



REPÚBLICA DE MOÇAMBIQUE
MINISTÉRIO DA SAÚDE

Favorable Outcomes of Option B+ Strategy Despite COVID-19 Restrictions: Retrospective Cohort Study in Zambézia Province, Mozambique (2019-2021)

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U.S. President's Emergency Plan for AIDS Relief

Background

- In response to the COVID-19 pandemic, the Ministry of Health of Mozambique installed mitigation measures in April 2020, including expansion of differentiated models of care (DMC).
- As one such DMC expansion, quarterly dispensation (QD) of combination antiretroviral treatment (ART) for pregnant women (PW) living with HIV was newly implemented during the period of April to August 2020.
- We herein describe trends of maternal and infant HIV outcomes in a pre-pandemic period (April 2019 to March 2020) and within-pandemic period (April 2020 to March 2021).

Methods

- A retrospective cohort study was conducted using aggregated routine data from 173 health facilities in Zambézia Province for PW living with HIV initiating ART and their HIV-exposed infants (HEI).
- Outcomes of interest included:
 - The proportion of PW retained in care 3 months (defined by minimum of 3 ART pick-ups within 99 days) and 6 months (defined by an ART pick-up within 59 days after last scheduled visit) post-ART initiation,
 - Early infant diagnosis (EID) coverage for HEI by 9 months of age, and
 - The proportion of HIV DNA-PCR tests among HEI by 9 months of age.
- Generalized linear mixed-effect models were used to compare trends in outcomes pre-COVID-19 pandemic and within-pandemic.

Results

Retention to care

✓ 3-month retention

- The odds of PW being retained at 3-months decreased significantly to 56.6% immediately after start of COVID-19 period (April 2020) (OR 0.57 [95%CI:0.44-0.74], $p < 0.001$).
- During COVID-19 period, the odds of being retained at 3-months increased $\sim 3.9\%$ per month (OR 0.57 [95%CI:1.06-1.10], $p < 0.001$).

✓ 6-month retention

- The odds of PW being retained at 6-months increased (OR 2.16 [95%CI:1.50-3.10], $p < 0.001$) immediately after pandemic start.
- Although the odds decreased within-pandemic (OR 0.91 [95%CI:0.88-0.93], $p < 0.001$), 6-month retention proportion remained higher than the pre-pandemic period.

EID diagnosis

- EID coverage experienced an increase immediately after April 2020 (OR 1.94 [95%CI:1.26-2.98], $p = 0.003$) and had a sustained effect, with odds of HEI undergoing EID increasing $\sim 4.7\%$ per month.
- There were no significant differences in proportion of HEI testing positive, decreasing 2.7% per month, over time regardless of period (**Figure 1**).

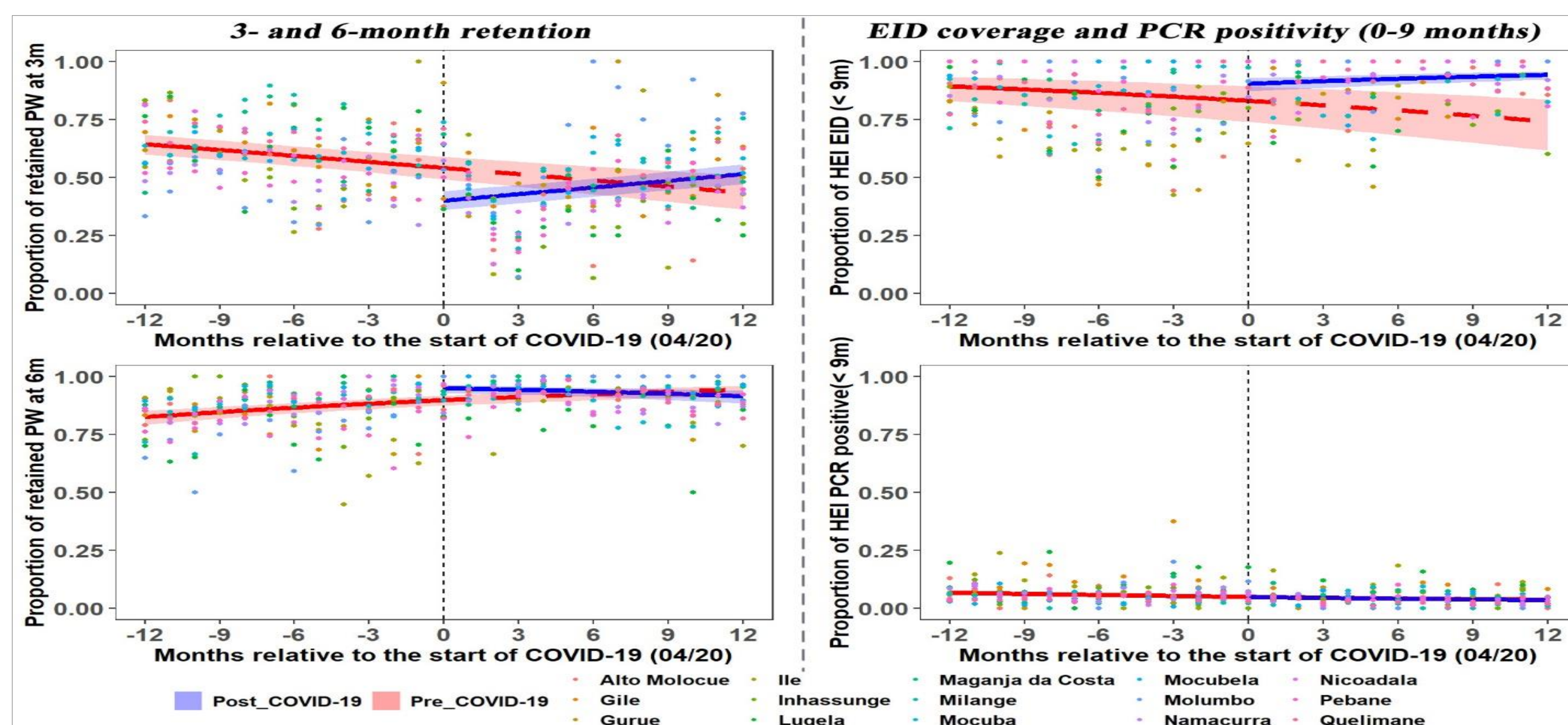


Figure 1. (left) Monthly proportions of pregnant women retained in care at 3 and 6 months post-ART initiation, over time; (right) Monthly proportions of HEI coverage and PCR positivity among 0-9 months of age, over time.

Conclusions

- Trend analysis showed that in Zambézia Province, Mozambique, the pandemic and associated restrictions did not adversely impact maternal retention in care, EID coverage or EID positivity rates among PW and their HEI.
- Despite transient reductions in early retention, rapid expansion of DMC including QD for PW, introduced in response to COVID-19 pandemic, appeared to have a favorable impact on mother and child outcomes.