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A Cross-Sectional Study of Coronavirus Disease-2019 Deaths in Indonesia Based on Sociodemography

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ABSTRACT

The Coronavirus Disease-2019 (COVID-19) is a contagious disease caused by the most recently discovered coronavirus, causing pneumonia with symptoms such as fever, cough, and dyspnea. The COVID-19 virus can cause death. This study aims to evaluate the cause of mortality among COVID-19 patients based on sociodemography. This research was conducted using a questionnaire to find out and enrich the information obtained through the community, so that the data obtained can be described. The method used was descriptive analytic with cross-sectional approach. The sampling technique was carried out by convenience sampling on 60 patients who died of COVID-19 in Indonesia and all the participants filled the informed consent before filled the google form. Ethical approval was obtained before conducting this study. Based on the result in this study, the male was 41 patients, and the female was 19 patients. The education level of the majority of patients was senior high school (42%). In terms of occupation, unemployed was predominant (25 patients). Of the 25 patients had hypertensive/diabetic, and 40 patients had severe illness. Based on the length of stay, most of these patients were admitted for around two weeks. Conclusion of this study is that the average cause of death for COVID-19 patients can be influenced because they are>60 years old, the male gender has more deaths due to COVID-19, and the history of illness the patients have.

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INTRODUCTION

COVID-19is a pandemic disease as stated by World Health Organization in 2020 [1]. WHO reported COVID-19had infected more than 208 million people, and around 4,38 million died. Indonesia is the fourth largest population globally, and from the database, many people were infected by COVID-19, followed by mortality due to this infection [2]. Based on the WHO report, the risk factors of death of COVID-19are age, comorbidity, and the severity of illness [1]. For comorbidity, patients with respiratory diseases such as asthma or chronic obstructive pulmonary disease (COPD) are more dangerous to have the severe disease of this infection than others [3].

METHOD

The method of this research was a cross-sectional study using convenience sampling. In this research, data collection was carried out using filled-up questionnaires (Figure 1). The questionnaireswere performed online by spreading google form of the questionnaires through whatsapp, line, instagram, twit-

Table 1: The Number of Patients Based on Clinical Aspect

Clinical aspect	n	%
Disease History		
Cancer	2	3
Heart disease	11	18
Hypertension/Diabetes mellitus	25	42
Asthma	8	14
Healthy	14	23
Symptom Level		
Severe	40	67
Moderate to severe	2	3
Moderate	1	2
Mildly	5	8
Normal	12	20
Length of Stay in Hospital		
> 3 weeks	0	0
2-3 weeks	25	42
1-2 week	26	43
<1 week	5	7
Never treated	4	8

Table 2: The Correlation of the Average Causes of Death of COVID-19 Patients in Indonesia with Sociodemography

Sociodemography	n (%)	p-value*
(i) Age		
<60	20 (33%)	0.003
>60	40 (66.67%)	
(ii) Gender		
Male	41 (68.3%)	0.327
Female	19 (31.67%)	
(iii) Educational Level		
Uneducated	9 (15%)	
Elementary school	2 (3%)	
Junior high school	9 (15%)	0.135
enior high school	25 (41.67%)	
Bachelor's degree	11 (18.33%)	
(iv) Occupation		
Unemployment	25 (41.67%)	
Student	1 (1.67%)	
Entrepreneur	16 (26.67%)	0.004
Private employees	15 (25%)	
Civil ervant	3 (5%)	
(v) Comorbidity		
Cancer	2 (3%)	
Heart disease	11 (18.33%)	
Hypertension/Diabetes mellitus	25 (41.67%)	0.000
Asthma	8 (13.33%)	
None	14 (23.33%)	

*Kruskal-Wallis Test

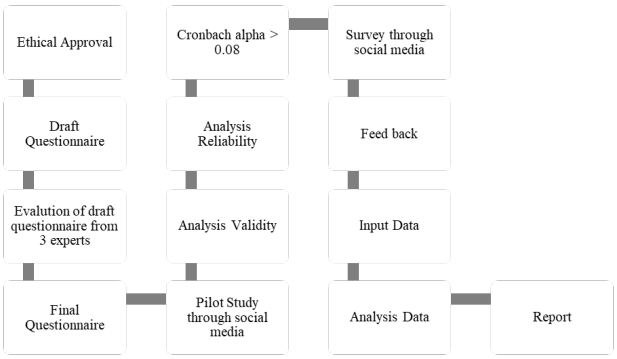

Figure 1: Research Flow

ter, and facebook for one month to the family, friends, and relatives of the dead patients, but only 60 google forms were returned. Before the participants filled the google form, the participants had to fill up the informed consent. Inclusion criteria were all sample who were in the friend list of social media researchers, and the exclusion criteria were all sample who did not fill the entire form. Before the research was conducted, ethical approval was given by the ethical research committee from the Health Faculty of EsaUnggul; No. 0001-21.001/DPKE-KEP/FINAL_EA/UEU/I/2021.

RESULTS AND DISCUSSION

The validity test showed that all items of the questionnaire were valid. For reliability, the test showed Cronbach's alpha of 0.86. Table 1 shows that most of the patients who died from COVID-19 had a history of secondary metabolic disease of Hypertension/Diabetes as many as 25 people or by 42%. According to a statement by the WHO, it is stated that an individual's mortality rate can be related to age and medical history. People susceptible to COVID-19 and needing special treatment are the old-aged group and or those suffering from congenital diseases such as hypertension, heart, lung, cancer, and diabetes disorders [1]. Most of the patients who died from COVID-19 had a length of stay in the hospital for 1-2 weeks or as many as 26 people or 43%, followed by a treatment period of 2-3 weeks as many as 25 people or 42% (Table 1). These findings underscore the importance of preventive measures (e.g., social distancing, respiratory hygiene, and wearing face coverings in public settings where social distancing measures are difficult to maintain) to protect the elderly and those with underlying medical conditions [4].

Based on Table 2, the p-value is 0.003 (p-value < 0.05) so that there is a significant relationship between the causes of death of COVID-19 patients in Indonesia and age. The percentage of COVID-19 mortality increases due to the increasing age, with the youngest patients being 5% to the oldest 55%. Another study from, Ramatillah, et al., 2021 reported that patients with age 79 above had a mortality rate of 100% [5]. There is a significant relationship between the causes of death of COVID-19 patients in Indonesia and the comorbidity. Most patients have symptoms consistent with COVID-19, and the overall complication rate is high [6]. In Huang's study, he concluded that the number of patients with a history of diabetes could be associated with severe COVID-19 mortality, ARDS, disease progression in patients with COVID-19, weakness in older patients, and hypertension [7].

CONCLUSION

In this study, it can be concluded that the average cause of death due to COVID-19 in Indonesia is influenced by age >60 years, with the male sex being more exposed to COVID-19 where the patient has a history of the disease, namely, hypertension, diabetes, heart disease, and cancer.

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Conflict of Interest

All authors declare no conflict of interest among them.

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