

## MATERNAL DEATH WITH COVID-19 at DOKTER SOETOMO GENERAL HOSPITAL SURABAYA from MARCH-DESEMBER 2020

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The world was caught off guard by the outbreak of unknown pneumonia that began in Wuhan, Hubei Province, China in early 2020. It spread rapidly throughout more than 190 countries and territories. This outbreak is named coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). The spread of this infection disease in the early time has had tremendous impact in our health system.

Pregnancy itself alter physiologic in her body, thus make immune systems decrease. In Indonesia, even before pandemic in 2017 maternal mortality rate is high at 177 death in 100.000 labour. Case fatality rate in Indonesia until December 2020 is 2,98%. In dr soetomo general hospital as a referral hospital in Surabaya there are 15 maternal death since maret to desember 2020 related to COVID-19. We want to determine the antenatal care, clinical manifestations, prognostic factors, and treatment. We have all the patients with BMI more than 30 in 46 %, with Any Comorbid in 66 %, Age over 35 in 33%. We found that Case Fatality Ratio in maternal with covid is 3,4 %, still lower than all Case Fatality Ratio In maternal case without COVID-19 is 4,5% . In this pandemic situation, all the manpower and resources of health facilities will be consumed, especially as a referral hospital. Preparedness and vigilance from all parties is needed to prepare resources, manpower, policies, budgets and quarantine to face a pandemic.

In addition, supported data from Dr. Soetomo Hospital, as a tertiary referral hospital in East Java from March 2020 to mid-June 2020, has received 110 COVID-19 maternal referral cases, with 63 rapid (+) tests and 23 COVID-19 confirmed cases with PCR. Furthermore, Universitas Airlangga Academic Hospital received COVID-19 maternal referral cases at about 47 cases: with 24 confirmed cases of COVID-19. Another report from the Universitas Airlangga Academic Hospital informed that 1 infant with PCR+ confirmed was born to the mother by a rapid (+) test<sup>6,7</sup>.

Generally, the COVID-19 service referral system already exists in the guidelines of the Indonesian Ministry of Health and therefore the East Java Governor's Decree regarding the appointment of several hospitals as COVID-19 referral hospitals<sup>8</sup>. However, the COVID-19 maternal referral system in East Java still becomes a challenge. This is because, at the start of the pandemic, hospitals within the regions were not ready with the facilities and infrastructure to handle COVID-19 cases, mainly associated with the supply of negative pressure isolation rooms and private protective equipment (PPE). This caused referral hospitals in East Java to be centered only within the capital and several city districts, which resulted in difficulties in referring mothers from various regional hospitals.

This condition affects the flow of other referral services in Non- COVID-19 patients. together example, OR services in district hospitals were forced to shut because health workers providing services there were infected with COVID-19. Other patients who need emergency surgery can't be provided at the hospital. Therefore, they need to be referred immediately to hospitals in the capital and cause delays in care. the necessity for guidance on the maternal referral system within the pandemic era is necessary. PENAKIB (an organization that has focused on reducing maternal, neonatal mortality) with the East Java Health Department is currently trying to map hospitals which will facilitate maternal services optimally, both in districts and cities. This hospital is categorized as capable of handling pregnant women with COVID-19 when it meets the requirements, including the availability of adequate PPE for doctors . There are three specific rooms for COVID-19 for mothers, namely the delivery room, neonatal room, and isolation rooms.

The hospital's condition would be ideal if the hospital had a specific OR and a post-operative isolation room with negative pressure. However, because investment in a negative pressure operating room is complicated and expensive, some COVID-19 referral hospitals in urban districts have made COVID-19 operating rooms

separate from other operating rooms. The operation was administered using level 3 PPE, and therefore the operating room was given an air purifier with a HEPA filter. In addition, after each operation, the space will be sterilized with UV, and therefore the patient is treated in an isolation room break away other patients. The hope for maternal services in East Java within the future is that each hospital within the district/city can handle mild to moderate cases of COVID-19 mothers. So, referral system services are more organized, and there's no accumulation of patients within the capital city, which increases the morbidity and mortality rates of patients because the pyramidal referral is just too long.

Maternal service standards must comply with referral system guidelines<sup>9</sup>. According to the Indonesian Gynecological Obstetrics Association (POGI), there has been no reliable clinical evidence to recommend a way of delivery. Therefore, labor is based on obstetric indications regarding the needs of the mother and family, except mothers with respiratory problems that require emergency measures in the shape of c-section or childbirth . If there are indications of a planned operation for pregnant women with confirmation of PDP or COVID-19, an emergency evaluation is carried out and, if possible, delayed to reduce the risk of transmission until the infection is confirmed or the acute condition has been resolved. If the operation can't be postponed, then the c-section are often administered with infection prevention must meet the quality and complete PPE<sup>10</sup>.

The Indonesian government has determined funding for health services thanks to COVID-19. This has been stipulated in the decree of the Minister of Health No. HK.01.07/MENKES/104/2020 concerning Determination of Corona Virus Infection as Disease Can Cause an epidemic and its Countermeasures stipulated by the Minister of Health on February 4, 2020. Given the tendency of high escalation of COVID-19 cases and requires treatment in a hospital, causing the referral hospital's capacity to be unable to accommodate COVID-19 cases. Then it's necessary to involve all health service facilities which will provide COVID-19 services in order that health services for patients are often optimal<sup>19</sup>. the power of hospitals in financial management must be supported by regulations that have been established by the government regarding the technical submission of claims for the care of emerging

infectious patients for hospitals that provide health care services for COVID-19. The regulation are often a reference for hospitals to take care of the standard , cost efficiency, and sustainability of COVID-19 patient services<sup>20</sup>. The following are the standards for the patients whose treatment costs are often claimed: a. Persons in Monitoring (ODP) over 60 years aged with or without concomitant diseases and ODP less than 60 years with concomitant diseases. b. Patients in Oversight (PDP) c. The patient confirmed COVID-19. This criterion applies to Indonesian citizens and foreigners at the service location in outpatient and inpatient care at referral hospitals and other hospitals.

In COVID-19 service with Co-occurrence of Pregnant Women, the replacement of funding comes from outside the Ministry of Health financing, following the participation of the patient (JKN/Other Health Insurance). This funding is as payment received by the Hospital with COVID-19 service guarantee (reimbursement of costs for services, additional accommodation for isolation rooms, PPE, and medicines that are under the standards within the sort of Cost per Day. this is often a challenge for hospitals within the management of patients as well as funding; the initial screening protocol for pregnant women is done for the referral hospital. The resources explicitly expended to be able to determine the diagnosis of COVID- 19 is quite expensive. So, within the case of pregnant women who are going to be delivered with sufficient resources if the initial screening results and final diagnosis cannot meet the COVID-19 guarantee criteria of the quality The Ministry of Health, the ultimate guarantee is BPJS. Claims for reimbursement by BPJS in pregnant women following INA CBG's that have been determined, in this case, only sufficient for non-COVID-19 standard services. With the implementation of COVID-19 screening, which takes up many resources for COVID-19 services, it is difficult for hospitals to receive reimbursement, consistent with INA CBG's. However, the hospital must prioritize patient safety service standards by seeking cross - subsidies from other INA CBG's claims and COVID-19 treatment claims. If this vital screening is not done, infection transmission from patients who are not screened can lead to more severe health service disruptions and more funding for infected doctors.

However, the condition of health financing regulations for COVID-19 also continues to develop. Several

regulations have been improved according to conditions and difficulties that occur within the field. it's vital enough to be renewed, like allowing non-referral hospitals COVID-19 to form claims COVID-19 services and more accessible discharge planning criteria for patients. Without expecting a negative PCR result, clinical examination and X-Ray photographs will undoubtedly facilitate the flow of patients in the hospital. In some areas, some local regulations can help finance COVID-19 screening efforts, which aren't covered by the ministry of health or BPJS, which certainly can help the hospital.

**Conclusion:** The maternal health service system in East Java Province, Indonesia, especially at Dr. Soetomo General Hospital and Universitas Airlangga Academic Hospitals, showed better adaptive changes. This encouraged the maternal service system can remain stable and according to providing quality care services during the COVID-19 pandemic. These changes have been adapted to existing national regulations, the latest evidence, and hospital resource conditions.