

CHAPTER I

INTRODUCTION

1.1 Background

Coronavirus Disease 2019 (COVID-19) is an acute and highly infectious respiratory disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) that was first discovered in Wuhan, Hubei province, China, in December 2019 (Singhal, 2020). World Health Organization (WHO) declared COVID-19 as a global pandemic in March 2020, as the disease dispersed rapidly across the world. Based on the data that WHO collected as of May 10th, 2021, in Indonesia, the number of confirmed cases is 1.713.684, with the number of deaths of 47.012 people. The clinical manifestation of COVID-19 infection varies from asymptomatic, mild disease, moderate disease, severe disease, and critical disease (Kementerian Kesehatan RI, 2020).

Pregnant women are a potential group vulnerable to COVID-19 infection (Kotlyar et al., 2021). As of May 10th, 2021, in the United States, there have been 90.099 pregnant women with COVID-19 and 101 maternity deaths (CDC, 2021). Meanwhile, in Indonesia, there is still no official data regarding the total number of confirmed cases of pregnant women with COVID-19. Reported data from Universitas Airlangga Hospital in Surabaya as of August 2020 shows 62 confirmed cases of COVID-19 in pregnant women with six maternity deaths (Ardian et al., 2020). Based on the East Java Provincial Health Office Report (2020), maternal mortality in Pasuruan District has decreased from 21 cases in 2019 to 19 cases in 2020. However, maternal mortality due to COVID-19 was reported in seven of the 19 cases. This number was among the highest in East Java (five maternal deaths in Sidoarjo, four maternal deaths in Malang, six maternal deaths in Jember).

While the clinical manifestations of COVID-19 in pregnancy are the same as the general population's but, during pregnancy, the risk of severe manifestation of COVID-19 with the worse maternal outcome can become higher because of the alteration in the immune system and physiological function (Wastnedge et al., 2021). According to the Royal College of Obstetricians & Gynaecologist (2021), pregnant women with symptomatic COVID-19 requiring hospitalization have worse maternal outcomes. Several studies reported a higher incidence of pneumonia and preeclampsia in pregnant women with COVID-19 (Martinez-Portilla et al., 2021; Villar et al., 2021). A retrospective case-control study in New York City and Philadelphia suggests the majority of pregnant women with COVID-19 who delivered during their hospitalization underwent cesarean delivery (72.7%) and preterm birth (68.2%) (DeBolt et al., 2021). Two stillbirths have been reported as a result of severe maternal infection, and one neonatal death has been reported due to prematurity-related complications (Elshafeey et al., 2020).

The pregnant women with COVID-19 in a study by Chen *et al* (2020) had the median age of 31 years, 52% were nulliparous, and 64% had been infected with SARS-CoV-2 in the third trimester (Chen et al., 2020). Advanced maternal age, infection of SARS-CoV-2 in the third trimester, high body mass index, and pre-existing comorbidities also contribute to worse outcomes (Knight et al., 2020).

Based on the introduction above, pregnant women with COVID-19 have a higher risk of worse maternal outcomes. Moreover, the maternal mortality caused by COVID-19 in Pasuruan District in 2020 is among the highest in East Java. Therefore, this research aimed to evaluate pregnant women's characteristics and maternal outcomes with COVID-19 in Pasuruan District, East Java.

1.2 Problem Formulation

What are the characteristics, maternal outcomes, and mode of deliveries of pregnant women with COVID-19 that can be found in Pasuruan District, East Java?

1.3 Research Objective

Based on the formulation of the problem that has been described above, the objectives of this research are:

1.3.1 General Objective

To study the characteristics and maternal outcomes of pregnant women with COVID-19 in Pasuruan District, East Java.

1.3.2 Specific Objective

- a. To know the maternal age, gestational age, and pre-existing comorbidities (obesity, Diabetes Mellitus, and hypertension) of pregnant women with COVID-19 in Pasuruan District, East Java.
- b. To know the maternal outcome (pneumonia, preeclampsia, preterm birth, stillbirth, and maternal death) of pregnant women with COVID-19 in Pasuruan District, East Java.
- c. To know the mode of delivery in pregnant women with COVID-19 in Pasuruan District, East Java.

1.4 Benefit of Research

1.4.1 Academic Benefits

This research is expected to increase our understanding of how COVID-19 affects the pregnancy in Pasuruan District, East Java, as the

information regarding COVID-19 infection in pregnant women are still limited.

1.4.2 Practical Benefits

This research is expected to provide information to the health practitioner regarding how COVID-19 affects the pregnancy in Pasuruan District, East Java, to prevent maternal mortality because of SARS-CoV-2 infection.