Barriers to ART adherence in neonates and infants from the LIFE study in Mozambique

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BACKGROUND

- In 2021, only 65% of Mozambican children on antiretroviral therapy (ART) were **virologically suppressed.**
- **Poor adherence** is the principal driver of **ART failure**, and a deeper understanding of underlying causes is needed for improved treatment support, particularly for infants who typically have even lower suppression rates.
- Data from **intensified adherence support visits** for HIV-positive neonates and infants enrolled in the LIFE study in Mozambique were analyzed to address this knowledge gap.

METHODS

- Mothers and HIV-exposed newborns were **recruited** at Maternity wards. Infants had their first **point-of-care early infant diagnosis (POC-EID) test** either at birth or 1 month of age, with repeat testing performed at scheduled study visits for those with negative results.
- Infants testing positive initiated ART and were followed up to 18 months of age, with **routine viral load monitoring**.
- Information from **adherence interventions** was extracted from narrative reports and merged with clinical data.

RESULTS

- **117** (2.9%) of the 4015 infants recruited in Mozambique had **positive POC-EID tests**.
- At the 6, 12, and 18-month study visits for these HIV-positive infants, 70.3%, 72.7%, and 63.6% of caregivers reported no **ART interruptions** in the past week, but **virologic suppression** (VL<1000 copies/mL) rates for the same study visits were 31.1%, 47.0%, and 50.9%.
- A **subset of 73** (62.4%) infants who had at least 2 viral load measurements separated by ≥ 3 months and qualitative adherence data available were **included** in this analysis.
- 50.7% (37/73) were either initiated on **DTG-based ART**, or transitioned from LPV/r granules to DTG dispersible tablets during study follow-up.

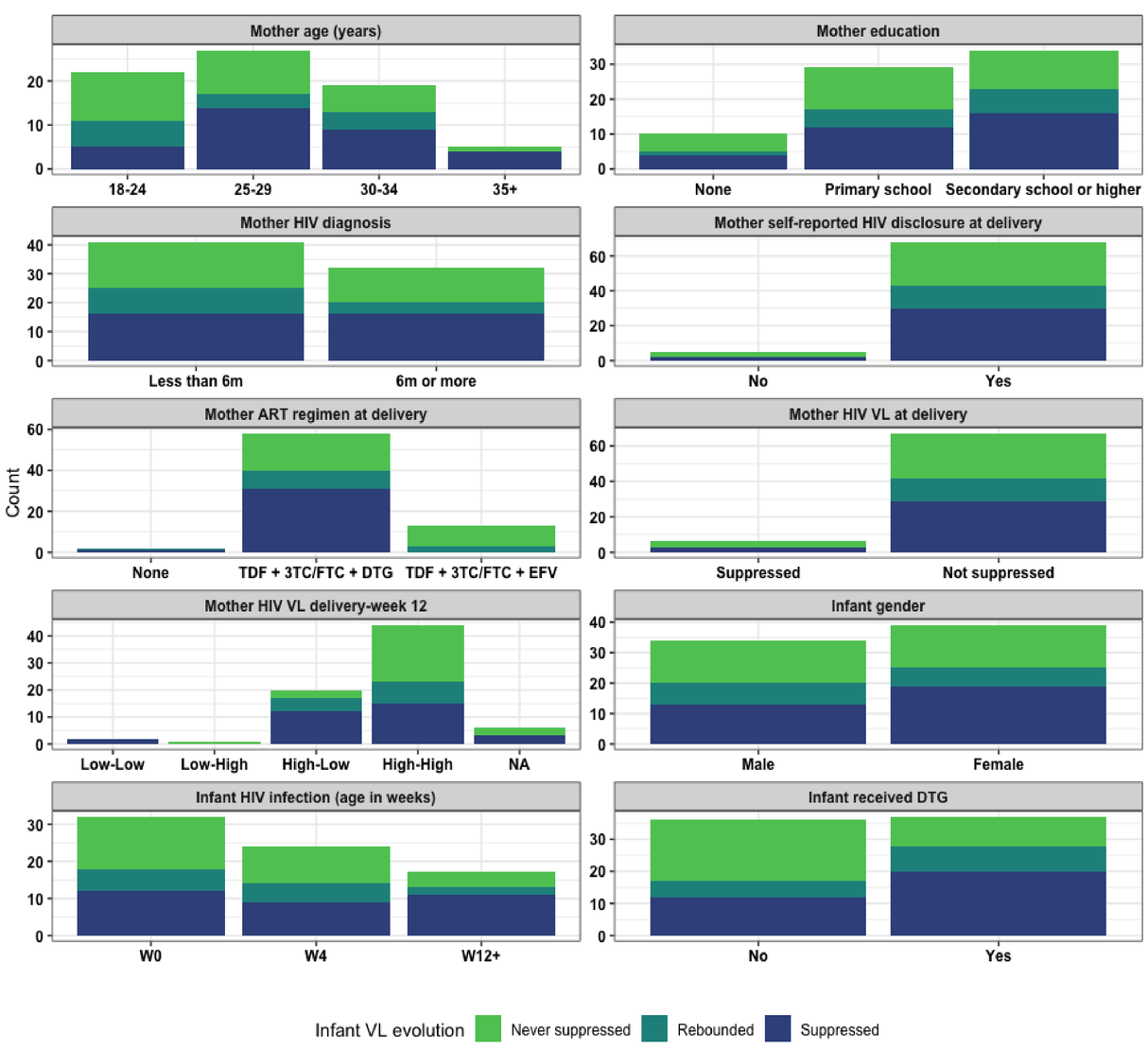

Figure 1: Demographic characteristics and HIV history by infant HIV viral load evolution among infants with at least 2 viral load measurements at least 3 months apart and qualitative adherence data available (n=73).

RESULTS (cont.)

- Infant ART **adherence barriers** by category were: 1) maternal-related, 56.1% (41/73); 2) socioeconomic, 39.7% (29/73); 3) paternal-related, 38.4% (28/73); and 4) medication-related, 31.5% (23/73).

Figure 2: Self-reported barriers to ART adherence by infant HIV viral load evolution. Medication-related barriers include dosing errors, twice daily dosing, medication tolerability/vomiting, and side effects. Socioeconomic barriers include maternal work demands, poverty related/food insecurity reasons, religious beliefs, and family disruption. Paternal barriers include the father not accepting the HIV diagnosis of the infant or not being supportive. Maternal barriers include the mother not accepting the HIV diagnosis of the infant, fear of stigma, and non-disclosure to the father and/or others in the home. Other barriers include poor treatment by health center staff, poor health of the mother, and travel.

- 30.1% (22/73) of mothers had **not disclosed** their serostatus to the father at the time of the first adherence intervention, and 77.3% (17/22) of them lived with the father.
- 90.9% (20/22) of these mothers had originally **misreported** that they had disclosed to the father when recruited into the study.
- 45.5% (10/22) of infants whose mothers had not disclosed to the father were **not virologically suppressed**.
- **Fear of abandonment** was the most common reason for non-disclosure to fathers, reported by 72.7% (16/22) of mothers.

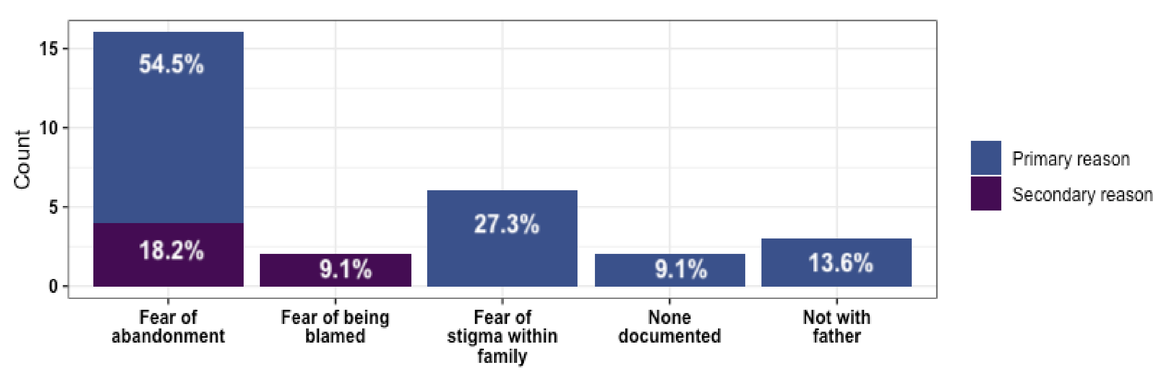

Figure 3: Reasons for mothers not disclosing HIV status to fathers (n=22).

CONCLUSIONS

- **Medication-related adherence barriers** were common, and the recent introduction of dispersible DTG tablets, allowing for once-daily dosing, has the potential to improve the unacceptably low virologic suppression rates observed.
- However, the impact of optimized pediatric ART will be minimized without intensified and proactive efforts to identify and address **family-specific barriers** that likely contributed to failed PMTCT and adversely impact infant ART adherence.
- **Maternal serostatus disclosure** should be thoroughly assessed at the time of infant ART initiation with strengthened psychosocial support to those mothers who have not yet disclosed.

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