

The Relationship of Response Time of Emergency C-Sections with Maternal and Perinatal Outcomes in the Emergency Installation of RSUP Dr Kariadi Semarang: Observations in the COVID-19 Era

Rully Zunaidhi Bahar¹, Ratnasari Dwi Cahyanti², Soerjo Hadijono², Besari Adi Pramono³, Alini Hafiz³, Arufiadi Anityo Mochtar⁴

¹Resident of Obstetrics and Gynecology, Medical Faculty of Diponegoro University/Central General Hospital of Kariadi Semarang, Indonesia

²Social Obstetrics and Gynecology Subdivision, Obstetrics and gynecology Department, Medical Faculty of Diponegoro University/Central General Hospital of Kariadi Semarang, Indonesia

³Fetal-Maternal Subdivision, Obstetrics and gynecology Department, Medical Faculty of Diponegoro University/Central General Hospital of Kariadi Semarang, Indonesia

⁴Urogynaecology Subdivision, Obstetrics and gynecology Department, Medical Faculty of Diponegoro University/Central General Hospital of Kariadi Semarang, Indonesia

ABSTRACT

Submitted:

Accepted:

Author's affiliation:

Resident of Obstetrics and Gynecology, Medical Faculty of Diponegoro University/Central General Hospital of Kariadi Semarang, Indonesia

Author's

correspondence:

Rully Zunaidhi Bahar
Jombang, East Java, Indonesia

E-mail:

rully.z61@yahoo.com

BACKGROUND: Emergency caesarean section is a surgical procedure performed when there is an immediate threat to the life of the fetus and/or mother. The interval in minutes between the decision for a caesarean section by the obstetrician until the incision is carried out is called the response time. Long response times in emergency caesarean section cases have been reported to be associated with worsening maternal and perinatal outcomes. Research shows that the COVID-19 pandemic also influences the incidence of emergency caesarean section in hospitals.

AIMS: Analyzing the relationship between the response time for emergency caesarean section and the outcomes of maternal and perinatal in the emergency department of RSUP Dr. Kariadi Semarang in the era of COVID-19

METHOD: A retrospective observational analysis, cross-sectional time series study of three waves of COVID-19 involving 205 emergency caesarean section patients divided into 56 patients in wave 1, 85 patients in wave 2 and 64 patients in wave 3. The independent variable of the study was response time for emergency caesarean section. The dependent variables of the study were maternal outcomes (blood transfusion, puerperal fever, surgical site infection, hysterectomy, postpartum hemorrhage, and maternal death) and perinatal outcomes (APGAR score, need for resuscitation, prematurity and infant death). The confounding variables are the hour of the incident (hour of day), the day of the incident (day of week). The Chi-square test and Fischer Exact test were used to analyze with significant results if $p < 0.05$

RESULT: There is no relationship between the response time for emergency caesarean section procedures in the emergency department during the three waves of the COVID-19 pandemic at RSUP Dr. Kariadi Semarang with the need for blood transfusion ($p=1,000$), maternal childbed fever ($p=1,000$), surgical site infection ($p=1,000$), hysterectomy ($p=1,000$), postpartum hemorrhage ($p=1,000$), maternal death ($p=1,000$), APGAR score ($p=1,000$), need for resuscitation ($p=1,000$), prematurity ($p=0.487$) and infant death ($p=1,000$).

CONCLUSION: There is no relationship between the response time for emergency caesarean section procedures in the emergency department during the three waves of the COVID-19 pandemic at RSUP Dr. Kariadi Semarang with maternal outcomes and perinatal outcomes.

Keywords: COVID-19, emergency caesarean section, response time, maternal outcomes, perinatal outcomes

ABSTRAK

LATAR BELAKANG: Seksio sesarea emergensi adalah prosedur pembedahan yang dilakukan bila terdapat ancaman langsung terhadap kehidupan janin dan/atau ibu. Selang waktu dalam hitungan menit antara keputusan dokter obstetri untuk melakukan operasi seksio sesarea hingga dilakukannya insisi disebut dengan waktu tanggap (*response time*). Waktu tanggap yang lama pada kasus seksio sesarea emergensi dilaporkan berhubungan dengan buruknya luaran ibu dan bayi. Penelitian juga menunjukkan bahwa pandemi COVID-19 juga mempengaruhi kejadian seksio sesarea emergensi di rumah sakit.

TUJUAN: Menganalisis hubungan antara lama waktu tanggap (*response time*) seksio sesarea emergensi dengan luaran ibu dan bayi di instalasi gawat darurat RSUP Dr. Kariadi Semarang di era COVID-19.

METODE: Penelitian retrospektif observasional analisis, studi *cross-sectional time series* dari tiga gelombang COVID-19 yang melibatkan 205 pasien seksio sesarea emergensi dibagi menjadi 56 pasien pada gelombang 1, 85 pasien pada gelombang 2 dan 64 pasien pada gelombang 3. Variabel independen penelitian adalah waktu tanggap untuk seksio sesarea emergensi. Variabel terikat penelitian ini adalah luaran ibu (transfusi darah, demam nifas, infeksi luka operasi, histerektomi, perdarahan postpartum, dan kematian ibu) dan luaran perinatal (skor APGAR, kebutuhan resusitasi, prematuritas, dan kematian bayi). Variabel perancu adalah jam kejadian (*hour of day*), hari kejadian (*day of week*). Uji Chi-square dan uji Fischer Exact digunakan untuk menganalisis dengan hasil yang signifikan jika $p < 0,05$

HASIL: Tidak terdapat hubungan antara lama waktu tanggap (*response time*) tindakan seksio sesarea emergensi di instalasi gawat darurat pada ketiga gelombang pandemi COVID-19 di RSUP Dr. Kariadi Semarang dengan kebutuhan transfusi darah ($p=1.000$), demam nifas ibu ($p=1.000$), infeksi daerah operasi ($p=1.000$), tindakan histerektomi ($p=1.000$), perdarahan postpartum ($p=1.000$), kematian ibu ($p=1.000$), skor APGAR bayi ($p=1.000$), kebutuhan resusitasi bayi ($p=1.000$), prematuritas bayi ($p=0.487$) dan kematian bayi ($p=1.000$)

KESIMPULAN: Tidak terdapat hubungan antara waktu tanggap seksio sesarea emergensi di unit gawat darurat pada tiga gelombang pandemi COVID-19 di RSUP Dr. Kariadi Semarang dengan luaran ibu dan luaran bayi.

Kata Kunci: COVID-19, seksio sesarea emergensi, waktu tanggap, luaran ibu, luaran bayi