CHARACTERISTICS OF CLINICAL SYMPTOMS IN PREGNANCY WITH CORONAVIRUS DISEASE (COVID-19)

Illa Arinta[1*], Deviyana Nuraini[2], and Alliah Nuranggraeni[3]

[1,2,3]Midwifery Academy of Army Central Hospital Gatot Soebroto
Correspondence email: illa_arinta@akbidrspad.ac.id

ABSTRAK KARAKTERISTIK GEJALA KLINIK PADA KEHAMILAN DENGAN PENYAKIT CORONAVIRUS (COVID-19)

Latar Belakang. Penyakit Coronavirus 2019 (COVID-19) merupakan penyakit yang saat ini mewabah hampir di seluruh dunia dan disebut Coronavirus-2 (SARS-COV2) dengan sindrom pernafasan akut yang parah. Pertama kali dilaporkan pada 31 Desember 2019, dari daerah Wuhan, provinsi Hubei, China, kasus pertama pneumonia tanpa penyebab yang diketahui. Data WHO per 7 Maret 2020 mengidentifikasi 90.870 kasus terkonfirmasi dengan total kematian 3.112 orang. Sampai dengan 22 Juli 2020, WHO telah melaporkan 14.971.036 kasus yang dikonfirmasi dengan 618.017 kematian di seluruh dunia (Case Fatality Rate/CFR 4,1%).

Tujuan. Diketahuinya Karakteristik gejala klinis pada kehamilan dengan Coronavirus Disease (COVID-19) di RSPAD Gatot Soebroto Periode Maret 2020 – Februari 2021".

Metode. Jenis penelitian kuantitatif dengan deskriptif analitik dengan pendekatan retrospektif *secara cross sectional*, lokasi penelitian dilaksanakan di Poli Fetomaternal RSPAD Gatot Soebroto Jakarta Pusat pada bulan Maret 2020 – Februari 2021. Populasi 201 ibu hamil yang melakukan kunjungan ANC, sampel 75 ibu hamil dengan covid, instrumen yang digunakan adalah data dari rekam medik. Variabel yang digunakan adalah usia, paritas, usia kehamilan, penyakit penyerta kehamilan, derajat Covid-19.

Hasil. Usia ibu paling banyak antara usia 24 tahun sebesar 6 orang (8%), usia 28 tahun sebesar 8 orang (10,7%), usia 30 tahun sebesar 8 orang (10,7%), usia 34 tahun sebesar 6 orang (8%), usia 39 tahun sebesar 6 orang (8%), dengan usia minimal 21 tahun dan usia maksimal 42 tahun, dari 75 ibu hamil dengan covid. Ibu hamil dengan covid usia beresiko sebesar 15 orang (20%), dan ibu hamil dengan covid usia tidak beresiko sebesar 60 orang (80%). Terdapat multigravida sebesar 59 orang (78,7%), sedangkan primigravida sebesar 16 orang (21,3%). Usia kehamilan aterm sebanyak 72 (96.0%), sebagian kecil usia kehamilan preterm 3 (4%) Penyakit penyerta kehamilan pada ibu hamil dengan covid-19 rata-rata tidak memiliki penyakit penyerta, penyakit penyerta kehamilan yang paling banyak adalah PEB 8 (10.7), HbSag (+) sebesar 3 (4%), dan asma sebesar 2 (2.7%). Derajat covid-19 pada ibu hamil mayoritas adalah derajat ringan 63 (84.0%), serajat berat hanya 3 (4%).

Kesimpulan. Hasil penelitian melalui telaah *literatur review* menunjukan ibu hamil berusia 28 dan 30 tahun merupakan usia ibu hamil terbanyak yaitu sebesar 10,7%, sebagian besar ibu hamil berjumlah 59 orang merupakan multigravida yaitu sebesar 78,7%, sebagian besar ibu hamil berjumlah 72 orang berada pada usia kehamilan aterm sebesar 96,0%, penyakit penyerta ibu hamil paling banyak adalah PEB berjumlah 8 orang sebesar 10,7%, serta derajat covid-19 pada ibu hamil mayoritas merupakan derajat ringan sejumlah 63 orang dan berjumlah 84,0%.

Saran Derajat covid-19 pada ibu hamil mayoritas adalah derajat ringan 63 (84.0%), serajat berat hanya 3 (4%), maka saat disarankan untuk ISOMAN prosedur pemulangan pasien saat ibu hamil dinyatakan boleh ISOMAN maka rumah sakit menyusun prosedur pemulangan pasien hamil dengan covid yang dapat menularkan meskipun dengan gejala ringan.

Kata kunci: Covid-19, Ibu hamil, derajat Covid-19. penyakit penyerta kehamilan, usia, paritas, usia kehamilan

ABSTRACT

Background. Coronavirus disease 2019 (COVID-19) is currently endemic almost all over the world and is called Coronavirus-2 (SARS-COV2) with the severe acute respiratory syndrome. It was first reported on December 31, 2019, from Wuhan, China, with the first case of pneumonia with no known cause. As of March 7,

2020, WHO data identified 90,870 confirmed cases with a total death of 3,112 people. As of July 22, 2020, WHO has reported 14,971,036 confirmed cases with 618,017 deaths worldwide (case fatality rate/CFR 4.1%).

Purpose. This study aims to know the characteristics of clinical symptoms in pregnancy with Coronavirus Disease (COVID-19) at RSPAD Gatot Soebroto from March 2020 to February 2021.

Method. The research design used was descriptive-analytic using a cross-sectional retrospective time approach. The research was conducted at the Fetomaternal room at RSPAD Gatot Soebroto Jakarta from March 2020 to February 2021. The instrument used was data from medical records. The variables used were age, parity, gestational age, comorbidities of pregnancy, and the severity of COVID-19.

Results. The age of most pregnant women was between the age of 24 years in six people (8%), age 28 years in eight people (10.7%), age 30 years in eight people (10.7%), age 34 years in six people (8%), and age 39 years in six people (8%), with a minimum age of 21 years and a maximum age of 42 years, from 75 pregnant women with COVID-19. Pregnant women with COVID-19 age at risk were 15 people (20%), and pregnant women with COVID-19 at no risk age were 60 people (80%). In addition, 59 people had multigravida (78.7%), while primigravida was in 16 people (21.3%). The term gestational age was present in 72 mothers (96.0%), and a small proportion of preterm gestational age was present in three mothers (4%). Among pregnant women with COVID-19, on average, they had no comorbidities, and the most common comorbidities of pregnancy were PEB in eight women (10.7), HBsAg (+) in three women (4%), and asthma in two women (2.7%). Furthermore, the majority of the severity of COVID-19 in pregnant women was mild in 63 women (84.0%) and severe only in three women (4%).

Conclusion. The study results through the literature review showed that pregnant women aged 28 and 30 years were the most age of pregnant women, namely 10.7%. Most of the pregnant women were multigravida with 78.7%. In addition, 96.0% of pregnant women were at term gestational age. Then, the most comorbidities of pregnant women were pre-eclampsia at 10.7%. Meanwhile, the 84% majority severity of COVID-19 in pregnant women was at mild levels.

Suggestions: Most COVID-19 levels in pregnant women were mild at 63 mothers (84.0%) and severe only in three mothers (4%). Thus, it is recommended to self-isolate. For returning patients, when pregnant women are declared to self-isolate, the hospital arranges procedures for the discharge of pregnant patients with COVID-19 who can transmit, even with mild symptoms.

Keywords: Age, COVID-19, pregnancy comorbidities, gestational age, pregnant women, parity, the severity of COVID-19.

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is currently endemic almost all over the world and is called Coronavirus-2 (SARS-COV2), with the severe acute respiratory syndrome. On December 31, 2019, it was first reported from the Wuhan area, Hubei Province, China, the first case of pneumonia with no known cause. As of March 7, 2020, WHO data identified 90,870 confirmed cases, with a total death of 3,112 people. As of July 22, 2020, WHO has reported 14,971,036 confirmed cases, with 618,017 deaths worldwide (case fatality rate/CFR 4.1%) (WHO, 2020).

Coronaviruses are a large family of viruses that cause illnesses ranging from mild to severe. There are two types of coronaviruses that cause severe disease: Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). According to WHO, this virus is zoonotic at the beginning of its transmission, where the animal that is the source of transmission is still being studied. Then, transmission occurs through contact between humans (human-to-human transmission) via infectious droplets or body fluids from infectious sufferers.

Symptoms of COVID-19 can be divided into symptomatic and asymptomatic. Symptomatic symptoms generally include fever, fatigue, myalgia, anorexia, headache, and respiratory symptoms, such as cough, dyspnea, sore throat, and nasal congestion (WHO, 2020; WHO, 2020; Minister of Home Affairs, 2020; Sousa et al., 2020).

COVID-19 infection in pregnancy and complications for the fetus are still limited, and WHO has not issued specific guidelines for treating pregnant women with COVID-19. Based on these limited data, several examples of previous cases (SARS-CoV and MERS-CoV), and several cases of COVID-19, pregnant women with comorbidities will have a higher risk of developing the disease, with severe morbidity and mortality compared to the general population (Favre, 2019). In two reports describing 18 pregnancies with COVID-19, all of whom were infected in the third trimester, clinical

outcomes in pregnant women were similar to those in non-pregnant women.

Specifically, the data obtained at the RSPAD Gatot Soebroto in 2020 showed that pregnant cases with COVID-19 were 48 people, while the visit of pregnant women at the Fetomaternal Poly in RSPAD Gatot Soebroto in 2020 was 201, with ten pregnant women confirmed with COVID-19 (4.9%). Based on these limited data, several examples of cases in the previous treatment of Coronavirus (SARS-CoV and MERS-CoV), and several cases of COVID-19, it is believed that pregnant women with comorbidities have a higher risk of developing severe disease, with morbidity and mortality compared to the general population. In addition, side effects on the fetus in the form of preterm delivery have also been reported in pregnant women with COVID-19 infection. However, this information is very limited, and it is not clear whether these complications are associated with infection in the mother (Favre, 2019).

The progress of the COVID-19 cases until March 25, 2020, reached 414,179 confirmed cases with 18,440 deaths (CFR 4.4%), of which cases were reported in 192 countries/regions. Indonesia reported its first case on March 2, 2020. Cases in Indonesia continue to grow; as of March 29, 2020, there were 1,115 cases with 102 deaths. Indonesia's mortality rate was 9%, including the highest mortality rate. On March 2, 2020, Indonesia reported two confirmed cases of COVID-19. As of March 25, 2020, Indonesia reported 790 confirmed cases of COVID-19 from 24 provinces (Ministry of Health, 2020; Handayani, 2019; Sairah et al., 2019; WHO, 2020).

Based on data obtained at RSPAD Gatot Soebroto in 2020, there were 85 pregnant cases with COVID-19, while the visit of pregnant women at the Fetomaternal Poly in RSPAD Gatot Soebroto in 2020 was 201, with ten pregnant women confirmed with COVID-19 (4.9%). From the description above, a study was conducted on "the characteristics of clinical symptoms in pregnancy with Coronavirus Disease (COVID-19) at RSPAD Gatot Soebroto."

RESEARCH METHODHOLOGY

This study used a descriptive-analytic method with a retrospective cross-sectional approach, a study by observing pregnant women with COVID-19 who performed antenatal care using data from medical records at the same time (Hanun et al., 2021).

The population in this study was all pregnant women who visited RSPAD Gatot Soebroto from March 2020 to February 2021, with 201 respondents (Sugiyono, 2014). The research sample was 75 pregnant women with COVID-19.

This research was conducted at the Fetomaternal Poly in RSPAD Gatot Soebroto Central Jakarta from March 2020 to February 2021. Univariate data analysis was carried out to determine the frequency distribution of characteristics of pregnant women with COVID-19.

RESEARCH RESULTS

The research results on the characteristics of clinical symptoms in pregnancy with Coronavirus Disease (COVID-19) at RSPAD Gatot Soebroto were obtained from secondary data, namely medical records. Furthermore, the data were presented in the form of a frequency distribution table accompanied by an explanation.

Univariate Analysis

Maternal Age

Table 1
Distribution of Maternal Age Frequency in RSPAD Gatot Soebroto

Maternal Age	Frequency	Percentage %
21	1	1.3
22	2	2.7
23	3	4.0
24	6	8.0
25	2	2.7
26	3	4.0
27	4	5.3
28	8	10.7
29	2	2.7
30	8	10.7
31	4	5.3
32	4	5.3
33	2	2.7
34	6	8.0
35	5	6.7
36	4	5.3
37	1	1.3
38	1	1.3
39	6	8.0
40	2	2.7
42	1	1.3
Risk	15	20%
No risk	60	80%
Min-max	21-42	
Total	75	100

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The results showed that the most maternal age was between the age of 24 years by six people (8%), age 28 years by eight people (10.7%), age 30 years by eight people (10.7%), age 34 years by six people (8%), age 39 years by six people (8%), with a minimum age of 21 years and a maximum age of 42 years, from 75 pregnant women with COVID-19. Pregnant women with COVID-19 age at risk were 15 people (20%), while pregnant women with COVID-19 age not at risk were 60 people (80%).

Parity

Table 2
Distribution of Parity Frequency at RSPAD Gatot Soebroto

Parity	Frequency	Percentage %
Multigravida	59	78.7%
Primigravida	16	21.3%
Total	75	100

Based on the table above, it is concluded that of 75 pregnant women with COVID-19, there were 59 people with multigravida (78.7%), while 16 people were with primigravida (21.3%).

Gestational Age

Table 3
Distribution of Gestational Age Frequency at RSPAD Gatot Soebroto

Gestational age	Frequency	Percentage %
Aterm	72	96.0%
Preterm	3	4.0%
Total	75	100%

The study results revealed that of 75 pregnant women with COVID-19, 72 mothers had gestational age at term (96.0%), and a small proportion of preterm gestational age were three mothers (4%).

Pregnancy Comorbidities

The results showed that the average pregnancy in pregnant women with COVID-19 had no comorbidities, while the most common comorbidities in pregnancy were PEB in eight mothers (10.7), HBsAg (+) in three mothers (4%), and asthma in two mothers (2.7%).

Table 4
Distribution of the Pregnancy Comorbidity Frequency in RSPAD Gatot Soebroto

Pregnancy comorbidity	Frequency	Percentage %
Painless	57	76.0
Severe Preeclampsia (PEB)	8	10.7
Asthma	2	2.7
HIV	1	1.3
HbSag	3	4.0
Anemia	2	2.7
DM	1	1.3
HDK	1	1.3
Amount	75	100

Severity of COVID-19

Table 5
Distribution of the COVID-19 Severity Frequency at RSPAD Gatot Soebroto

COVID-19 severity	Frequency	Percentage %
Severe	3	4.0%
Moderate	9	12.0%
Mild	63	84.0%
Total	75	100

Based on the study results, COVID -19 in pregnant women was mostly mild in 63 women (84.0%) and severe in only three women (4%).

DISCUSSION

The results of the research discussion on the characteristics of clinical symptoms in pregnancy with Coronavirus Disease (COVID-19) at RSPAD Gatot Soebroto were obtained from secondary data, namely medical records. Furthermore, the data were discussed between the research results with the theory and results of previous studies.

Maternal Age

The results showed that the most maternal age was between the age of 24 years in six people (8%), age 28 years in eight people (10.7%), age 30 years in eight people (10.7%), age 34 years in six people (8%), and age 39 years in six people (8%), with a minimum age of 21 years and a maximum age of 42 years, from 75 pregnant women with COVID-19. Pregnant women with COVID-19 age at risk were 15 people (20%), while pregnant women with COVID-19 age not at risk were 60 people (80%). In

identifying 13 journals that matched the research inclusion criteria, there were 363 total cases of COVID-19 in pregnant women with an age range of 16−41 years. The average age of pregnant women with COVID-19 who gave birth at the Kasih Ibu Hospital in Surakarta was 28.1 years, with the youngest being 20 years old and the oldest 42 years old. As much as 90.3% of the total population aged between 20 and 35 years means that most of the pregnant women treated had a relatively low risk of childbirth complications when only seen from the age variable. Most young pregnant women made up the population.

Parity

Based on the table above, it was concluded that of 75 pregnant women with COVID-19, there were 59 people with multigravida (78.7%) while 16 people with primigravida (21.3%). The results of the primigravida study were the highest compared to others, occupying 37.1% of the total, followed by 30.65%, respectively, for secondary gravida and multigravida. Although rare, there was also one case of grande multigravida, namely the seventh gravida. However, it is unknown whether there is a relationship between parity and the vulnerability of pregnant women to COVID-19 infection (Luluk Windra Yuliana, 2020).

Gestational Age

The study results revealed that of 75 pregnant women with COVID-19, the gestational age was 72 mothers (96.0%), and a small proportion of preterm gestational age was three mothers (4%). Pregnant women exposed to COVID-19 can occur in the first, second, or third trimester. COVID-19 infection may potentially affect organogenesis and fetal development in the early stages of pregnancy, although vertical mother-to-fetal transmission of COVID-19 has not been proven so far.

In this study, the gestational age when patients were diagnosed with COVID-19 was entirely at term, ranging from 37-40 weeks of gestation, with an average gestational age of 38.4 weeks. It was because the Puskesmas had screened maternal patients who had reached term age to carry out a PCR swab test so that patients confirmed positive for COVID-19 were immediately referred to a secondary health facility, which could perform an elective SC procedure in a negative pressure operating room, to reduce exposure to health workers who assist in childbirth.

Pregnancy Comorbidities

The results uncovered that the average pregnancy comorbidities in pregnant women with COVID-19 had no comorbidities, while the most common comorbidities in pregnancy were PEB in eight mothers (10.7), HBsAg (+) in three mothers (4%), and asthma in two mothers (2.7%). The COVID-19 symptoms in pregnant women are usually felt more because of viral infections that cause several diseases in the respiratory tract, especially in pregnant women with a history of congenital diseases, such as asthma, lung disease, liver damage, diabetes, high blood pressure, and other medical conditions. In addition to the symptoms caused being quite severe, COVID-19 in pregnant women can lead to complications (Bachtiar, 2021).

Studies conducted in China and the US also support Atoillah Isfandiari's statement that anemia can increase the risk of death in COVID-19 patients. Low iron levels trigger a decrease in the immune system, making people susceptible to infection with the coronavirus. In addition, anemia also increases the risk of complications that affect the heart and throat.

Recent research has disclosed that COVID-19 can attack the hemoglobin in red blood cells. Thus, red blood cells could not carry oxygen. Findings from a new study released by Chinese researchers Dr. Wenzhong Liu from Sichuan University and Dr. Hualan Li from Yibin University have revealed that COVID-19 attacks the hemoglobin in red blood cells through a series of cellular actions, ultimately rendering red blood cells unable to transport oxygen. Red blood cells are important oxygen carriers to various cells in the body. Inside the red blood cells, there is a hemoglobin molecule, which contains a heme group. Each of these heme groups is a molecular “ring” (porphyrin), which has an Iron or Fe ion. Once inside the human host cell, viral RNA also encodes several non-structural proteins made during replication. The study found that some of these proteins are to hijack red cells and remove iron ions from heme groups (HBB) and replace them with them. It makes hemoglobin unable to carry oxygen. As a result, the lungs become stressed and inflamed, while other organs are also affected.

Severity of COVID-19

Based on the study results, most COVID-19 severity in pregnant women was mild in 63 mothers (84.0%) and severe in only three women (4%). Mild clinical symptoms commonly encountered during pregnancy are fever, dyspnea, and gastrointestinal disturbances. In adults, moderate clinical symptoms are generally fever, cough, dyspnea, increased

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breathing rate, and no signs of severe pneumonia. Meanwhile, in children, moderate clinical symptoms usually include cough, difficulty breathing, and/or chest wall retraction without symptoms of severe pneumonia. Severe clinical symptoms are pneumonia and one of the following criteria: respiratory rate of >30x/min, severe respiratory distress, and SpO2 of <90% at room temperature.

Then, the critical condition is characterized by acute respiratory distress syndrome, sepsis, septic shock, and other complications, such as acute pulmonary embolism, acute coronary syndrome, acute stroke, and delirium. According to the National Institutes of Health, the clinical symptoms of COVID-19 are divided into asymptomatic, mild, moderate, severe, and critical conditions. Asymptomatic indicates the patient does not show clinical symptoms, but it is proven that he is infected with the COVID-19 virus from the examination results. Mild clinical signs include fever, sore throat, cough, malaise, headache, and muscle aches, without dyspnea, shortness of breath, and abnormal imaging findings. Moderate clinical symptoms include clinical symptoms of lower respiration with clinical examination or imaging and SpO2 of >90% at room temperature. Furthermore, severe clinical symptoms include a respiratory rate of >30x/min, an SpO2 of 93% at room temperature, or a ratio of partial pressure of arterial oxygen PaO2 to the fraction of inspired oxygen (FiO2) (PaO2/FiO2 <300) or pulmonary infiltrate >50% (Mackenzie J.S & David W.S, 2020).

Pregnant women with COVID-19, based on clinical features, can be divided into three classifications. The classification is based on the severity of infection in the respiratory tract and is divided into mild, moderate, and severe clinical. This classification helps medical personnel plan action and treatment quickly and appropriately by looking at the severity of COVID-19 in pregnant women through its clinical picture. In addition to clinical degrees, the American Thoracic Society and Infectious Diseases Society of America also added a CURB (confusion, urea, respiratory rate, blood pressure) score in seeing the severity of the patient's clinical symptoms. Mild clinical symptoms are described as pregnant women who experience local clinical symptoms in the upper respiratory system (cough, sore throat, rhinorrhea, and loss of smell). Moderate clinical symptoms are symptoms of mild pneumonia confirmed using a chest X-ray, not accompanied by severe symptoms (SO>90%, not requiring vasopressors and ventilation assistance, and CURB score of 1) (Lopez et al., 2020). Meanwhile, severe clinical symptoms have clinical features in the form of severe pneumonia or respiratory distress and septic shock. Pneumonia is severe if pneumonia is found in conjunction with one of the following: organ failure 1, basal SO2 <90%, respiratory rate 30 times/minute, and requires vasopressors.

In addition, respiratory distress can also be found characterized by clinical features, such as dyspnea, chest retractions, and effort to breathe, or radiological findings of bilateral pulmonary infiltrates and oxygen deficit (SO2/FiO2 ratio <315 if PaO2 data is not available, or PaO2/FiO2 ratio 300). Septic shock presents with persistent arterial hypotension despite fluid resuscitation and requires vasopressors to maintain mean arterial pressure (MAP) of 65mmHg and lactate 2mmol/L (18mg/dL) in the non-hypovolemic state.

Moreover, pregnant women who suffer from COVID-19 with severe clinical features are generally said to be in a critical condition (Lopez et al., 2020). According to Lopez et al., most pregnant women with COVID-19 have mild clinical symptoms. Findings of pneumonia infiltrating in both lung fields are generally found in 50% of pregnant women with mild-moderate clinical features. A rare clinical finding of pregnant women with mild clinical signs is diarrhea. The study also stated that pregnant women infected with COVID-19 did not have a higher susceptibility to developing severe clinical symptoms and serious complications. However, it should be noted that pregnant women will experience physiological adaptation changes in the cardiovascular, respiratory, and coagulation systems in the hematological system, which can lead to an increased risk of morbidity (Lopez et al., 2020).

According to a review article conducted by Ryan et al., it was found that pregnant women with COVID-19 would generally experience mild clinical symptoms. The study results stated that about 85% of pregnant women had mild clinical features, while about 10% of pregnant women had more severe clinical features, and 5% of pregnant women fell in a critical condition. Common clinical symptoms are fever, cough, dyspnea, and diarrhea. The choice of delivery, either vaginal or cesarean section, also did not change the severity of clinical symptoms experienced by pregnant women. In addition, pregnant women with comorbidities had an increased risk of having more severe clinical symptoms, just like the general population (non-pregnant) with comorbidities. In some cases, it is difficult to distinguish physiological dyspnea in pregnant women due to increased maternal oxygen demand due to increased metabolism, gestational

anemia, and fetal oxygen consumption, which is generally normal during pregnancy from clinical symptoms of COVID-19, so careful examination is still needed (Ryan et al. al., 2019).

Then, another study conducted by Wu et al. also showed similar results that about 86% of pregnant women with COVID-19 had a mild clinical overview, 9.3% had severe symptoms, and 4.7% developed a critical condition. The most common mild clinical signs are cough and nasal congestion. Gestational age also did not influence the clinical degree of pregnant women. The study results stated that the clinical symptoms of pregnant women and those who were not pregnant were the same. The study also proved that pregnant women with asymptomatic COVID-19 generally had a shorter hospital stay compared to symptomatic pregnant women (Wu X et al., 2020; Arentz et al., 2020).

A study in the United States uncovered that pregnant patients with COVID-19 had a higher chance of developing viral myocarditis and cardiomyopathy. To date, there is only one study conducted by Juusela, Nazir, and Gimovsky, which found the results of two cases of COVID-19 in pregnant women with cardiomyopathy. Cardiomyopathy is a clinical finding that is more frequently found in non-pregnant and critically ill COVID-19 patients. Meanwhile, pregnancy is an immunocompromised state in which cardiovascular demand increases, and respiratory alkalosis occurs, compensated by metabolic acidosis, making pregnant women vulnerable to respiratory diseases, such as COVID-19. In addition, research on whether pregnancy can exacerbate the development of COVID-19 cardiomyopathy is still ongoing. This study also emphasizes the importance of echocardiogram examination in pregnant women with COVID-19 who show symptoms of pneumonia, especially those who require oxygen therapy assistance and in pregnant women who fall in critical condition. Further data and research are still needed to determine the incidence of cardiomyopathy in pregnant women suffering from COVID-19 (Ryan et al., 2019; Juusela et al., 2020).

Research conducted in Wuhan, China, also displayed similar results in the clinical picture of pregnant women suffering from COVID-19. Around 109 (92%) of the 118 pregnant women who tested positive for COVID-19 experienced mild clinical symptoms, nine pregnant women (8%) experienced severe clinical symptoms, and one was in critical condition. Until March 2020, 109 pregnant women out of 116 were declared cured and could return to their homes. No deaths included pregnant women who fell in critical condition and were treated in an intensive care unit (Chen et al., 2020).

Another study conducted in China by analyzing clinical symptoms in ten pregnant women with confirmed COVID-19 stated that no pregnant women had severe clinical symptoms and died. The five pregnant women experienced clinical symptoms of shortness of breath, where after imaging with a CT-Scan, a picture of pleural effusion was obtained. The researchers stated that the development of pleural effusion might be due to changes in physiological adaptations in pregnant women so these non-specific clinical symptoms need to be considered when dealing with pregnant patients with COVID-19 (Cao et al., 2020). In addition, a retrospective study conducted in Wuhan, China, asserted that pregnant women with pregnancies in the late trimester had a better prognosis. Pregnant women in the final trimester did not have more severe clinical symptoms, although it was emphasized that advanced gestational age was susceptible to severe clinical symptoms in this study. It was due to changes in hormone levels that were not balanced and a decrease in lung volume caused by an increase in uterine size during pregnancy (Yu et al., 2020). Also, subgroup analysis between pregnant women with COVID-19 and non-pregnant COVID-19 patients showed a lower incidence of fever and cough in pregnant women. It might be influenced by changes in the immune system in pregnant women, and further research is still needed on this matter. This meta-analysis also showed that maternal mortality with COVID-19 was quite low, but this does not interpret pregnancy as a protective factor against more severe clinical symptoms. Previous studies have shown that severe clinical symptoms occur in elderly patients (>60 years) and patients with comorbidities, such as diabetes, coronary heart disease, hypertension, cerebrovascular disease, and other chronic diseases. In this regard, most pregnant women are, on average, young and rarely accompanied by comorbidities. Moreover, pregnant women and their families tend to be more careful in assessing the health and changes that occur in the mother's health. Thus, if there is a health problem in a pregnant woman, she will be immediately taken to a health facility for immediate examination, and it has implications for reducing delays in treatment. This early treatment also reduces the risk of developing severe pregnant women's clinical symptoms (Gao et al., 2020; Zeng et al., 2020; Qiancheng et al., 2020).

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According to Zeng et al., if the IgG COVID-19 antibodies were compared between men and women, the antibodies in women with COVID-19 infection would be higher. Antibodies are produced at a higher rate at the beginning of infection because women, including pregnant women, have relatively mild clinical symptoms compared to men. Zhou et al. also stated that 2-3 weeks is the key time determining the patient's recovery. Because the IgG antibody produced is very high in women, it causes milder clinical symptoms compared to men. Women have different IgG antibody dynamics from men, so this is the reason most women, including pregnant women with COVID-19, have milder clinical symptoms. The study results are strengthened by research conducted by Desmond et al. at New York-Presbyterian Allen Hospital and Columbia University Irving Medical Center, showing that 87.9% of pregnant women who gave birth had mild-asymptomatic clinical symptoms (Zheng et al., 2020).

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CONCLUSION

In this study, the age of most pregnant women was between the age of 24 years in six people (8%), age 28 years in eight people (10.7%), age 30 years in eight people (10.7%), age 34 years in six people (8%), and age 39 years in six people (8%), with a minimum age of 21 years and a maximum age of 42 years, from 75 pregnant women with COVID-19. Pregnant women with COVID-19 were at risk in 15 people (20%), and pregnant women with COVID-19 at no risk age were 60 people (80%).

Regarding the parity of 75 pregnant women with COVID-19, there was multigravida in 59 people (78.7%), while primigravida was in 16 people (21.3%).

Term gestational age was present in 72 mothers (96.0%), and a small proportion of preterm gestational age was present in three mothers (4%).

For pregnancy comorbidities in pregnant women with COVID-19, on average, they did not have comorbidities, while the most common comorbidities in pregnancy were PEB in eight women (10.7), HBsAg (+) in three women (4%), and asthma in two mothers (2.7%).

The majority of the COVID-19 severity in pregnant women was mild in 63 women (84.0%) and severe in only three women (4%).

A total of 80.0% of mothers' knowledge was good, and only 19.2% had poor knowledge. There was no significant relationship between education, occupation, age, and parity with the mother's knowledge of MCH books. Meanwhile, there was a significant relationship between the mother's occupation (p=0.048; OR=4.596) with knowledge of MCH books.

SUGGESTION

Most severity of COVID-19 in pregnant women was mild in 63 mothers (84.0%) and severe in only three (4%), so it is recommended to self-isolate. For the discharge of patients when pregnant women are declared to be allowed to self-isolate, the hospital arranges procedures to discharge pregnant patients with COVID-19 who can transmit, even with mild symptoms. There is special monitoring for pregnant women with mild symptoms if they are in labor at any time with delivery to the hospital according to the COVID-19 procedure. Knowledge of pregnant women about the MCH handbook needs to be maintained by evaluating pregnant women at every ANC examination so that mothers are more aware and actively understand maternal and child health and are more aware when they need help or in an emergency.

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