



## Profile of Neonates Born to Mothers With COVID-19 at RSUD Haji in East Java

Monique Noorvitry<sup>1\*</sup>

<sup>1</sup> RSUD Haji, East Java, Indonesia

\*Corresponding author: [monique.spa64@gmail.com](mailto:monique.spa64@gmail.com)

DOI : 10.33086/iimj.v4i1.3692

---

### ARTICLE INFO

#### Keywords:

Neonates Born,  
Mother with  
COVID-19,  
COVID-19.

Submitted:

December 15<sup>th</sup>  
2022

Reviewed:

December 30<sup>th</sup>  
2022

Accepted: January  
16<sup>th</sup> 2023

### ABSTRACT

**Background:** COVID-19 infection can attack all levels of society, including pregnant women, which can impact the babies they give birth to and can increase morbidity & mortality in babies.

**Objective :** This study was conducted descriptively & retrospectively. All the data were collected from inpatient medical records of patients in the COVID-19 neonatal isolation room at RSUD Haji Surabaya from January 1, 2021 - December 31, 2021.

**Methods:** This study is retrospective and descriptive. The total population is all babies treated in the COVID-19 neonatal isolation room at the RSUD Haji Surabaya from January 1, 2021 – December 31, 2021. Data for all babies were obtained from medical records. Furthermore, the babies are grouped based on the way of birth. Furthermore, the baby's condition is broken down according to the required indicators.

**Results:** Most of the babies of mothers with COVID-19 were born at full term spontaneously. Only three babies were born with severe asphyxia and needed CPR resuscitation and the help of CPAP or neopuff breathing apparatus. Only 4 of the 15 babies with positive PCR results.

**Conclusion:** The vertical transmission of COVID-19 infection from pregnant women to their babies during the intrauterine period is still unclear because not all of these babies were confirmed for COVID-19 (the PCR results for these babies were only four positive). So further research is needed with larger samples and involving flashlights and other sectors related to COVID-19.

---

### Introduction

COVID-19 infection can attack all levels of society, including pregnant women. This can have an impact during pregnancy and also on the babies they give birth to (Joma, 2021). These impacts include babies born prematurely, LBW (low birth weight

babies), experiencing emergencies in neonates, and even abortion and IUFD (Intra Uterine Fetal Death). However it is not clear yet how COVID-19 mothers affect the psychological status of newborns (Yang et., al. 2020). Although from several studies in China and several other countries, the

incidence rate is relatively low. Most of the babies of mothers with COVID-19 are born normally—or no problems. However, studies evaluating the potential for vertical or postnatal transmission of SARS-CoV-2 are still very few, have small sample sizes, and mainly originate from China, so the results may not show evidence of vertical transmission (Erika, 2021). Several other studies have described newborns with SARS-CoV-2 detected through nasal PCR tests and mild respiratory illness or pneumonia that can heal independently (Chen in Erika et. al., 2021). A study evaluating the initial 2-week period of SARS-CoV-2 infection in pregnant women showed no evidence of vertical transmission after delivery (Breslin, 2019.)

That is the aim of this research to determine whether the incident at RSUD Haji is the same as what happened elsewhere.

## **Methods**

This study is retrospective and descriptive. The total population is all babies treated in the COVID-19 neonatal isolation room at the (Rumah Sakit Umum) RSUD Haji in Surabaya from January 1, 2021 – December 31, 2021. Data for all babies were obtained from medical records. Furthermore, the babies are grouped based on the way of birth. Furthermore, the baby's

condition is broken down according to the required indicators.

## **Result and Discussion**

During this period, there were 15 babies treated in the COVID-19 Neonatal Isolation Room at RSUD Haji Surabaya. With the following details :

- a. 6 babies were born spontaneously (40%), 5 babies were born SC (33%), 1 baby was born spontaneously Bracht, 1 baby was born with manual aid at RSUD Haji, and the rest were referred from outside RSUD Haji.
- b. 7 babies were born with clear amniotic fluid (46.6%) & the rest were born with cloudy/ meconal green amniotic fluid.
- c. 7 babies born at term (full month) & 8 babies born prematurely (53.3%).
- d. 9 babies born with LBW (60%) & 6 babies born with LBW (40%).
- e. 4 babies were born with asphyxia (26.6%), 3 babies with severe asphyxia (20%), and 1 baby with moderate asphyxia.
- f. 3 babies got cardiopulmonary resuscitation (26.6%).
- g. 4 infants (26.6%) required CPAP assistance (1 with Neopuff), 1 infant with O2 nasal cannula.
- h. 5 hypothermic babies (33.3%).
- i. 4 babies experienced hypoglycemia (26.6%).

- j. 2 babies with RDS (13.3%) & 6 (40%) babies with pneumonia.
- k. 2 babies had feeding problems (13.3%).
- l. 1 baby had diarrhea, 2 babies with dehydration (13.3%).
- m. 1 (6%) baby had neonatal tetanus (referral from another hospital).
- n. 1 baby received a blood transfusion (6%).
- o. 6 infants had hyperbilirubinemia (40%).
- p. 4 babies with positive COVID-19 PCR, 6 babies with negative COVID-19 PCR, 1 baby with negative COVID-19 Ag swab, 1 baby with Reactive IgG COVID-19 Rapid test & 1 baby with Non-Reactive IgG COVID-19 Rapid test.
- q. 7 pregnant women (baby mothers) with confirmed COVID-19 & 7 baby mothers with probable COVID-19, 1 baby mother with no data.

From the results above, we know that not all babies born to mothers with COVID-19 during pregnancy are at high risk. Not all babies need LBW, premature or asphyxia, and require resuscitation. Three babies experience severe asphyxia & 3 babies need CPR resuscitation. Not all babies born to mothers with COVID-19 contracted intrauterine/vertical COVID-19 from their mothers. Only 4 out of 15 babies born to mothers with COVID-19 confirmed COVID-19 (26%).

However, due to the limited facilities available, the number of samples was

limited, and the COVID-19 case—even now was still relatively new. Under research development, we still needed more samples & longer time to be able to conclusions so that they could be used as references in society.

## Conclusion

Among several risk factors for LBW that showed significant results in this study were gestational age below 37 weeks, anemia, preeclampsia and PROM. The results of this study can be used as information material to determine the risk factors for the prevalence of LBW.

## Reference

- Ari, A. 2020. Practical Strategies For a Safe and Effective Delivery of Aerosolized Medications to Patients with COVID-19. *Elsevier Respiratory Medicine* 167: 1 – 5.
- Breslin, N., Baptise, C., Gyamfi-Bannerman, C. et. al. 2020. Coronavirus Disease in 2019 Infection Among Asymptomatic and Symptomatic Pregnant Women: Two Weeks of Confirmed Presentations to An Affiliated Pair of New York City Hospitals. *Am J Obstet Gynecol* 2020(2): 100 – 118.
- De Souza, T. H., Nadal, J. A., Nogueir, R. J. N., Pereira, R. M., Brandao, M. B. 2020. Clinical Manifestations of Children With COVID-19: A Systematic Review. *PubMed Pediatr Pulmonol* 55(8): 1892 – 1899.
- Erika, R., Handayani, K. D., Hartiastuti, S. M., Diana V., Harahap, A., Prasetya, O., Masturina, M. 2021. Gambaran

- Klinis dan Karakteristik Neonatus dari Ibu Terkonfirmasi COVID-19 di Rumah Sakit Dr. Soetomo. *Sari Pediatri* 22(5): 285 – 289.
- Joma, M., Fovet, C., Seddiki, N., Gressens, P., Laforge, M. 2021. COVID-19 and Pregnancy: Vertical Transmission and Inflammation Impact on Newborns. *Vaccines* 2021(9): 1 – 19.
- Kementerian Kesehatan RI. 2020. *Pedoman Pencegahan dan Pengendalian Coronavirus Disease (COVID-19)*. Jakarta: Kementerian Kesehatan RI
- Satuan Tugas COVID-19, IDAI. 2020. *Panduan Klinis Tatalaksana COVID-19 pada Anak*. Jakarta: IDAI.
- Trevisanuto, D., Moschino, L., Doglioni, N., Roeher, C. C., Gervasi, M. T., Baraldi, E. 2020. Neonatal Resuscitation Where the Mother Has a Suspected or Confirmed Novel Coronavirus (SARS-CoV-2) Infection: Sugesstion for a Pragmatic Action Plan. *Neonatology* 117: 133 – 140.
- Villar, J., Ariff, S., Gunier, R. B. et., al. 2021. Impact of COVID-19 in Pregnant Women and Their Newborns. *AAP Grand Rounds* 46(5):52.
- Yang, P., Wang, X., Liu, P., Wei, C., He, B., Zheng, J., Zhao, D. 2020. Clinical Characteristics and Risk Assessment of Newborns to Mother With COVID-19. *Elsevier Journal of Clinical Virology* 127: 1 – 5.