

PERICOVID MALAWI: Understanding COVID-19 in pregnant women and their babies; a prospective cohort study

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Introduction

PeriCOVID Africa is a collaboration between study sites in five African countries to describe the sero-epidemiology and clinical characteristics of COVID-19 amongst pregnant women and their infants. Here we report results from 410 mother-infant dyads in Malawi.

Methods

- Women (14 yrs and above) in early labour at Queen Elizabeth Central Hospital, Blantyre.
- All mothers: Maternal serum and cord blood collected for sero-epidemiology, with total antibody ELISA (WANTAI)
- Suspected COVID-19 (symptoms or infant exposure): Confirmatory PCR
- Summary statistics and Chi-squared were used to compare clinical outcomes of infants of mothers with symptomatic COVID-19, COVID-19 exposed and unexposed infants.

Results

- 410 mother/infant dyads were recruited between March 2021 and April 2022

Table 1: Demographics of the maternal cohort

Age (years)	Median 24 (14-48 IQR 10)
Parity	Median 1 (0-7 IQR 2)
HIV positive n (%)	62 (15)
Syphilis Positive n (%)	13 (3)
Number Infants (n)	425
Twins	46

- Of the symptomatic women (n=79) **51 were SARS-CoV-2 PCR positive** recruited through 3 waves of COVID in Malawi (dominated by Beta, Delta and Omicron variants)
- There were **2 PCR positive infants** born to symptomatic mothers (tested within 24 hrs of birth)
- **Three** PCR positive symptomatic women died with no other maternal deaths in the cohort
- Seropositivity in serum was **65% (n=263/400)** and **60% (n=246/409)** in cord with good concordance.
- There were very low rates of vaccination across the cohort (**n=6/410**).

Affiliations

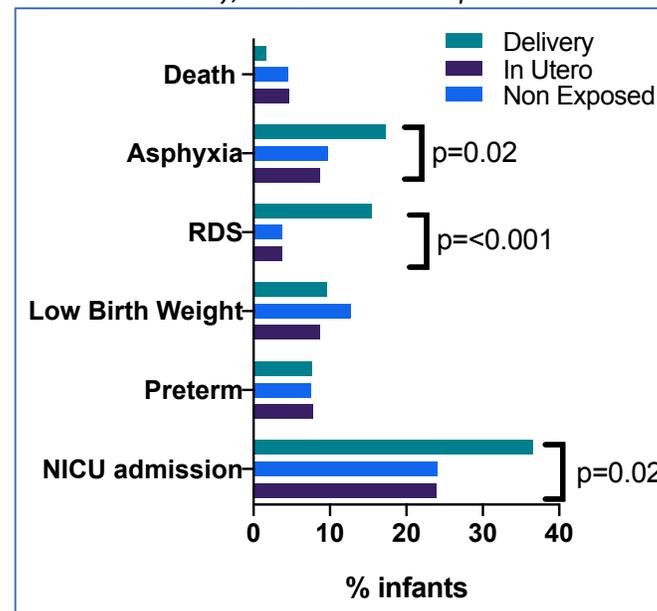
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- Infants born to symptomatic SARS-CoV-2 PCR positive women were more likely to be admitted to NICU, have respiratory distress syndrome and asphyxia (Figure 1)

Figure 1. Infant outcomes COVID-19 exposed at delivery, in-utero or non-exposed*



*Exposed at delivery – Maternal PCR positive
 Exposed in utero– Maternal Antibody Positive, PCR Negative
 Non-exposed – Maternal Antibody Negative, PCR Negative
 RDS – Respiratory Distress Syndrome
 NICU – neonatal intensive care unit

Conclusion

- There were very high rates of COVID seropositivity amongst women presenting to hospital in an urban setting in Malawi
- Infants exposed to COVID at delivery were more likely to be admitted to the Neonatal Unit
- COVID exposure in utero was not associated with poor neonatal outcomes despite high rates of infectious co-morbidity and low rates of vaccination
- There were 2 cases of confirmed perinatal infection with COVID-19 during the Omicron wave

Limitations

- This is single site data which will contribute to a consortium analysis
- We are unable to define timings of seroconversion and a small number of women may have seroconverted prior to pregnancy



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