The Description of Covid-19 Patients with Comorbidities at K.R.M.T Wongsonegoro General Hospital of Semarang

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Abstract
Corona virus disease (COVID-19), is the disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and it causes substantial morbidity and mortality. Older age and the presence of diabeticum, hypertension, and overweight significantly increase the risk of hospitalization and death in COVID-19 patients. To find out the description of COVID-19 patients with co-morbidities at RSUD K.R.M.T Wongsonegoro Semarang The design of this research is descriptive. The populations in this study were COVID-19 patients with comorbidities with a sample of 1795 respondents taken using a purposive sampling technique. Data collection tools used is medical records. The data were analyzed using the frequency distribution formula and calculated using the SPSS data processing software COVID-19 patients with the most comorbidity were hypertension 50.8%, diabetes mellitus 44.6%, cardiovascular heart 4.0%, lung disease 0.3%, and obesity 0.3%. It is hoped that the community will always protect themselves from COVID-19, especially those who have comorbidities.

Introduction

The new coronavirus pandemic SARS-CoV-2, centered in Hubei, People's Republic of China, has spread to various countries in the world. Based on increasing notification of cases in China and international locations made WHO declared a global health emergency. Case detection rates are subject to change at any time on websites provided by Johns Hopkins University and other forums.

Risk factors for SARS-CoV-2 infection include age, gender, and comorbidities as a result of an unhealthy lifestyle, namely hypertension, diabetes, cardiovascular disease, lung disease, and other comorbidities. The presence of these risk factors can affect the severity of COVID-19. The death rate from COVID-19 is increasing in patients who have co-morbidities. The mortality rate (CFR) is for patients with cardiovascular disease 10.5%, diabetics 7.3%, patients with chronic respiratory diseases 6.3%, hypertensive patients 6%, cancer patients 5.6% (Nikma, 2020).

The first time the case of COVID-19 was found in Indonesia was recorded on March 2, 2020. It was announced that two people aged 31 and 64 were infected with COVID-19, and it was assumed that COVID-19 had entered the country in the 3rd week of January 2020. On 21 In May 2020, there was an increase in 973 new COVID-19 cases reported in Indonesia, with a total of 20,162 cases. Of these, 14,046 cases were treated (69.7%). In 4838 cases, patients recovered (24.0%), and a total of 1278 reported deaths (6.3%) were reported in 34 provinces and four major provinces namely East Java,

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Jakarta, West Java, and North Sumatra, so the study this is held. The graph of COVID-19 cases in Indonesia shows that they are increasing every day (Sari, D. K, 2021).

There has been a decrease in the incidence of COVID-19 in Central Java due to government regulations, namely the Java-Bali PPKM and the vaccination program, case statistics on October 1, 2021, there were 3919 positive confirmed patients who were treated in hospitals or undergoing self-isolation at home, 446,167 confirmed patients recovered. , and 32,030 confirmed patients died from COVID-19. All data is written and calculated based on the patient's latest status, the total confirmed data can change according to the patient's latest status (Central Java Provincial Health Office, 2021). Data on COVID-19 in Semarang City on September 30, 2021, there were 27 positive COVID-19 patients and the total number of COVID-19 patients was 30,355 positive patients, 83133 overall data were negative patients and a total of 113,610 patients (Semarang City Health Office, 2021) .

A preliminary study conducted on November 5, 2021, data obtained from the medical records of RSUD KRMT Wongsonegoro Semarang that patients who were confirmed positive for COVID-19 with comorbidities for the period June 2021 - September 2021 were 1835, with comorbidities such as hypertension, diabetes, cardiovascular disease. heart disease, obesity, and lung disease (asthma, tuberculosis, COPD)

Methods

The design of this research is descriptive. The populations in this study were COVID-19 patients with comorbidities with a sample of 1795 respondents taken using a purposive sampling technique. Data collection tools used is medical records. The data were analyzed using the frequency distribution formula and calculated using the SPSS data processing software.

Results and Discussion

The results of the study and discussion of the description of COVID-19 patients with comorbidities at the K.R.M.T Wongsonegoro General Hospital of Semarang and as respondents were 1795 patients with confirmed COVID-19 with comorbidities such as hypertension, diabetes mellitus, cardiovascular heart, lung disease, and obesity.

Table 1 COVID-19 patients

Comorbidities	Frequency	%
Hypertension	912	50,8
Diabetes mellitus	801	4,0
Cardiovascular Heart		
Lung Disease	71	44,6
Obesity		
	6	0,3
	5	0,3
Total	1795	100,0

Based on table 1 shows that COVID-19 patients with comorbidities from 1795 respondents got hypertension results as much as 50.8%, diabetes mellitus 44.6%, cardiovascular heart 4.0%, pulmonary disease 0.3%, obesity 0.3% .
Concomitant diseases with hypertension occupy the most patients during June 2021-September 2021 at the KRMT Wongsonegoro Hospital, amounting to 912 this is in accordance with the results of research from Zhou F, et al (2020) that the most common comorbid disease in one reported is hypertension (30%), diabetes (19%), and coronary heart disease (8%).

Another report showed that the most frequent co-morbidities in patients with COVID-19 who had acute respiratory distress syndrome were hypertension (27%), diabetes (19%), and cardiovascular disease (6%). Schiffrin Ernesto, et al (2020) explained that the frequency with which COVID-19 patients develop hypertension is not entirely surprising and does not necessarily imply a causal relationship between hypertension and COVID-19 or

its severity, because hypertension is very common in older people, and older people. seems to be of particular concern the risk of becoming infected with the SARS-CoV-2 virus and experiencing severe forms of COVID-19 complications.

The results of Wu Z's study (2020) showed that most of the case patients were aged 30 to 79 years (87%), 1% were 9 years old or younger, 1% were 10 to 19 years old, and 3% were 80 years old or older. Most cases were diagnosed in Hubei Province (75%) and most reported Wuhan-related exposure (86%; that is, Wuhan residents or visitors or close contact with Wuhan residents or visitors). Most cases were classified as mild (81%; ie, nonpneumonia and mild pneumonia). However, 14% were severe (i.e., dyspnea, respiratory rate 30/min, blood oxygen saturation 93%, arterial oxygen partial pressure to inspired oxygen ratio <300, and/or pulmonary infiltrates >50% in 24 to 48 hours), and 5% critical (ie, respiratory failure, septic shock, and/or multiple organ dysfunction or failure)

The next most common comorbid disease after hypertension is diabetes mellitus with a percentage of 44.6%, this is similar to the study of Albiltar et al (2020) where co-morbidities of diabetes mellitus are in the second highest position in COVID-19 patients with 33.6% of the total sample. 242,875 people with 38,106 COVID-19 patients with type 2 DM concomitant disease, with the result that COVID-19 patients with DM experienced a 1.65 times higher risk of mortality.

The study of Li et al.,(2020) of COVID-19 patients with diabetes mellitus was higher than without diabetes. Higher D-dimer levels and lymphocyte count less than 0.6 × 109/L at admission were risk factors associated with in-hospital mortality.
The third most common comorbid disease is cardiovascular with a percentage of 4.0%. Cardiac complications, including heart failure, arrhythmias, and myocardial infarction including new or worsening diseases. Cardiac arrest in about 3% of hospitalized patients with pneumonia (Corales, 2013).

Chinese Center for Disease Control and Prevention shows that 44,672 confirmed cases of COVID-19, the Case Fatality Rate (CFR) values generated in the cohort study yielded values of 6%, 7%, and 10.5% for COVID-19 patients with a history of hypertension, diabetes and cardiovascular disease (Wu &McGoogan, 2020).

The next comorbidity is lung disease combined with asthma, tuberculosis, and COPD there is a percentage of 0.3%, Patients with moderate to severe lung disease are in a favorable condition because this virus affects their respiratory tract, causing an increase in asthma attacks, pneumonia, and acute respiratory distress (CDC, 2020).

This study is the same as that of Erwin Purwaningsih (2021) which found that lung disease was in the 4th position of the number of co-morbidities studied by 12 co-morbidities, with a percentage of hypertension 50.1%, diabetes mellitus 34.8%, cardiovascular disease and hypertension. heart disease 19.6%, and lung disease 9.6%.

On imaging, patients with COVID-19 have bilateral ground-glass opacities and upper lobe infiltrates associated with dyspnea and hypoxemia. These severe manifestations are mediated by several proinflammatory cytokines, including IL-6, TNF-, IL-17, GM-CSF, and G-CSF. Cytokine storms in COVID-19 infection can cause acute respiratory distress syndrome (ARDS). , an inflammatory state in which increased vascular permeability leads to pulmonary edema and tissue damage.

The last comorbid disease is obesity with a percentage of 0.3%, based on research conducted by Aqmarina et al (2021),

showing a relationship between Body Mass Index (BMI) and risk values that result in the severity of COVID-19 patients. This study states that the higher the BMI, the higher the risk of severity in COVID-19 patients. The severity referred to in this case is a situation where the patient requires a breathing apparatus, decreased PaO2 and SaO2, and the use of semi-ICU and ICU wards.

Petrakis et al's (2020) study on 30 people with COVID-19 showed that patients with a BMi of 27.0 ± 2.5 exhibited more severe disease than patients with a BMi of 22.0 ± 1.3. The correlation analysis of BMi in the cohort of Covid-19 patients showed that the nonsurvivors, who made up 15.18% of the total participants, in each study had a BMi>25 at a rate of 88.2%. In contrast, only 18.9% survived, having a BMi>25.

Conclusion

Conclusion In this study, it was found that the most comorbid disease was hypertension with a presentation of 50.8%. COVID-19 patients with comorbidities are affected by a high number of ACE2 receptors so that the corona virus is more easily spread into the body.

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