23. Information needs among Indonesian people related to covid

by Budi Aji

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Information Needs Among Indonesian People Related to COVID-19

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Abstract. This is an online survey research of 816 respondents aged ≥ 18 years throughout Indonesia, aiming at analyzing the information seeking behavior during the COVID-19 pandemic in Indonesia. This is a descriptive analytic research with cross-sectional design, aiming at describing the information seeking behavior of Indonesian people during the COVID-19 pandemic. The sociodemographic data and the respondents' information seeking behavior were analyzed descriptively, and then using the Chi-Square Test. Significant results ($p<0,05$) were found in the relationship between age and marital status with the information seeking behavior about the transmission of COVID-19 in Indonesia, the number of infected people in Indonesia, and the number of infected people in the world. This research results can be used as a reference for related parties in providing information about COVID-19 to be able to consider the age group and community marital status, thus it is expected to influence knowledge as well as to increase the behavior of preventing community against the COVID-19 transmission.

Keywords: COVID-19, information needs, behavior.

1 Introduction

COVID-19 spread rapidly and resulted in an epidemic throughout China, followed by a global pandemic [1], [2]. 11 March 2020, WHO declared the COVID-19 virus outbreak a pandemic. The number of cases increased rapidly and spread to many countries in a short time. As of 9 October 2020, WHO reported 36,237,403 confirmed cases with 1,054,868 deaths worldwide [3]. Indonesia reported its first case on March 2, 2020. These cases quickly spread and increased throughout Indonesia [4]. As of 9 October 2020, the COVID Task Force reported 324,658 confirmed COVID-19 cases with 11,677 deaths [5]. 51.5% of cases occurred in men, mostly occurred in those who were between 31 to 45 years old, and the least occurred in those who were between 0 to 5 years old, with the highest mortality rate found in patients who were ≥ 60 years old [5].

COVID-19 is a new pandemic event with a rapid increase in the number of confirmed cases and deaths worldwide, which has increased the demand for communication-based interventions [6]–[8]. The most common communications for the public to follow, as well as COVID-19 information that are always updated are available on the official WHO website and government portals (COVID-19 Task Force and The Ministry of Health of the Republic of Indonesia). Lack of knowledge about the pandemic, underinformation, misinformation, and fake news can increase the risk of serious consequences caused by the nature of the emerging infectious disease (COVID-19) which can lead to widespread fear in public. Developing countries like Indonesia continue to fight against pandemics, also against info-epidemics where digital information

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Science for Handling the Effects of Covid-19, Facing the New Normal, and Improving Public Welfare

continues to face various challenges. The high demand for proper health information during this important period is a common concern in public health [6]. Research on COVID-19 in Shanghai is very demanding of knowledge and preventive and protective measures from COVID-19, and prefers to acquire knowledge of COVID-19 through the official health apps, Weibo, and WeChat [9]. Recent research on COVID-19 in Vietnam has illustrated the importance of citizens being equipped with knowledge, attitudes, and behaviors for prevention from COVID-19, by providing this type of information through government portals, mass media, websites, mobile applications, and SMS notifications about COVID-19 symptoms and prevention, enhanced through widely disseminated messages [6]. Although many influence health-related behaviors, awareness of the risks to make changes in people's behaviors is a key element in improving individual health and public health status in order to avoid COVID-19. The importance of health information seeking behavior is supported by the existence of social media designed as health promotion and education related to information and questions about COVID-19. The COVID-19 information seeking behavior will support and influence individual behavior for health-awareness changes to increase the awareness about attempts to handle and prevent COVID-19 [10].

2 Method

2.1 Desain Study

The cross-sectional study design was used to analyze the information seeking behavior during the COVID-19 pandemic in Indonesia. The data were collected through online surveys.

2.2 Location

This research was carried out online on August 13 to 20, 2020, reaching throughout Indonesia.

2.3 Materials

The questionnaire consists of 8 items, categorized into two parts: 1) the sociodemographic data of the respondents (name, gender, age, marital status, education, and occupation), and 2) the respondents' information needs (searching for information about COVID-19).

2.4 Law Source

This research was approved by the Ethics Review Board of Yogyakarta Ahmad Dahlan University, Indonesia (Ethics Approval Code: 012008029).

2.5 Data Collection

This cross-sectional research was designed to collect data from all over Indonesia through online survey. The data were collected through filling in Google Form where the link was circulated to networks of friends and colleagues via various personal messages on WhatsApp, groups, and social media platforms (Facebook and Instagram) during the research period. The validity of these data was controlled by limiting each account to only one response. For the incomplete answers, we confirmed them via WhatsApp or phone calls. At the end of the survey, the link was closed, and the response data were downloaded for the analytic descriptive analysis. Data cleaning was done for the respondents' incomplete answers, and the respondents who did not meet the research criteria: those who were under 18 years old, and those who lived abroad.

2.6 Data Analysis

The sociodemographic data and the respondents' information needs were analyzed descriptively, followed by analytic analysis using the Chi-Square Test.

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Science for Handling the Effects of Covid-19, Facing the New Normal, and Improving Public Welfare

3 Result and Discussion

This online survey received a total of 858 respondents, however, only 816 responses were considered valid because 37 respondents were excluded from this research. There was such exclusion made for the respondents who were under 18 years old, unwilling to be respondents, and living abroad.

Based on socio-demography, the characteristics of the respondents indicated that the majority of the respondents were women (73%), and the rest were men (27%). Most of the respondents were in the age group of 18 to 29 years old (56.9%). The detail sociodemographic information of the respondents is presented in Table 1.

Table 1. Sociodemographic Characteristics of Respondents (n = 816)

Characteristic	Total (n = 816)	Percentage (%)
Sex		
Male	220	27,0
Female	596	73,0
Age		
18 to 29 years old	464	56,9
30 to 49 years old	315	38,6
> 49 years old	37	4,5
Marital Status		
Single	421	51,6
Divorce	10	1,2
Married	385	47,2
Education		
Senior High School	270	33,1
D1-D4 (Diploma Program)	81	10,0
Undergraduate Program (S1)	341	41,8
Graduate Program (S2)	113	13,8
Postgraduate Program (S3)	11	1,3
Scope of Occupation		
Unemployment	327	40,1
Student	46	5,6
Government sector and state-owned enterprises (BUMN)	209	25,6
Non-government private sector	179	22,0
Entrepreneur/own business	53	6,5
Retiree	1	0,1
Day laborer	1	0,1

The health information needs about the transmission of COVID-19 in Indonesia, and the number of infected people in Indonesia as well as in the world, are presented in Table 2. In this question, respondents may choose more than one answer.

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Proceding of the International Conference on Intellectuals' Global Responsibility 2020 (ICIGR):
Science for Handling the Effects of Covid-19, Facing the New Normal, and Improving Public Welfare

Table 2. Health Information Needs about COVID-19

Characteristic	Total	Percentage (%)
Information on the transmission of COVID-19 in Indonesia	474	58,1
Information on the number of infected people in Indonesia	504	**61,8**
Information on the number of infected people in the world	309	37,9

Table 3. Correlation between Socio-Demography and Information Needs on Covid-19 Transmission in Indonesia

Variable	Seeking for Information about COVID-19 Transmission in Indonesia				Total		P value
	No		Yes				
	n	%	n	%	n	%	
Sex							
Male	103	30,1	117	24,7	220	27	0,1
Female	239	69,9	357	75,3	596	73	
Age							
18-29 years	170	49,7	294	62	464	56,9	**0,002**
30-49 years	155	45,3	160	33,8	315	38,6	
>49 years	17	5	20	4,2	37	4,5	
Marital Status							
Single	159	46,5	262	55,3	421	51,6	**0,031**
Divorce	6	1,8	4	0,8	10	1,2	
Married	177	51,8	208	43,9	385	47,2	
Education							
Senior High School	115	33,6	155	32,7	270	33,1	0,764
D1-D4 (Diploma Program)	36	10,5	45	9,5	81	9,9	
Undergraduate Program (S1)	145	42,4	196	41,4	341	41,8	
Graduate Program (S2)	41	12	72	15,2	113	13,8	
Postgraduate Program (S3)	5	1,5	6	1,3	11	1,3	
Scope of Occupation							
Unemployment	142	41,5	185	39	327	40,1	0,651
Student	15	4,4	31	6,5	46	5,6	
Government sector and state-owned enterprises (BUMN)	87	25,4	122	25,7	209	25,6	
Non-government private sector	76	22,2	103	21,7	179	21,9	
Entrepreneur/own business	21	6,1	32	6,8	53	6,5	
Retiree	1	0,3	0	0	1	0,1	
Day laborer	0	0	1	0,2	1	0,1	

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Proceding of the International Conference on Intellectuals' Global Responsibility 2020 (ICIGR):
Science for Handling the Effects of Covid-19, Facing the New Normal, and Improving Public Welfare

Table 4 shows a correlation between socio-demography (age and marital status) and the need for information on the number of infected people in Indonesia and the need for information on the number of infected people in the world (p <0.05).

Table 4. The Correlation between Socio-demographic and the Need for Information on the Number of People Infected by COVID-19 in Indonesia and the Need for Information on the Number of People Infected by COVID-19 in the World

Variable	Seeking for Information about the Number of Infected People in Indonesia				Total		P Value	Seeking for Information about the Number of Infected People in the World				Total		P Value
	No		Yes					No		Yes				
	n	%	n	%	n	%		n	%	n	%	n	%	
Sex														
Male	92	30	128	25,4	220	27	0,231	132	26	88	28,5	220	27	0,495
Female	220	71	376	74,6	596	73		375	74	221	71,5	596	73	
18-29 years	150	48	314	62,3	464	56,9	0,0	254	50,1	210	68	464	56,9	0,0
30-49 years	145	47	170	33,7	315	38,6		220	43,4	95	30,7	315	38,6	
>49 years	17	5,4	20	4	37	4,5		33	6,5	4	1,3	37	4,5	
Marital Status														
Single	132	42	289	57,3	421	51,6	0,0	231	45,6	190	61,5	421	51,6	0,0
Divorce	5	1,6	5	1	10	1,2		8	1,6	2	0,6	10	1,2	
Married	175	56	210	41,7	385	47,2		268	52,9	117	37,9	385	47,2	
Education														
Senior High School	93	30	177	35,1	270	33,1	0,304	154	30,4	116	37,5	270	33,1	0,163
D1-D4 (Diploma Program)	35	11	46	9,1	81	9,9		57	11,2	24	7,8	81	9,9	
Undergraduate Program (S1)	138	44	203	40,3	341	41,8		219	43,2	122	39,5	341	41,8	
Graduate Program (S2)	40	13	73	14,5	113	13,8		69	13,6	44	14,2	113	13,8	
Postgraduate Program (S3)	6	1,9	5	1	11	1,3		8	1,6	3	1	11	1,3	
Scope of Occupation														
Unemployment	115	37	212	42,1	327	40,1	0,103	198	39,1	129	41,7	327	40,1	0,189
Student	15	4,8	31	6,2	46	5,6		24	4,7	22	7,1	7,1	5,6	
Government sector and state-owned enterprises (BUMN)	80	26	129	25,6	209	25,6		143	28,2	66	21,4	21,4	25,6	
Non-government private sector	72	23	107	21,2	179	21,9		111	21,9	68	22	22	21,9	

Procedia of Social Sciences and Humanities

Proceding of the International Conference on Intellectuals' Global Responsibility 2020 (ICIGR):
Science for Handling the Effects of Covid-19, Facing the New Normal, and Improving Public Welfare

Entrepreneur/own business	29	9,3	24	4,8	53	6,5		30	5,9	23	7,4	7,4	6,5
Retiree	0	0	1	0,2	1	0,2		1	0,2	0	0	0	0,1
Day laborer	1	0,3	0	0	1	0,1		0	0	1	0,3	0,3	0,1

Based on the research results, it is shown that the need for health information about COVID-19 for the Indonesian people is still quite high. This can be seen from the percentage of the needs for information about the number of infected people in Indonesia (61.6%), the transmission of COVID-19 in Indonesia (57.9%), and the number of infected people in the world (37.8%). The need for information during the COVID-19 outbreak in previous studies in Vietnam is still high (76.0%). It is shown that respondents want "the latest information related to the COVID-19 pandemic, which is about symptoms (63.9%), the latest news about the outbreak (61.0%), and information while traveling during the pandemic (18.5%) [6]. Other research regarding the needs for information states that more than 90% of Chinese respondents want the additional health information about COVID-19. The information is commonly with regard to transmission routes, availability and effectiveness of drugs/vaccines, travel advisors, experience abroad dealing with COVID-19, the number of cases and locations, suggestions about prevention of COVID-19, other information (for example, for people with chronic disease), information about outbreaks in the local area, and symptoms of COVID-19 infection [11].

The results show that the younger age group (18 to 29 years old) preferred seeking health information about "the COVID-19 transmission in Indonesia, the number of infected people in Indonesia, and the number of infected people in the world" compared to other age groups (30 - 49 years and > 49 years). This is because young people have more means to access health information from the government, the ministry of health, websites, social media, mass media, SMS, and telephone-based applications [6]. Based on data from the Indonesian Internet Service Providers Association (APJII) in 2017, 49.52% of 143.26 million internet users were dominated by millennial generation at the age of 19 to 34 years old [12]. This further confirms the correlation between age and behavior of seeking for information about COVID-19, especially on the transmission of COVID-19 in Indonesia, the number of infected people in Indonesia, and the number of infected people in the world (p < 0.05). Another study in China reports that late adolescences are more likely to engage in risk-taking behavior.

The majority of women choose to search for information about COVID-19 (information on the transmission of COVID-19 in Indonesia), which is 75.3% or 50.5% greater proportion when compared to men. According to data from the Indonesian Internet Service Providers Association (APJII) in 2017, men used the internet more to get news, sports, and weather information, while women used the internet more for e-mails and information about health and religion. This research is in line with the fact that women seek more information, especially about health [12]. This is not in line with a research in China confirming that the risk behavior of not wearing masks and going to crowded places during the pandemic is mostly done by men [13]. It is possible for the majority of women to search for information (found in one study) that women suffer greater psychological impact from the epidemic, and have higher levels of stress, anxiety, and depression [11]. This finding is in line with the previous studies stating that women are at higher risk of experiencing depression [11], [14]. These results strengthen the research that there is a correlation between gender and the need for information about COVID-19, namely seeking information about the transmission of COVID-19 in Indonesia. Women seek more of this information because the likelihood of experiencing anxiety is higher than that of men. This finding is in line with previous studies that women are more likely to experience anxiety than men [15], [16]. Anxiety occurs when people implement the physical distancing policy (PSBB)

Procedia of Social Sciences and Humanities

Proceding of the International Conference on Intellectuals' Global Responsibility 2020 (ICIGR):
Science for Handling the Effects of Covid-19, Facing the New Normal, and Improving Public Welfare

in Indonesia, spending time viewing or listening to information through mass media or social media. Research in Northern Nigeria at the time of the COVID-19 outbreak, people implement locked down and spend time looking for information through social media (WhatsApp, Facebook), watching TV/movies, and reading books, causing respondents to feel bored and nervous, even afraid and stressed of this COVID-19 pandemic situation [17]. Previous research in India states that there is a significant correlation between gender and the practice of COVID-19 prevention behavior, especially that women have a higher knowledge score about COVID-19 than men [18]. This confirms that women have a greater level of curiosity about COVID-19, especially in seeking information about COVID-19.

In the sub-group of respondents, bachelor's degree graduates tend to have an interest in seeking information regarding how COVID-19 is transmitted in Indonesia and the number of people infected with COVID-19 in Indonesia and in the world compared to groups with lower educational levels. This is because the respondents graduated from bachelor's degree program search for information prior to the survey. Respondents with high education and concerns about COVID-19 have high awareness, so they will seek and obtain information much faster than groups with less education [6]. Higher education will make a person aware of the needs of information, especially when this pandemic occurs. The results of this study are in line with the findings of a research in China regarding the application of knowledge, attitudes, and behavior towards COVID-19 of the majority of female respondents with undergraduate education who have higher knowledge of COVID-19 compared to those with lower education [13]. The high knowledge of the Chinese people raises a precautionary attitude by avoiding crowded places (96.4%) and wearing masks when leaving the house (98%) during the COVID-19 outbreak period. The situation of the COVID-19 pandemic and the extraordinary news indicates public health emergency, encouraging highly educated Chinese people to actively learn about this infectious disease from various information channels such as the official website, China's National Health Commission, and official WeChat account of the Wuhan Municipal Health Commission [13].

These results strengthen the correlation between education level and the needs of information about COVID-19. People who have high education and are at a young age tend to have positive attitude towards COVID-19 because they have knowledge of COVID-19 and classifying groups of people who are vulnerable to COVID-19. In Chinese society, older adults and rural people have inadequate knowledge, negative attitudes, and inappropriate prevention of behavior towards COVID-19 [13]. High knowledge also affects someone who participates in health surveys, especially bachelor's degree graduates, who are also educated, have social media and can access the internet by understanding its use, especially in seeking information about COVID-19 in English [17]. A research in Saudi Arabia also shows the same thing. Respondents with higher education will know about the emerging infectious diseases through updated information about COVID-19 [19], [20].

The results show that there is a correlation between marital status and the need for information of COVID-19 transmission in Indonesia and the number of infected people in Indonesia and in the world (p <0.05). Based on this study, the majority of more than 50% of unmarried respondents are aware of the importance of knowledge about COVID-19. In accordance with the previous research conducted in Nigeria, it is shown that the unmarried group has the awareness to seek knowledge about COVID-19 [17]. This is in contrast to a research conducted in India, where married respondents have a higher knowledge than unmarried couples [21] because married couples pay more attention to their surrounding families, especially in terms of family health. Thus, the unmarried couples seek information

Procedia of Social Sciences and Humanities

Proceding of the International Conference on Intellectuals' Global Responsibility 2020 (ICIGR):
Science for Handling the Effects of Covid-19, Facing the New Normal, and Improving Public Welfare

about the implementation of COVID-19 prevention through self-quarantine, transmission of COVID-19 to families, and protection measures for family members against COVID-19 [15].

In this research, the majority of respondents are 18-29 years old and most of them have high education, namely undergraduate graduates. This shows that most of them are young people. As reported by the International Labor Organization (ILO), there has recently been discussion about the impacts of COVID-19 pandemic on young people, who are already vulnerable to the labor force crisis prior to this pandemic. Those impacts are the recent emergence of massive job losses and the rise of certain pre-requisite jobs, causing particularly troubling impact on young people around the world [22]. The economic crisis during the COVID-19 has increased unemployment since 2019 before the COVID-19 outbreak took place, showing that 1 of 5 young people below 25 years as many as 267 million young people worldwide are classified as Not in Education, Employment, or Training (NEET)/not in work, education or training [23]. The International Labor Organization (ILO) predicts that around 25 million jobs worldwide could be lost due to the impact of the COVID-19 pandemic [24]. The COVID-19 pandemic has caused 15.6% of workers in Indonesia to be laid off, and even 13.8% did not get severance pay. The majority of laid-off workers are in the 15-24 year age group [25]. It strengthens the research that the majority of respondents are unemployed and at the age of 18-29 with a bachelor's degree, which is probably due to the impact of COVID-19 on the economic crisis, and thus many young people find it difficult to find work nowadays [26]. On the contrary, a research in Vietnam explains that respondents with undergraduate tertiary education are more likely to have jobs with income that enables them to face the pandemic for a longer time and have less concern due to the fact that higher education levels are associated with job stability and higher income [6], [27]. The pandemic with a national lockdown policy has a greater impact to the low-educated groups with lower income. Thus, they are more motivated to seek more sources of information about COVID-19 [6]. These results confirm that there is a correlation between work and the need of seeking for information about COVID-19.

One of the preventions done by Indonesian people is accessing information about COVID-19 infection. Social media as the source of news about COVID-19 most accessed by almost 80% of respondents includes WhatsApp, Line, Instagram, and Facebook [28]. According to the Ministry of Women Empowerment and Child Protection, accessing social media is the main reason for millennial generation to access the internet (83.23%), followed by the other reasons, namely getting information/news (68.01%) and getting entertainment (46.81%). This makes COVID-19 a global news phenomenon because access to social media occurs every second, so it spreads easily and quickly [28]. According to the adaptation theory, a good level of knowledge can encourage someone to have good attitude and behavior. Attitude is not created without being preceded by the acquisition of information or experience relaying to an object [28], [29]. This is in line with previous research stating that there is a significant relationship between knowledge and behavior of individuals regarding COVID-19 [28], meaning that someone with good knowledge will gain behavior to seek more information through COVID-19.

4 Conclusion

The current COVID-19 pandemic has raised public panic in the world, including Indonesia, affecting knowledge, attitude, and behavior of individuals in dealing with the pandemic. Attitude is not created without being preceded by the acquisition of information or experience relaying to an object. You women experience anxiety more easily, especially during the current pandemic. Furthermore, supported by higher education, they tend to behave more carefully to face the COVID-19 pandemic, encouraging them to seek for information about COVID-19. The

Procedia of Social Sciences and Humanities

Proceding of the International Conference on Intellectuals' Global Responsibility 2020 (ICIGR):
Science for Handling the Effects of Covid-19, Facing the New Normal, and Improving Public Welfare

search for information about COVID-19 has a significant correlation with socio-demographics of respondents, such as age and marital status. Researchers advise the health authorities to improve the process of sending messages and updating information related to this disease through the right media with the target of appropriate population groups to improve COVID-19 prevention behavior in the community.

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