

Early infant diagnosis: field practices and challenges

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Introduction

The Impact of Expanded Screening Strategies (IESS) study evaluated the Prevention of Mother To Child Transmission (PMTCT) program in Ndhiwa sub-county, Kenya. It also piloted new Early Infant Diagnosis (EID) strategies, including expanded screening beyond PMTCT and implementation of near Point of Care PCR, to increase coverage and reduce time to ART initiation.

Methods

A cross-sectional facility-based survey with a prospective follow-up of HIV-positive infants was conducted in Ndhiwa sub-county in 2016. Mother-infant pairs at expanded programs of immunization (EPI), maternity and in- and outpatient department services were enrolled in the study. All mothers were tested for viral load (VL) regardless of their ART status. For infants, EID was performed both on the standard of care (Roche) and point of care (GenXpert). HIV incidence was estimated using the patient testing history.

Results

A total of 3814 mother-baby pairs were included. Participants were young (median age: 23 years [IQR 19-29]) and 87.9% had a monthly income lower than 50 US\$. The overall HIV incidence and prevalence among mothers was 4.1 new cases per100PY (95%CI 2.9-5.7) and 23.9%, respectively. Among HIV-positive mothers, 96% (95%CI 94.5-97.2) were diagnosed and 83% (95%CI 80.4-85.5) had a VL<1,000 cp/mL.

Overall MTCT was 3.5% (32/935) and was mostly associated with late or non-initiation of ART (23/32) and virological failure (8/32) among mothers. Out of 32 positive infants, 29 were newly diagnosed infants and 25 initiated ART after a median time of 34 days [IQR 20-55]. VL suppression at 6 months was 50%.

Conclusion and recommendation

This new EID approach identified previously undiagnosed infants and supported initiation of their ART. VL suppression at 6 months was low, highlighting the need for better patient support, simplified treatment and intervention design for infants. We found a low MTCT rate and high levels of viral suppression among mothers. However, HIV incidence among mothers was also high, suggesting the need to offer new approaches like PREP and/or partner testing and ART initiation to young women.

In Ndhiwa, Kenya, we evaluated the impact of the PMTCT program on Mother To Child Transmission (MTCT) and piloted new strategies to improve Early Infant Diagnosis (EID) of HIV and reduce time to ART initiation.