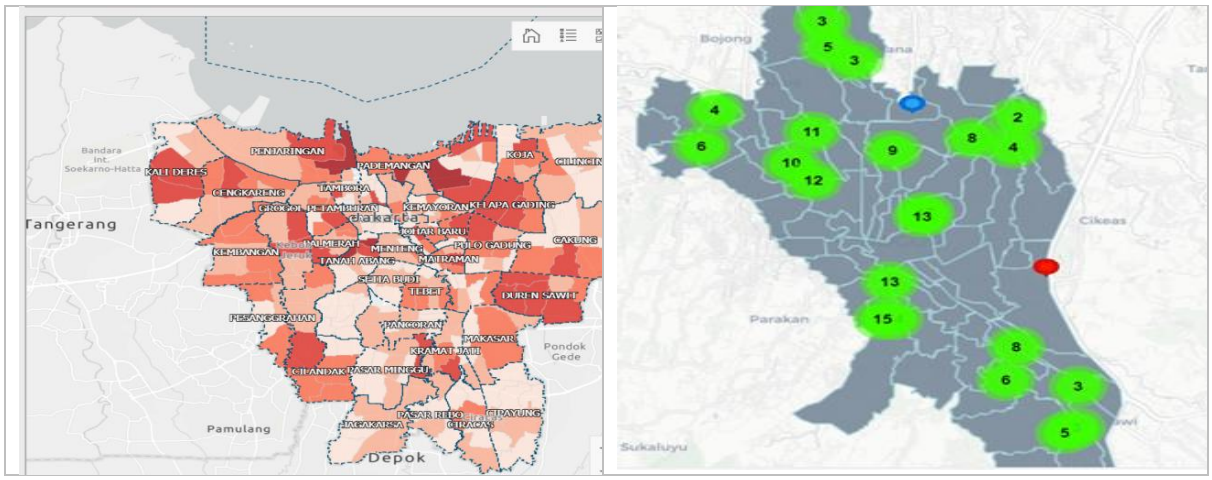

Figure 1: COVID-19 Positive Distributed Map in Jakarta and Bogor per June, 1st 2020
(Source: Dinas Kesehatan Kota Bogor, n.d.)

Figure 1 shows the map of the distribution of positive cases in the cities of Jakarta (picture on the left side) and Bogor (picture on the right side) as of June 1, 2020. The orange-coloured area is an area where there are cases of people infected with COVID- 19. The level of colour density, from the youngest orange to the oldest orange, shows the areas with the fewest COVID-19 cases up to the highest number of COVID-19 cases. Meanwhile, the green dot on the map in Bogor shows that there are cases of people infected with COVID-19.

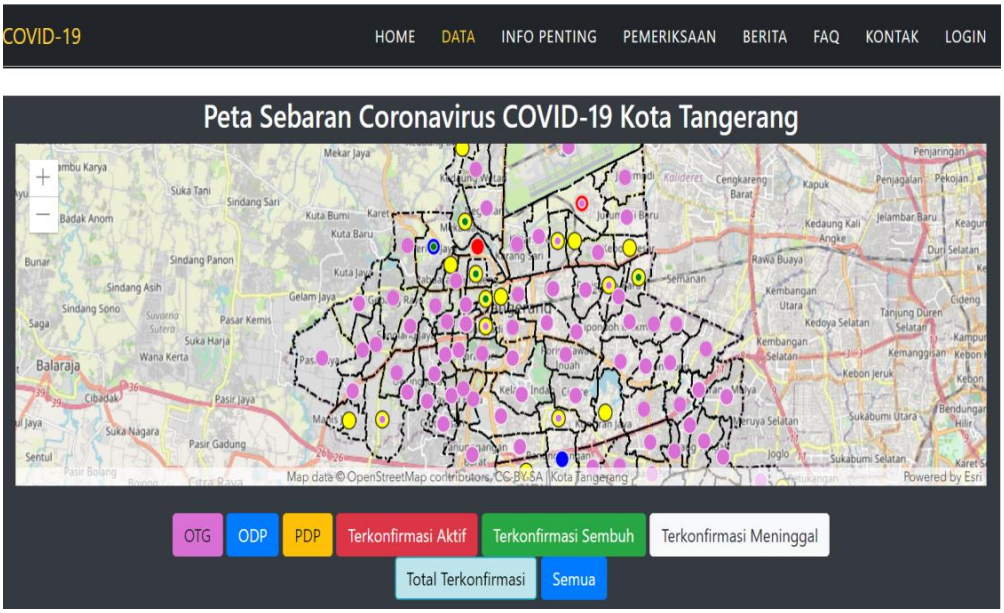

Figure 2: COVID-19 Positive Distributed Map in Tangerang per June, 1st 2020
(Source: Pemerintah Kota Tangerang, n.d.)

On the map of the distribution of cases of COVID-19 in the city of Tangerang shows that the purple dot is an area that is suspected to have many people with asymptomatic COVID-19. The blue dot is indicating the presence of people who are being monitored. Yellow dots indicate there are COVID-19 patients who are being monitored. The green dot indicates areas where the number of COVID-19 patients recovered. Finally, the red dot indicates that someone has been confirmed to be actively exposed to the COVID-19 virus.

A profile of respondents or visitors who consented to answering the questionnaire was developed. The descriptive profiling includes health status, gender, job, and education as shown in table 4. The collated fieldwork data indicates that the majority of respondents are physically healthy (92.4%). Out of 100 respondents in the study, table 4 shows that males (55.3%) made up the most number of visitors as compared to females (44.7%). In terms of job, the majority of respondents work as teachers/lecturers (32.6%) followed by students (24.2%), officers (22.7%), entrepreneurs (12.1%) and others (8.4%). As for educational level, most of the respondents are university/college graduates (78%) and passed senior high school (22%).

Table 4: Demographic Profile of Respondent

No	Category	Information	Percentage (%)
1	Health Status	Health	92,4
		Unknown	7,6
2	Gender	Male	55,3
		Female	44,7

3	Job	Teacher/Lecturer	32,6
		Student	24,2
		Officers	22,7
		Entrepreneurs	12,1
		Others	8,4
4	Education Level	University Graduate	78
		Passed Senior High School	22

Table 5 shows that 45.5% of respondents said they had just heard of COVID-19 in the range of January-February 2020. More than half of the respondents (46.2%) got this information from the Internet. Most respondents trusted more information from the government (56.1%) and paramedics (39.4%). The majority of respondents sought information about COVID-19 for less than 1 hour per day (78%). This information is important to know, considering that many studies have revealed public distrust of government policies during the pandemic.

For example, during the H1N1 pandemic, Barrelet, Bourrier, Burton-Jeangros and Schindler (2013) states that the public lacks trust in information sources originating specifically from the government, the media and the pharmaceutical industry. Meanwhile, in a Swedish survey, people who read about the H1N1 pandemic from tabloids did not trust the information they read compared to information obtained from television (Barrelet et al., 2013).

Table 5: COVID-19 Information Searching Behaviour

No	Category	Information	Percentage (%)
1	When the first time COVID-19 outbreaks in Indonesia	Last 2019	27,3
		January-February 2020	45,5
		March-April 2020	27.3
2	From where the first time COVID-19 outbreaks in Indonesia	Mass media	52,3
		Internet	46,2
		Friends	1,5
3	The most trusted sourced information	Government	56,1
		Paramedics	39,4
		Others	4,5
4	Duration to search COVID-19 info	< 1 hour	78
		1-2 hours	15,2
		>2 hours	6,8

Table 6 shows that 50.8% of the respondents most often look for information related to the COVID-19 pandemic is the latest news about the number of victims every day. Meanwhile, the majority of respondents preferred using WhatsApp or LINE as a medium to spread information about COVID-19 to other parties, be it their friends or family, (72.7%). Most respondents (87.1%) considered that the media that most often spread hoax news about COVID-19 were information from the Internet.

On the contrary, the media which is considered to be the most trustworthy in disseminating information about COVID-19 is mass media compared to the Internet, although the number is almost equal (mass media as much as 48.5% and internet as much as 47%). 68.2% of respondents preferred using chat via WhatsApp and LINE to always connect with friends or family in remote communication compared to social media.

Table 6: Media Usage in COVID-19 Information Searching

No	Category	Information	Percentage (%)
1	The most frequent search COVID-19 information	Latest news about victims	50.8
		Keeping Healthy Info	36.4
		Others	12.8
2	Media usage to spread COVID-19 info	Chatting (WA/LINE)	72.7
		Social Media	15.9
		Others	11.4
3	Considered media to the most often spread hoaxes	Internet	87.1
		Others	12.9
4	Media used to search for truth COVID-19 info	Mass Media	48.5
		Internet	47
		Others	4.5
6	Media used to keep in touch with others during pandemic	Chatting (WA/LINE)	68.2
		Social Media	21.2
		Others	10.6

Table 7 shows that less than 50% of respondents discussed COVID-19 with their partners (47.7%), followed by their families at 37.9%. The results of discussions are usually in the form of how to adjust to pandemic conditions (23.5%), up to date COVID-19 news (18.9%), understanding government instruction (25%), how to keep healthy (15.2%), solution to ward off viruses (14.4%) and others 3%.

This finding shows that most respondents prioritise COVID-19 discussions with those closest to them such as co-workers and family. This supports the findings from Mogaji (2020) that individuals need dependence on family and friends in difficult times as in the case of the COVID-19 pandemic.

Table 7: Place and Results COVID-19 Discussing

No	Category	Information	Percentage (%)
1	The People involved in the discussion COVID-19	Colleague	47,7
		Family	37,9
		Others	14,4
2	The Result of COVID-19 Discussion	Adaptation during pandemic	23,5
		Up to date COVID-19 News	18,9
		Understanding Government Instruction	25
		How to keep Healthy	15,2
		Solution to ward off viruses	14,4
		Others	3

Table 8 shows what equipment they used when leaving the house. Most respondents answered that they only use a face mask (46.2%) followed by the use of face shields, 43.9%. The majority of respondents, 65.9%, washed their hands with soap after handling an object. Meanwhile, the way the respondents washed their hands was almost balanced with those who answered washing their hands as a daily habit (49.2%) and washing their hands in accordance with the government's recommendation of (48.5%).

Table 8: Personal Hygiene Habits during Pandemic COVID-19

No	Category	Information	Percentage (%)
1	Body shields tools when you outside	Just to use face mask	46.2
		Wearing face shield	43.9
		Others	9.9
2	Touching stuffs when you outside	Washing hand after touching stuffs	65.9
		Spraying alcohol/hand sanitiser	15,9
		Wearing hand glove	12,1
		Others	6,1
3	How to wash hand	Washing hand as usual	49,2
		Washing hand as the government suggestion	48,5
		Others	2,3

Table 9 shows that more than 50% of respondents live at home and only shop for basic necessities when leaving home (57.6%). Private vehicles are the most used type of vehicle when leaving the house (93.9%). Most respondents (69.7%) will not go if someone invites them to a celebration. If someone is exposed to COVID-19, 41.7% of respondents will contact the COVID-19 task force. 48.5% of the respondents' reason of going out of the house was only to buy staples. Finally, most of the respondents (77.3%) will only wave when greeting others when outside the home.

Table 9: Physical Distancing for Preventing COVID-19

No	Category	Information	Percentage (%)
1	How to do *Physical Distancing*	Stay at home and only buying primary stuffs when outside	57.6
		Outside activities with keeping a distance	28
		Only stay at home	12.9
		Others	1.5
2	Type of transportation when go outside	Private Car/Motorcycle/Bicycle	93.9
		Others	6.1
3	Response when someone invite attending Event	It will not come	69.7
		Come only one a moment	25.8
		Others	4.5
4	Reaction when someone infected COVID-19	Contact COVID-19 task force	41.7
		Keep physical distancing	22.7
		Stay at Home	15.2
		Help him/her while keep distance	13.6
		Others	6.8
5	Reason if go outside during quarantine time/lock down	For a while to buy staple food	48.5
		Go out while keep distance and using face mask	28.8
		Go out only to work	14.4
		Others	8.3
6	How to greet people during pandemic	Say hello/wave hand	77.3
		Just Smile	16.7
		Others	6

The following are conclusions for the overall risk communication variable. To conclude this, we categorise the answers to each question, which are positive answers (according to expectations / rules) and negative answers. Furthermore, the results of the answer score

recapitulation are categorised into 3 (three) categories: Low (0% -33.3%), Fair (33.4% -66.6%), and Good (66.7% -100%).

This division is to simplify answers from respondents' perceptions of risk communication and hygiene healthy living habits. Initially, the answer simplifies into only two categories; positive and negative. However, this study provides an opportunity for a "middle" answer that is neither positive nor negative with the aim of not being too "black and white" in the answer.

The results of the descriptive analysis conclusions for the risk communication variable are presented in table 10.

Table 10: The Conclusion of Risk Communication Variable

Risk Communication	**F**	**%**
Good (> 66,7%)	117	88.6
Fair (33,4% - 66,6%)	15	11.4
Total	132	100

Based on Table 10, it is known that overall the risk communication undertaken by respondents in this study was mostly categorised as good (88.6%), the rest were categorised as fair (11.4%) and none were categorised as low (0%).

The following are conclusions for overall personal hygiene habits variables. To get this, we categorise the answers to each question, which are positive answers (according to expectations/ rules) and negative answers. Furthermore, the results of the answer score recapitulation are categorised into 3 categories: Low (0% -33.3%), Fair (33.4% -66.6%), and Good (66.7% -100%). The results of the descriptive analysis conclusions for the personal hygiene habits variable are presented in Table 11.

Table 11: The Conclusion of Personal Hygiene Habits

Personal Hygiene Habits	**F**	**%**
Good (66,7%-100%)	23	17.4
Fair (33,4% - 66,6%)	91	68.9
Low (0% - 33,3%)	18	13.6
Total	132	100

Based on Table 11, it is known that overall personal hygiene habits practiced by respondents in this study are majority categorised as fair (68.9%), the rest are categorised as good (17.4%) and low (13.6%).

Next is the conclusion for the overall Physical Distancing variable. To get this, we categorise the answers to each question, which are positive answers (according to expectations/ rules) and negative answers. Furthermore, the results of the answer score recapitulation are categorised into 3 categories: Low (0% -33.3%), Fair (33.4% -66.6%), and Good (66.7% -100%). The results of the descriptive analysis conclusions for the physical distancing variable are presented in Table 12.

A clean and healthy lifestyle during the COVID-19 period is actually the same as a clean and healthy lifestyle outside of COVID-19. However, this behaviour is increasingly emphasised with regard to matters relating to preventing transmission of the Coronavirus. Thus, in accordance with the recommendation of the government of the Republic of Indonesia there

are three things that need to be obeyed to prevent the transmission of the disease, namely: the use of personal protective equipment, maintaining distance or not touching people and objects carelessly while outside the home, and washing hands properly.

Table 12: The Conclusion of Physical Distancing

Physical Distancing	F	%
Good (> 66,7%)	52	39.4
Fair (33,4% - 66,6%)	79	59.8
Less (0% - 33,3%)	1	0.8
Total	132	100

Based on Table 12, it is known that overall the behaviour of physical distancing conducted by respondents in this study are majority categorised fair (59.8%), the rest are categorised good (39.4%) and low (0.8%).

Hypothesis

Questionnaire data from variable X (Risk Communication) and variable Y (Personal Hygiene Habits and Physical Distancing) used a nominal scale. Therefore, hypothesis testing uses the Chi-Square and Spearman Rank. This hypothesis testing is different from hypothesis testing that uses interval data to predict the effect of variable X on variable Y. The following is a hypothesis testing statement;

H0: There is no relationship between Risk Communication and Personal hygiene habits
H1: There is a relationship between Risk Communication and Personal hygiene habits
Error level $\alpha = 5\%$

To test the above hypothesis, for the three ordinal (good-fair-less) periodical data, the Chi Square analysis and Spearman Rank correlation analysis are used and the results are as follows:

Table 13: Relationship between Risk Communication and Personal Hygiene Habits

Risk communication	Personal hygiene habits			Rank Spearman	p-value
	Good	Moderate	Less		
Good	18 (78.3%)	82 (90.1%)	17 (94.4%)		
Moderate	5 (21.7%)	9 (9.9%)	1 (5.6%)	-0.148	0.090
Total	23 (100%)	91 (100%)	18 (100%)		

Based on Table 13, it is known that good personal hygiene habits tend to be dominated by good risk communication skills (78.3%), moderate personal hygiene habits tend to be dominated by good risk communication skills (90.1%), as well as poor personal hygiene habits tend to be dominated by good risk communication skills with a greater percentage (94.4%).The Spearman Rank correlation analysis results show a coefficient of -0.148 which shows the relationship between Risk Communication and personal hygiene habits tends to be negative.

However, the relationship was declared not significant as indicated by the p-value generated at 0.090 (> 0.05). Thus, it can be concluded that risk communication does not have a significant relationship with personal hygiene habits. Following are the results of testing the hypothesis of the relationship between perceptions of Risk Communication and Physical Distancing.

Hypothesis
H0: There is no relationship between Risk Communication and Physical Distancing
H1: There is a relationship between Risk Communication and Physical Distancing
Error level 〈 = 5%

To test the above hypothesis, for the two ordinal (good-enough-less) periodical data, the Chi Square analysis and Spearman Rank correlation analysis was used and the results are as follows:

Table 14: Relationship between Risk Communication and Physical Distancing

Risk communication	Physical distancing			Rank Spearman	p-value
	Good	Moderate	Less		
Good	47 (90.4%)	70 (88.6%)	0 (0%)		
Moderate	5 (9.6%)	9 (11.4%)	1 (100%)	0.070	0.426
Total	52 (100%)	79 (100%)	1 (100%)		

Based on Table 14, it is known that good physical distancing tends to be dominated by good risk communication skills (90.4%), moderate physical distancing tends to be dominated by good risk communication skills (88.6%). While the behaviour of maintaining a good distance is dominated by moderate and good risk communication (100%).

Spearman Rank correlation analysis results show a coefficient of 0.070 which shows the relationship between Risk Communication and Physical Distancing tends to be positive (good risk communication tends to be followed by a good physical distancing too), but the relationship is declared not meaningful as indicated by the p-value yielded 0.426 (> 0.05). Thus it can be concluded that risk communication does not have a significant relationship with physical distancing.

SUMMARY AND DISCUSSION

The limitation of this study is that the population studied is only a small community domiciled in three areas (Jakarta, Bogor, and Tangerang). Thus, the results of this study cannot be generalized to describe the real situation in a large population likewise in urban or rural areas. The findings of this study indicate that the public's perception of risk communication carried out by the government is not related to personal hygiene habits.

However, if people's perception of risk communication is positive, then their personal hygiene habits are also positive. It is suspected that personal hygiene habits had indeed been applied by respondents before this pandemic existed. The statement can be described in the following conclusions; first, the general description of risk communication, personal hygiene habits and physical distancing to prevent transmission of the COVID virus 19. Overall perceptions of risk communication at all levels, both government and media, by the majority

of respondents in this study were well categorised. The rest are categorised pretty good and no one is categorised as bad. In the conclusion of this study, it is suggested that the general population had good understanding regarding COVID-19 during the outbreak. Most of the respondents were from the good health status category. In this study, most of them completed their study at university and at senior high school, this could be a reason for adequate knowledge.

Secondly, the relationship of risk communication and personal hygiene habits to prevent transmission of the COVID-19. The results show that the relationship between risk communication and personal hygiene habits tended to be negative, but the relationship was declared meaningless. Thus it can be concluded that risk communication does not have a significant relationship with personal hygiene habits.

Third, the relationship between risk communication and physical distancing in order to prevent transmission of the COVID-19. The results show that the relationship between Risk Communication and physical distancing tend to be negative, but the relationship is declared meaningless. Thus, it can be concluded that risk communication does not have a significant relationship with physical distancing behaviour.

Based on the conclusions drawn from the results of data analysis, the authors try to provide the following recommendations; first, in principle, respondents understand well the risk communication carried out by the government as well as the risk communication transmitted through the media. However, a good understanding of them was not related to personal hygiene habits.

There could be two possibilities for this. The risk communication strategy is indeed not related to personal hygiene habits and maintaining distance is normally done by respondents. The second possibility is a risk communication strategy, both at the government level and the use of media is not successful in encouraging respondents to do personal hygiene habits and personal distancing to prevent transmission of COVID-19. It is true that personal hygiene habits and preventing transmission by physical distancing are influenced by other factors and have nothing to do with risk communication. Therefore, the first suggestion is the need for further studies to find out why risk communication is not related to personal hygiene habits and physical distancing. Is there really a "failure" in composing the message? Or a mistake in media selection?

The second suggestion is that the government needs to evaluate the risk communication strategy undertaken so that it can better encourage the public (as reflected by respondents) to conduct personal hygiene habits in order to prevent transmission of the COVID-19. Risk communication can no longer be seen as narrowly only as the dissemination of information about a health crisis, but also includes all government policies issued to sectors affected by the crisis. Communicating a risk to people who are concerned about an issue in normal times is easy, even though the communication strategy is not the best.

Conversely, communicating in the midst of danger, in a narrow time, with an audience under pressure, and communication tools that really need to be selected properly, with data and information that still needs to be verified and a low level of trust is work that is draining attention and resources. This is an effort that needs to be strengthened by the government. Therefore, this pandemic is a good opportunity to write key notes in preparing for the next crises.

BIODATA

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