

Impact of COVID-19 Comorbidities on Pregnant Mothers

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ABSTRACT

Coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). Common symptoms that occur in pregnant mothers with COVID-19 include fever, cough, shortness of breath, and diarrhea. Currently, SARS-CoV-2 has mutated and based on facts it is also shown that number of COVID-19 cases increasing. Increase in number of COVID-19 cases associated with the emergence of a new variant of SARS-CoV-2 due to mutation. Furthermore, the severity of COVID-19 patients is influenced by comorbidity of COVID-19.

The three major comorbidity of COVID-19 that affects the severity of COVID-19 patients are diabetes mellitus, hypertension and heart disease. For general community who have comorbidity of COVID-19, especially diabetes mellitus, hypertension and or heart disease (top three comorbidity of COVID-19) should still be careful and have a healthy lifestyle, keep adhering to health protocols so that they are not infected with SARS-CoV-2, and not suffering of COVID-19. The invitation to avoid COVID-19 is intended for anyone, including mothers, especially pregnant mothers who have comorbidity of COVID-19.

Keywords: SARS-CoV-2; Pregnant Mothers with COVID-19; Comorbidities; Diabetes mellitus; Hypertension; Heart disease.

LATEST DEVELOPMENTS OF COVID-19 OUTBREAK

We have written about severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) which is the cause of Coronavirus disease 2019 (COVID-19) [1]. Over time, the SARS-CoV-2 has mutated [2], so it needs a response to overcome the COVID-19 outbreak [3]. Until now the COVID-19 outbreak is still a global problem. Globally, there are 176.693.988 confirmed cases of COVID-19, including 3.830.304 deaths reported to WHO as of 17:14 CEST, 17 June 2021. In addition, it is also reported that a total of 2.377.780.590 doses of vaccine have been given as of June 15, 2021. Furthermore, it was reported that there were 70.103.320 confirmed cases of COVID-19 in America, 55.174.558 cases in Europe, 33.774.368 cases in South-East Asia, 10.585.505 cases in the Eastern Mediterranean, 3.725.348 cases in Africa, and in the Western Pacific as many as 3.330.125 cases [4].

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Indonesia is one of the countries in Southeast Asia with a high number of confirmed COVID-19 cases. The latest report noted that 18.305.810 samples were examined and the results of the examination showed 1.950.276 confirmed cases of positive COVID-19, 125.303 of them were active cases, 1.771.220 cases recovered and 53.753 cases died (as of June 18 2021). It was further reported that the positive confirmed cases of COVID-19

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in Indonesia were 48.7% male and 51.3% female. COVID-19 patients in Indonesia who are being treated 47.5% are male and 52.5% are female. Number of patients recovered from COVID-19 in Indonesia 48.5% is male and 51.5% are female. Number of dead due to COVID-19 in Indonesia 55.9% were male and 44.1% were female [5].

COMORBIDITY OF COVID-19 ON PREGNANT MOTHERS

It has been reported that diabetes mellitus, hypertension, and cardiovascular disease are among the top three of COVID-19 comorbidities, although the mechanism is unknown [5,6]. High mortality rates in COVID-19 patients have also been reported to be associated with coronary heart disease [7,8]. Other researchers also reported that acute respiratory distress syndrome (ARDS) occurs due to organ dysfunction in the majority of critically ill COVID-19 patients. In addition to ARDS, liver dysfunction, acute kidney injury and cardiac injury can also be found in critically ill COVID-19 patients [9].

A previous study reported that hypertension was the most common comorbidity of COVID-19 patients in Brasilia. In addition, it was also reported that heart disease and diabetes as risk factors for COVID-19 in Brasilia [10]. The meta-analysis studies showed that the most common of COVID-19 comorbidities are hypertension, diabetes, cardiovascular disease, and chronic kidney disease [11]. Another study on 1,590 COVID-19 patients in China showed that hypertension (16.9%) as the most common of COVID-19 comorbidities, followed by diabetes (8.2%) [12]. The other study results in China showed that pregnant mothers with COVID-19 experienced fever, cough, shortness of breath, and diarrhea [13].

CONSEQUENCES ON PREGNANT MOTHERS WHO HAVE COMORBIDITY OF COVID-19

In accordance with the results of other investigators [9], we have also reported the presence of ARDS that occurs due to organ dysfunction in the critically ill COVID-19 patients. It should be noted that the death of the COVID-19 patient in the case we reported begins with a sudden heart attack [14]. In addition, We agree with the statement that terminal organ failure, proportionality of care in the death process, and the involvement of COVID-19 in the death process as characteristic dominate about the death process of COVID-19 patients [15].

A previous studies showed that most of the COVID-19 patients in Wuhan, China had heart injuries [16]. Based on these facts, it is necessary to examine the relationship between heart injury and aortic enlargement and blood vessel disorders that are the cause of death [17]. Another study of 282 COVID-19 patients with hypertension as a comorbidity indicates that the severity was 28.4%, while the severity of COVID-19 patients without hypertension as much as 12.1% ($p=0.001$) [18]. In addition, it was also reported that in the population of COVID-19 patients over than 60 years old, the presence of chronic kidney disease and heart failure increases the risk of death in hospital [19].

MESSAGE FOR THE GENERAL COMMUNITY AND ESPECIALLY FOR PEOPLE WHO HAVE COMORBIDITY OF COVID-19

For the general public and especially people who have comorbidity of COVID-19 remain careful and have a healthy lifestyle, comply with health protocols and follow the COVID-19 vaccination program. This action needs to be taken so that not infected with SARS-CoV-2 and avoid of COVID-19. The invitation to avoid COVID-19 is intended for anyone [20], including mothers, especially pregnant mothers with comorbidity of COVID-19.

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COMPETING INTERESTS

The author completed the ICMJE Unified Competing Interest form (download from <http://www.icmje.org/conflicts-of-interest/>) and declare no conflicts of interest

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