

RESEARCH ARTICLE

Pregnancy confirmed COVID-19 in hospital Dr. M. Djamil Padang periode 2020-2021

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Abstract

Introduction: Coronavirus disease 2019 (COVID-19) caused a highly acute respiratory infection and high mortality. Symptoms of COVID-19 would be more severe if it affects people at high risk, one of which is pregnant women. This study aims to determine the characteristics of pregnant women with confirmed COVID-19 at RUSP Dr. M. Djamil Padang. **Objective:** to find out the profile of the maternal characteristic confirmed COVID-19 in hospital Dr. M. Djamil Padang Periode 2020-2021. **Methods:** This type of research is descriptive with a total sampling technique using secondary data, namely patient medical records. The sample of this study were all pregnant women who were confirmed to have COVID-19 at RSUP Dr. M. Djamil Padang for the 2020-2021 period with a total sample of 186 patient medical records. Univariate data analysis is presented in the form of frequency distribution and data processing using the Computerized SPSS version of the IBM version 26.0. **Results:** The highest age group was 20-35 years old (78%), the most addresses were Padang City (43,5. %), the most gravida status was multigravida (71,5%), the most parity status was multipara (38,2%), the most gestational age was third trimester (81,7%), the most clinical symptoms are asymptomatic (44,1 %), and the most comorbid status was without comorbid (82,3%). **Conclusion:** The most pregnant women have confirmed COVID-19 at RSUP Dr. M. Djamil Padang in 2020-2021 with characteristics of age 20-35 years, address in Padang City, status of multigravida and multiparous pregnancy, third trimester gestational age, asymptomatic and no comorbidities.

Keywords: age; parity; maternal characteristic; COVID-19

INTRODUCTION

COVID-19 first emerged in Wuhan, China, in December 2019 and quickly spread around the world, having a catastrophic effect on the world community resulting in more than 3.8 million deaths worldwide. This disease is the most impactful global health crisis since the 1918 influenza pandemic era. The World Health Organization (WHO) declared COVID-19 a global pandemic on March 11, 2020. Since being declared a global pandemic, COVID-19 has hit many countries around the world and burden many health services. ¹

According to data from WHO for COVID-19 cases as of October 12, 2021, it shows 238 million positive confirmed cases of covid worldwide and there are 5 million deaths.² On March 2, 2020, the first and second COVID-19 cases were recorded in Indonesia, while as of March 2, 2020, December 12, 2021, according to data from officers handling COVID-19, confirmed positive cases in Indonesia reached more than 4.2 million cases and 143,936 deaths due to

COVID-19, and 5,158 active cases.³ COVID-19 that positive confirmed cases in West Sumatra as of December 1, 2021 reached 87,607 people and 2,152 deaths. Especially in the city of Padang, positive confirmation cases based on data from the Padang City Health Office reached 42,228 people and 554 deaths. One of the COVID-19 referral hospitals in West Sumatra is RSUP Dr. M. Djamil Padang, where this is stipulated by the Decree of the Minister of Health number 169 of 2020.⁴

Transmission of the virus in COVID-19 can occur through direct contact with exposure to the COVID-19 virus, contact with contaminated objects or surfaces, through droplets and through the air or airborne. Based on the research found that SARS-CoV-2 can be detected in stool samples, digestive tract, saliva and urine of infected patients. The incidence of being exposed to the virus or being infected with COVID-19 is not limited to a certain age group or gender, where it can occur in any age group and both sexes.⁵

The characteristics of the COVID-19 incident related to pregnant women need to be known to determine the morbidity and mortality of each pregnant woman and fetus affected by COVID-19. Based on experience gained from previous coronavirus outbreaks such as acute respiratory syndrome caused by the SARS-CoV virus and Middle East Respiratory Syndrome (MERS-CoV), it is explained that pregnant women and their fetuses are more at risk of worsening symptoms. The risk of admission to intensive care is higher in pregnant women, with 35% of deaths recorded.⁶

The CDC report from January 22 to October 3, 2020 on 461,825 women of reproductive age who tested positive for SARS-CoV-2 found that 6.6% were pregnant. Among 461,825 women of childbearing age, 409,462 (88.7%) were symptomatic. These findings broadly suggest that in the US SARS-CoV-2 infection and associated symptoms are higher among pregnant women than among nonpregnant women of reproductive age. Pregnant women are at greater risk of severe morbidity and mortality because of the weakened immune response during pregnancy and increased susceptibility to respiratory infections. In an international cohort study comparing 706 pregnant patients with a COVID-19 diagnosis and 1,424 pregnant women without a COVID-19 diagnosis, those infected with COVID-19 had a 5.04-fold higher risk of ICU admission, a 22.3-fold increase risk of maternal death, as well as an increased relative risk of preeclampsia.⁷

METHOD

Study this covers room scope field Obstetrics and Gynecology. The place study this will done in installation Record Medical in hospital. DR. M, Djamil field. When this research will be conducted in April 2021 to June 2022. This type of research total sampling technique, namely all subjects who met the inclusion and exclusion criteria in the medical records of pregnant women who were confirmed to have COVID-19 at Dr. M. Djamil Padang in 2020-2021. Population target on study this is patient pregnancy confirmed COVID-19 in RSUP Dr. M. Djamil Padang. The sample in this study is whole patient pregnancy confirmed COVID-19

from data record complete medical history based on maternal characteristic in RSUP Dr. M. Djamil Padang period year 2020-2021

RESULTS

Results from Table 1 concluded that from 186 patient pregnancy confirmed COVID-19 in RSUP Dr. M. Djamil field, age Mother the most is 20-35 year (no risky) that is 145 people (78%), parity Mother the most is Multipara that is 72 people (38.7%), the most gestational age is trimester III 152 people (81.7%), the most without kormobidities is 153 people (83.3%), and the most clinical symtomp is without symptoms that is 82 people (44.1%).

Table 1. Characteristics of Respondents

	F	%
N = 56		
Age of mother (years)		
20-35	145	78,0
<20 & >35	41	22,0
Parity		
Nulipara	62	33,3
Primipara	52	28,0
Multipara	72	38,7
Trimester		
Trimester I	8	4,3
Trimester II	26	14,0
Trimester III	152	81,7
Komorbid		
Yes	33	17,7
No	153	83,3
Clinical symptoms		
Without symptoms	82	44,1
fever	64	34,4
Cough	58	31,2

DISCUSSION

The results showed that the characteristics based on age of the most dominant category were the productive age of 145 people (78%). The study conducted from May 2020 to June 2020 among women who received obstetric care at teaching hospitals in Kuala Lumpur found the most age, namely the low-risk age (age 20-35 years) as many as 296 (71.3 %).⁸ The same results were also obtained in a study at the Panyipatan Health Center in 2020, the most age was obtained, namely the age of 20-35 years as many as 73 people (57.4%).⁹ Likewise, research conducted by Marian Knight in 2020 in the UK showed that the highest incidence of pregnant women who were confirmed with COVID-19 was found in mothers aged 20-35 years as many as 248 people (58%) of all pregnant women who were confirmed with COVID-19.³²

At the age of the mother 20-35 years is the optimal age for the mother to undergo pregnancy. This age is the age when pregnant women are able and ready physically and mentally so that they are safe in the process of pregnancy and childbirth. Pregnant women aged 20-35 years are a group of low-risk age mothers. The age of pregnant women greatly affects the behavior and awareness of pregnant women about health. In accordance with the theory proposed by Handayani, that age can affect a person in responding to anxiety. As an adult, a person has a fairly high experience and vigilance, especially in responding to all the risks that affect their pregnancy. So that mothers with pregnancies who are at a high risk age can be a cause of anxiety so that mothers will be more aware of all the risks of their pregnancy, especially in the COVID-19 virus.³³

The age of pregnant women ranging from 20 to 35 years is also at high risk, where the age range is the productive age. The productive age is at higher risk of exposure to the COVID-19 virus because of higher mobility and activity than other age ranges. Based on the Center for Strategic and International Studies, it is explained that individuals with high mobility are a source of transmission of COVID-19 infection.¹²

In this study, the characteristics based on parity were most found in the category of mothers with multipara as many as 71 people (38.2%). This result is in line with research conducted from May 2020 to June 2020 among women who received obstetric care at teaching hospitals in Kuala Lumpur, the most parity was obtained, namely multipara as many as 347 people (83.6%).⁸ In the study conducted in Kuwait by amel ayed, the most cases were 149 multipara mothers (80.5%).¹³

Mothers who have a history of pregnancy and birth more than twice have an increased risk of developing cardiovascular disease in the future.¹⁴ Cardiovascular disease is one of the comorbidities that can worsen the symptoms of COVID-19 in pregnant women. Several factors such as smoking, hypertension and diabetes mellitus will increase the excretion of ACE2 receptors that will affect the cardiovascular system. An abnormal cardiovascular system will worsen the circulatory system in the body so that it will cause the body's immune system to be not optimal in fighting infections and will make the body vulnerable to exposure to the COVID-19 virus.¹⁵

The results of this study found that the most gestational age was found in the III trimester (>27 weeks) as many as 152 people (81.7%). This result is in line with research conducted at Dr. Soetomo Hospital in 2021 the most gestational age was found in the III trimester as many as 95 people (87.2%).¹⁶ Amel Ayed's research in Kuwait in 2020 also got the most results in the III trimester, namely 95 people (51.3%).¹³

Pregnant women of the III trimester are in the pro-inflammatory phase. In this phase, a decrease in lymphocytes will be obtained, while kimphosite acts as the main and active immune cell in the human body. Decreased lymphocyte count is an early marker of physiological stress and systemic inflammation.¹⁷ In addition to the decrease in lymphocytes, the increase in EAC-2, IL-8, IL-10 and IP-2 where this factor will affect the total lung capacity and immune system of pregnant women.¹⁸ The above factors cause the high prevalence of pregnant women confirmed with COVID-19 in the III trimester.

In the results of this study, data on the incidence of pregnant women confirmed with COVID-19 at RSUP Dr. M. Djamil Padang in 2020-2021 based on the comorbidity of pregnant women

without comorbidities as many as 153 people (82.3%) and with comorbidities as many as 33 people (17.7%). The results of this study are in line with Maryamsadat Jafari's research in 2020 "clinical characteristics and outcomes of pregnant women with COVID-19" namely that the most confirmed pregnant women with COVID-19 are pregnant women without comorbidities as many as 28 people (87.5%).¹⁹ This result is also in line with research conducted by Rong Yang in 2020, the most cases of pregnant women with COVID-19 are pregnant women without comorbidities (95%).²⁰

Based on a guidebook from the Royal College Obstetricians Gynaecologists entitled "Coronavirus (COVID-19) Infection in Pregnancy", it is explained that mothers who do not have comorbidities have a small risk of getting infected compared to the general population. Inversely, pregnant women have comorbidities such as diabetes that existed before pregnancy, asama, body mass index (BMI) >25 kg / m² and gestational diabetes has an increased risk of contracting SARS-CoV-2 infection.²¹ COVID-19 patients with a history of comorbidities have a low life expectancy, especially in a history of cardiovascular disease or chronic obstructive pulmonary disease. This is also supported by a decrease in physiological lung function in pregnant women. Because anita is pregnant at RSUP Dr. M. Djamil Padang who is confirmed with COVID-19 without comorbidities, more is found than data on pregnant women with comorbidities. This is in line with pregnant women with confirmed COVID-19 showing no symptoms or asymptomatic and mild symptoms.²²

Based on the results of the research, the symptoms of COVID-19 when entering the hospital were found at most 64 people (34.4%). Different results were obtained in Yao wenling's study entitled "Pregnancy and COVID-19: management and Challenges" in 2020 showed the most symptoms were fever as many as 31 people out of a total of 38 people.²³ The results of Yu han's research in 2020 from 30 studies found that the most symptoms of pregnant women experiencing COVID-19 were fever with a total of 954 people (64.78%).²⁴

The pathophysiology of COVID-19 that infects epithelial cells through binding to ACE 2 receptors will cause irregular release of cytokines, especially pro-inflammatory cytokines such as IL-6, IL-1 β , TNF- α . These cytokines will have an effect on the circumventricular circumpolar organum, namely the organum vasculosum of the lamina terminalis (OVLT) which will activate the hypothalamic preoptic area. Furthermore, the hypothalamus will secrete prostaglandin which will increase the set-point of body temperature so that fever occurs.²⁴

CONCLUSION

The conclusion of this study is that most pregnant women have confirmed COVID-19 at RSUP Dr. M. Djamil Padang in 2020-2021 with characteristics of age 20-35 years, address in Padang City, status of multigravida and multiparous pregnancy, third trimester gestational age, asymptomatic and without comorbidities.

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