

Association Between Maternal Covid-19 Severity and Neonatal Outcome in a Tertiary Hospital

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BACKGROUND

During the COVID-19 outbreak, literatures suggests that neonates delivered to COVID-19-positive women are susceptible to adverse outcomes. However, results are limited and few studies investigated the relationship between maternal COVID-19 severity and perinatal outcomes.

OBJECTIVES

To determine the characteristics and outcomes of newborns born to COVID-19-positive mothers and its association with the maternal COVID-19 severity.

MATERNAL PROFILE

Examining the age, gravidity, parity, mode of delivery, maternal COVID-19 severity and comorbidities.

NEONATAL OUTCOME

Investigating presence of COVID-19 infection, Sex, Age of Gestation by Ballard Score, Birthweight, Appropriateness of Gestation, APGAR Score (5th minute), Neonatal Morbidity, NICU admission, discharge disposition

Maternal COVID-19 Severity Impact on Neonatal Outcome

Assessing the correlation between maternal COVID-19 severity and neonatal factor such as presence of COVID-19 infection, sex, Age of Gestation by Ballard Score, birthweight, appropriateness of gestation, APGAR Score (5th minute), neonatal Morbidity, NICU admission and discharge disposition



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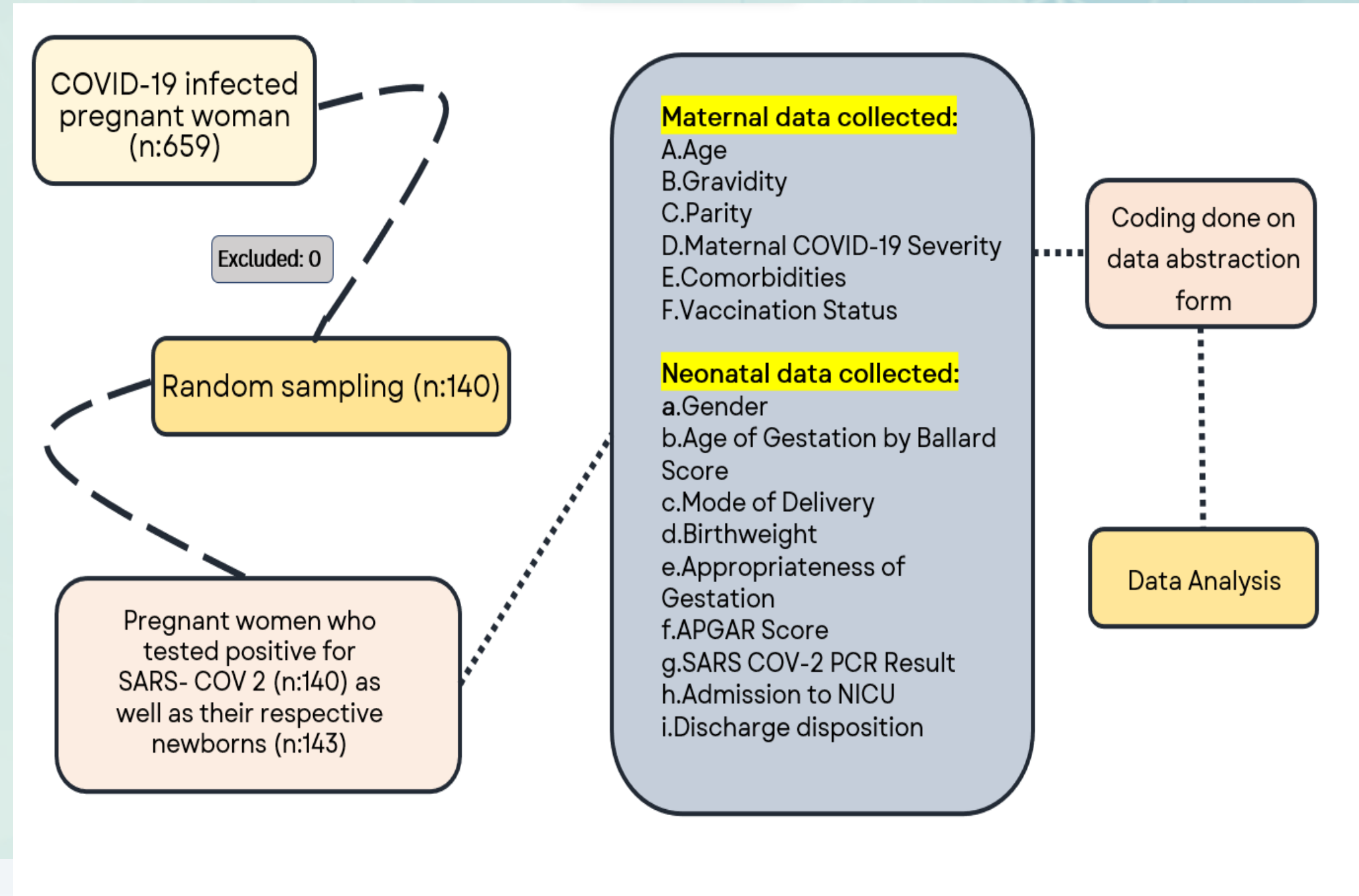
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METHODOLOGY

This is a cross-sectional study conducted in a tertiary hospital through a retrospective chart review of mother-newborn dyads whose delivery occurred from June 1, 2020, to December 31, 2022.

INCLUSION CRITERIA	EXCLUSION CRITERIA
Pregnant women at or more than 24 weeks (2nd and 3rd trimesters) of gestation admitted and delivered at a tertiary hospital.	Maternal and Neonatal medical chart with incomplete data relative to the variables.
With documented diagnosis of COVID-19 infection using RT-PCR.	Mothers with neonates that were re-admitted after being discharged and sent home clinically well/ improved.
	Patients who went home against medical advice or transferred to other institution thus with neonatal outcomes cannot be determined



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RESULTS

Maternal Outcome

- Most infected women (18-30 years) delivered normally.
- Majority were asymptomatic (61%) with a low rate of severe symptoms (3.6%)

Neonatal Outcome

- Most were term, with normal birth weights, AGA, and good APGAR scores. Hyperbilirubinemia is a common morbidity (12%)
- 11% of neonates have COVID-19 and most were asymptomatic. Some has concurrent sepsis and pneumonia (12.5%), resulting in NICU admission

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- There is an observed higher rates of adverse neonatal outcomes in mothers with severe COVID-19, but except for a significant association with low APGAR scores at the 5th minute of life (*p-value: 0.02*), there is no statistically significant link between maternal COVID-19 severity and other neonatal outcomes.

CONCLUSION

- 01** Majority of the COVID-19 infected pregnant women are asymptomatic at time of delivery.
- 02** Neonatal outcome was generally good in both covid- negative and covid- positive neonates.
- 03** The severity of maternal COVID-19 infection does not have substantial influence on adverse neonatal outcomes.

RECOMMENDATIONS

1. Follow up study on the neonates born to COVID 19 infected mothers during their first year of life,
2. Established practices such as non- separation from mother and breastfeeding is still the gold standard for good neonatal outcome and that use of PPE and daily proper hand hygiene must always be a standard practice by COVID 19 infected mothers taking care of their newborns.
3. Further studies to determine other risk factors for neonatal transmission is needed and the impact of maternal comorbidities on COVID-19 outcomes in pregnant women.