

Risk factors for SARS-CoV-2 positivity in neonates born to mothers with COVID-19

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INTRODUCTION

Maternal infection with SARS-CoV-2 has raised concerns about the potential for mother-to-child transmission of the virus¹. The extent to which maternal factors, such as severe COVID-19, timing of infection, mode of delivery, breastfeeding, and postnatal contact with offspring, are associated with SARS-CoV-2 positivity in babies needs to be known to inform maternal care.

Severe maternal COVID-19 and postnatal maternal infection were found to be associated with offspring SARS-CoV-2 positivity in the original review published by the PregCOV-19 Living Systematic Review Consortium².

METHOD

SEARCH
STRATEGY

Major databases, preprint servers and websites were searched from December 2019 to April 2022

STUDY
SELECTION

Two reviewers screened cohort studies* of pregnant women, with SARS-CoV-2 infection diagnosis, that reported risk factors

QUALITY
ASSESSMENT

Risk of bias tool³
Newcastle Ottawa scale⁴

DATA
ANALYSIS

Random effects meta-analysis used to report Odds Ratio with 95% Confidence Interval

*defined as those that sampled consecutive women, who were followed-up to ascertain offspring SARS-CoV-2 status within 30 days of birth⁵

REFERENCES



OBJECTIVE

This living systematic review and meta-analysis update aims to:

determine maternal and perinatal risk factors associated with neonatal SARS-CoV-2 positivity

	RISK FACTORS	EFFECT
Maternal Factors	Severe maternal COVID-19	↑
	Maternal death	↑
	Admission to ICU	--
Timing of Infection	Postnatal (vs antenatal infection)	↑
	3 rd trimester (vs 1 st or 2 nd trimester)	--
Intra partum factors	Preterm birth (vs term birth)	↑
	Caesarean section (vs vaginal birth)	↑
Postnatal Care	Not separated at birth (vs separated)	--
	Breastfed (vs not breastfed)	--
	Skin-to-skin contact (vs no contact)	↓

Table 1: Results from 64 cohort studies (5060 women, 4722 babies) showing effects of risk factors on neonatal SARS-CoV-2 positivity (↑ = increased risk; ↓ = decreased risk; -- = no effect)

CONCLUSION

Severity of maternal COVID-19 may be associated with neonatal SARS-CoV-2 positivity. Inconsistent reporting of neonatal outcomes made determining whether complications were related to SARS-CoV-2 difficult. Follow-up of positive neonates is needed to evaluate long-term outcomes and guide precautionary measures.