Relationship Between Disease History and Fear Level During COVID-19 Pandemic in Bogor City Area

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Abstract

Background: COVID-19 pandemic is a major concern in almost all countries in the world, including in Indonesia. The number of COVID-19 confirmed cases in the worldwide as of July 20, 2021 was 192 million cases with 4.13 million deaths. West Java province of Indonesia became one of the highest COVID-19 contributors with 6,928 cases in one day. This very rapid increase has caused psychological impact in society. Some people became more afraid to get infected with COVID-19 while some others started to get careless in performing health protocols. COVID-19 imposes more threat to people with previous diseases and could also raise fear and anxiety during the outbreak. **Objective:** The purpose of this study was to determine the relationship between disease history and fear level of COVID-19 in Bogor City area. **Methodology:** The research method used was analytical survey with a cross-sectional approach. The sampling technique was snowball sampling with total of 515 participants aged more than 18 years old. The instrument in the study was an online questionnaire using a Google Form. Data analysis performed was univariate and bivariate analysis with chi square test. **Result:** Out of 515 participants, 431 respondents (83.7%) had no disease history and 411 respondents (79.8%) had moderate fear level of COVID-19. The results of the chi square test show the p-value = 0.000. **Conclusion:** There was a relationship between disease history and fear level of COVID-19 in in Bogor City area.

Keywords: *COVID-19, Disease history, Fear level*

Introduction

Coronavirus disease 2019 (COVID-19), an infectious respiratory syndrome caused by the novel coronavirus SARS-CoV-2, has spread across many countries since January 2020, including Indonesia. Corona virus is a virus that causes disease in humans and animals. In humans, it usually causes respiratory tract infections, ranging from fever, cold, cough to flu. The COVID-19 is a virus that related to SARS (severe acute respiratory syndrome) which occurred in China in 2002, and MERS (Middle-East respiratory syndrome) which occurred in Middle East in 2012 [1].

COVID-19 is a major concern in almost all countries in the world, including Indonesia. The number of COVID-19 cases in the world as of

July 20, 2021 was 192 million with 4.13 million deaths. In Indonesia, the first COVID-19 case was found in March 2020 and has been increasing ever since. As of 20 July 2021, the detected positive COVID-19 cases have increased from 38,325 cases to 2,950,058 cases. Death cases increased by 1,280 to 76,200 patients, while recovered cases also increased by 29,791 to 2,323,666 cases. Meanwhile, West Java Province was one of the regions with high cases report [2].

The rapid COVID-19 cases increase caused unrest in the community with psychological shocks began to be present in the community. Fear is an emotional symptom that gives feelings of discomfort, anxiety, and worry about something that will happen that is felt to be threatening, which can be caused by an environment that can prevent a person from getting the desired goal [3].

In a survey conducted by the American Psychiatric Association (APA) in more than 1000 adults, it was found that 48% of respondents were worried that they would contract the COVID-19[4]. Around 40% are worried that they will become seriously ill or die from COVID-19, and 6% are worried that their family or loved ones would be infected, 59% of the community said the effects of COVID-19 were quite severe for their daily lives[4].

Various conditions that occurred during the COVID-19 pandemic had psychological effect on the community[5]. This is because the COVID-19 pandemic has become a heavy stressor. Anxiety is a common response that occurs during times of crisis. Anxiety is a general condition of fear or discomfort characterized by a variety of symptoms, which include physical, behavioral and cognitive symptoms. Physical symptoms involve shivering and tightness in the abdomen or chest, heavy sweating, sweaty palms, headache, dry mouth, shortness of breath, rapid heartbeat, cold fingers or limbs and nausea. Behavioral symptoms include avoidance behavior, dependent behavior and restless behavior[6]. Cognitive symptoms include worry, feeling afraid or anxious about the future, thinking too much or being very alert to sensations that arise in the body, and fear of losing control[6].

Fear level of COVID-19 varies in every person. Various factors including demographic factors, perceptions of the risk of exposure may also affect a person's level of fear[7]. According to Saptaputra et al (2020), a history of comorbidities will underlie a person to be more susceptible to contract COVID-19 and develop severe and clinically worseni condition compared to those who do not have comorbidities[8].

This study is aimed to determine the relationship between disease history and fear level during COVID-19 pandemic in Bogor City area.

Materials and Methods

Study Design

This research was an analytical survey research with a cross-sectional approach. The study was conducted in Bogor City area. The sampling technique used snowball sampling[9]. The online questionnaire was developed using Google Forms. In the questionnaire there was an approval section, so that only participants who agreed to the informed consent and those aged more than 18 years could fill out the questionnaire. The questionnaire link was sent via WhatsApp application. Participants were also encouraged to share the link with as many other people as possible,

including their friends and relatives. There were 39 questions in the questionnaire and it took approximately 5 to 10 minutes to complete all the questions. The questionnaire section which involved the disease history such as hypertension, hipercholesterol, diabetes, fatty liver, stroke, heart disease, hyperglycemia, insomnia, eczema, parkinson's disease, autoimmune disease, epilepsy, hearing disorder, asthma, and neurological disease.

There were 11 questions asked regarding the level of fear, which included fear of contracting COVID-19, cancer, stroke, heart attack, no social interaction, animals/insects, traffic jam, loss of family members, natural disaster, loss of cellphone, and loss of job. The answers of fear level were in Likert scale, ranging from scale 0 to 10 with 0 as the lowest fear scale and 10 as the highest fear scale.

Data Sources and Settings

The questionnaire has gone through the validity and reliability test stages of 20 participants in June to July 2020 with valid and reliable categories. All participants who were adults (more than 18 years old) and have access to the internet can participate in this study. The questionnaire was prepared in Bahasa Indonesia. Data collection process started from August 1, 2020 to December 31, 2020 with total of 515 participants. The collected data were checked for completeness of the answers. If there was an ambiguous response or no answer, then the data was eliminated.

Statistical Analysis

Data were analyzed using SPSS version 23. The univariate data was analyzed using frequency distribution and bivariate data using chi square test. The *p-value* < 0.05.

Result

Table 1. Characteristics of participants based on age, education, and occupation

Characteristics	Amount	Percentage (%)
Age		
18-24 years old	463	89.9
25-29 years old	25	4.9
30-34 years old	1	0.2
30-34 years old	10	1.,9
35-39 years old	7	1.4
40-44 years old	2	0.4
45-49 years old	1	0.2
50-54 years old	3	0.6
55-59 years old	2	0.4
65 years old or older	1	0.2
Education		
Low education level	99	19.2
High education level	416	80.8
Profession		
Student	448	87.0
Looking for a job	5	1.0
Employee	48	9.3

Self-employed	12	2.3
Housewife	2	0.4
Total	515	100

Based on the table above, out of 515 participants, 463 participants (89.9%) were in the age range 18-24 years old (89.9%), 416 participants (80.8%) had high education level, and 448 participants (87%) were students.

Table 2. Results of univariate analysis

Variable	Amount	Percentage (%)
Diseases History		
No disease	431	83.7
Depression	3	0.6
Stomach ulcer/gastritis	56	10.9
Hypertension	2	0.4
Chronic obstructive pulmonary disease	2	0.4
High cholesterol	7	1.4
Fatty liver disease	2	0.4
Insomnia/ Sleep Disorders	7	1.4
High Blood Sugar Level	3	0.6
Auto immune disease	2	0.4
Fear Level		
High	16	3.1
Medium	411	79.8
Low	88	17.1
Amount	515	100

The table above showed that of the 515 respondents, 83.7% (431 respondents) had no history of diseases, and 79.8% (411 respondents) had a medium level of fear toward COVID-19.

Table 3. Relationship between Disease History and Fear Level of COVID-19

Variable		Fear Level								P-value
		Low		Medium		HIgh				
		f	%	f	%	f	%	f	%	
Disease History	No disease	69	13.4	349	67.8	13	2.5	431	83.7	0.000
	Depression	1	0.2	2	0.4	0	0	3	0.6	
	Gastritis	7	1.4	47	9.1	2	0.4	56	10.9	
	Hypertension	0	0	2	0.4	0	0	2	0.4	
	Chronic obstructive pulmonary disease	0	0	2	0.4	0	0	2	0.4	
	High cholesterol	6	1.2	1	0.2	0	0	7	1.4	
	Fatty liver disease	2	0.4	0	0	0	0	2	0.4	
	Insomnia/ Sleep Disorders	0	0	6	1.2	1	0.2	7	1.4	
	High Blood Sugar Level	2	0.4	1	0.2	0	0	3	0.6	
	Auto immune disease	1	0.2	1	0.2	0	0	2	0.4	
	Total	88	17.1	411	79.8	16	3.1	515	100	

Based on the table 3, out of 515 participants, 349 participants (67.8%) had no history of disease and moderate level of fear toward COVID-19. The results of the chi square statistical test obtained *p-value* = 0.000, this means there was a relationship between history of disease and the fear level of COVID-19 in the Bogor City area.

DISCUSSION

1. Disease History

Based on table 2, out of 515 participants, 431 participants (83.7%) had no history of disease.

According to Saptaputra et al. (2020), co-morbidities could cause a person to be more susceptible to contracting COVID-19 and develop severe symptomps compared to those who do not have co-morbidities [8]. This finding is in line with another research article which states that people with chronic diseases not only have a higher risk of being infected with COVID-19 but also have higher death risk and multi organ failures when contracting COVID-19 [10]. According to reports, the prevalence of Chronic Obstuctive Pulmonary Disease (COPD) is higher in patients with more severe presentations than patients without COPD or without a history of comorbidities[11].

Chronic disease history or known as comorbidity is a condition where there is more than one disease that occur simultaneously in a patient. The number of comorbidities increases with age. The most common comorbidities found in COVID-19 patients include: hypertension, diabetes mellitus, heart disease, chronic obstructive pulmonary disease, kidney disease, other respiratory disorders, pregnancy, asthma, liver disease , Tuberculosis, cancer, and immunodeficiency disorders[12].

This finding is in line with Hadiyanto's research which states that the population at risk of being infected with COVID-19 is those who have comorbidities or chronic diseases, pregnant women and people with history of respiratory diseases such as asthma and the elderly aged more than 60 years old[13]. Based on the research of Satria et al, COVID-19 patients who have comorbidities are on average more than 45 years old with the number of patients dying reaching (26.08%) who are infected with COVID-19 and have comorbidities[14].

The results from this study showed that 89.9% participants (463 participants) had no history of comorbidities were those aged 18-24 years old.

2. Fear Level

Table 2 showed that of the 515 paticipants, 79.8% (411 participants) had moderate level of fear of COVID-19.

Research conducted by a psychiatric expert at Gajah Mada University stated that women are vulnerable group affected by mental health such as excessive fear and stress during COVID-19 pandemic [15].

Fear is a basic emotional state in which individuals identify external dangers emanating from specific objects that can make a person feel attacked by his defenses[16]. Fear is a basic human emotion that can change from a normal state to a very strong fear. The three components of fear include cognitive, physiological,

and behavioral, all of which can be present at the same time[16].

Fear of COVID-19 is caused by new habits that are faced every day without any preparation which causes an increase in alertness. This statement is similar to the finding by Hawari (2011) which disclosed that fear can arise in individuals due to increased self-awareness of dangers that threaten to occur [16].

The fear experienced by participants was dominated by the moderate category which can be influenced by age and education level. The majority of participants in this study were aged 18-24 years old and 80.8% had higher education level.

3. The Relationship between Disease History and Fear Level of COVID-19

The results showed that out of 515 participants, 349 (67.8%) participants had no history of disease and moderate fear level of COVID-19. The result of the Chi Square statistical test obtained *p-value* = 0.000 and there was a relationship between disease history with the fear level of COVID-19 in Bogor City area.

According to Maryam (2017), fear can be expressed directly through physiological and behavioral changes, including cardiovascular palpitations and a sense of fainting, breathing (shortness of breath, pressure in the chest, and choking sensations), neuromuscular (insomnia, pacing, and choking). tense face), gastrointestinal (loss of appetite, nausea, and diarrhea), urinary tract (unable to hold urine), and skin (sweating, flushed face, and a cold feeling on the skin). Behavioral fear symptoms also include impaired attention, poor concentration, forgetfulness, misjudgment, thinking barriers, loss of objectivity, confusion, fear, nightmares, impatience, restlessness, tension, nervousness, horror, worry, guilt, and shame[16]. The factor that causes high level of fear is the weight of the burden that is faced by an individual. The burden in this epidemic situation for the community is the fear of contracting the COVID-19 and spreading the virus to loved ones[17].

The level of fear regarding a pandemic can vary in each person, depending on the certain factors. Various factors including demographic factors and perceptions of the risk of exposure may also affect a person's level of fear. According to Saptaputra (2020), a history of comorbidities will underlie a person to be more susceptible to contracting COVID-19 and develop severe and clinically worsening compared to those who do not have comorbidities[8].

Based on the results of the research and theory above, the researchers concluded that there was a relationship between disease history and the fear level during COVID-19 pandemic. In this study, the majority of participants showed no history of disease and the fear level was in the moderate category.

Conclusion

There was a significant relationship between disease history and the level of fear during COVID-19 pandemic in Bogor City area. Health workers can help reduce the fear of COVID-19 in

the community by increasing knowledge and providing up-to-date information regarding COVID-19 pandemic.

Conflict of Interest: Nil.

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Ethical Clearance: Not required beause data was collected from Google Form during epidemic time but took consent from every participant.

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