

HIV-POSITIVITY AMONG HIV-EXPOSED INFANTS IN LESOTHO IN THE ERA OF OPTION B+

Tsigereda Gadisa, Kieran Hartsough, Andrea Schaaf, Mahlompho Ntholeng, Tiffany G. Harris
 ICAP at Columbia University, New York, United States

Background

- Lesotho's HIV prevalence among pregnant women is 28%
- In 2013, Lesotho's Prevention of Mother to Child Transmission (PMTCT) program adopted Option B+ and revitalized the village health worker (VHW) program to strengthen community level PMTCT
- The national goal was set to test 95% of HIV-exposed infants (HEI) at 2 and 18 months and reduce MTCT rates to <5% by 2016

Methods

- Routinely collected PMTCT data of infants aged <18 months registered for Under 5 services from July 2013-July 2014 in 111 facilities in four HIV burden districts prioritized for the Accelerating Children on Treatment (ACT) initiative were reviewed
- Two districts (District 1, District 2) used an Enhanced VHW Model in which women and HEI were accompanied by VHW to first and subsequent PMTCT care visits and two districts (District 3, District 4) used a Standard VHW Model (no VHW accompaniment)
- The analysis examined association of HEI and facility/district characteristics including VHW model with HEI positivity, 18-month retention, and progress to PMTCT targets
- Statistical analyses utilized generalized linear mixed models with a random effect to account for facility clustering
- Evaluation received approvals from the National Health Research Ethics Committee of Lesotho, the Columbia University Institutional Review Board and the CDC Office of Scientific Integrity Branch

Results

- A total of 4,354 HEI registered for care were included, of these 3,612 HEI (83%) were registered by 2 months of age
- Of HEI registered by two month of age, 82% (2,964) received 2-month DNA PCR testing
- Among HEI who received a two-month DNA PCR test, 93% (n=2,761) received it by two months (+4 weeks) of age, 6% (n=174) received it after two months of age and 1% (n=29) had an unknown test date
- Among 2,761 HEI who received DNA PCR test by two months, 2.5% (70) tested HIV-positive, 88% (2,408) tested HIV-negative and 10% (270) had no recorded result, while <1% (13) had test result that was either not generated or indeterminate
- By 18 months of age, overall 2.9% (128/4,354) were HIV-positive [including those who tested HIV-positive prior to 18 months], 27% (1,158) were discharged as HIV-negative, while 70% (3,068) did not have a final HIV status, of whom 76% had at least 1 prior HIV-negative test (see Table 1)
- At both 2 (data not displayed) and 18 months, males were less likely to test HIV-positive compared to females (1.9% vs 3.2%, 2.4% vs 3.7%; both p=0.04)
- HEI in the Enhanced VHW Model were less likely to have an HIV-positive (2.2% vs 3.5%) and missing status (66% vs 74%) at 18 months compared to those in the Standard VHW Model (both p=0.001)
- HIV-positive infants in the Enhanced VHW Model were less likely to be retained on treatment at 18 months than those in the Standard VHW Model (26% vs 52% p=0.05)

Table 1. Final HIV status at 18 months of age for all HEI registered for follow-up care from July 1, 2013-July 31, 2014

	Positive n=128 (3%)	Negative n=1,158 (27%)	Missing* n=3,068 (70%)	Total n=4,354	p‡
Gender, n (%)					
Male	52 (2%)	600 (28%)	1,527 (70%)	2,179 (50%)	0.01
Female (ref)	76 (4%)	557 (27%)	1,422 (69%)	2,055 (47%)	
Missing‡	0	1 (<1%)	119 (4%)	120 (3%)	
Feeding Practice Within 6 Months, n (%)					
Exclusive Breastfeeding	51 (2%)	539 (22%)	1,834 (76%)	2,424 (56%)	0.43
Exclusive Formula Feeding	2 (1%)	26 (17%)	123 (81%)	151 (3%)	
Missing	42 (6%)	208 (28%)	499 (67%)	749 (17%)	
Mixed Feeding (ref)	42 (4%)	385 (37%)	612 (59%)	1,030 (24%)	
District, n (%)					
District 2	23 (2%)	481 (40%)	710 (58%)	1,214 (28%)	<0.01
District 4	35 (4%)	105 (12%)	710 (84%)	850 (20%)	
District 3	50 (3%)	440 (28%)	1,101 (69%)	1,591 (37%)	
District 1 (ref)	20 (3%)	132 (19%)	547 (78%)	699 (16%)	
Care Model, n (%)					
Enhanced VHW	43 (2%)	613 (32%)	1,257 (66%)	1,913 (44%)	<0.01
Standard VHW (ref)	85 (3%)	545 (22%)	1,811 (74%)	2,441 (56%)	
Facility Type, n (%)					
Referral Center	39 (8%)	350 (75%)	76 (16%)	465 (11%)	0.54
Filter Clinic	6 (2%)	47 (16%)	237 (82%)	290 (7%)	
Health Center	57 (2%)	625 (23%)	2,013 (75%)	2,695 (62%)	
Hospital (ref)	26 (3%)	136 (15%)	742 (82%)	904 (21%)	
Ownership, n (%)					
Government	97 (4%)	760 (30%)	1,711 (67%)	2,568 (59%)	0.32
Private	3 (3%)	6 (6%)	92 (91%)	101 (2%)	
Red Cross	1 (3%)	14 (41%)	19 (56%)	34 (1%)	
CHAL (ref)	27 (2%)	378 (23%)	1,246 (75%)	1,651 (38%)	

Figures in bold indicate statistically significant pairwise comparisons (p<0.05).

*Excluded from statistical analyses as "Missing" does not denote HIV status, but evidence of programmatic and data quality issues.

‡Excluded from statistical analysis due to small n.

‡Global p-value representing the test for group-level differences comparing those who ever received the two-month HIV DNA PCR test and those who never received the two-month HIV DNA PCR test by demographic characteristic.

Analysis utilized generalized linear mixed models regression with a random effect for facility.

District Code: Berea-1, Leribe-2, Maseru-3, Mafeteng-4

Conclusions

- HIV positivity among HEI was <5%; however, most HEI were missing a final HIV status at 18 months
- HIV positivity varied by sex, further studies are needed to better understand the observed differences
- Opportunities were missed to provide HIV testing, retain HEI until final status was confirmed at 18 months, and retain HIV-positive infants on treatment
- Strengthening interventions, including the Enhanced VHW Model, to identify, link and retain HEI in care are critical to achieve elimination of mother to child transmission

ICAP is a global leader in HIV and health systems strengthening. Founded in 2003 at Columbia University's Mailman School of Public Health, ICAP has supported more than 5,300 health facilities across more than 21 countries. Over 2.3 million people have received HIV care through ICAP-supported programs. Online at icap.columbia.edu

This project has been supported by the President's Emergency Plan for AIDS Relief (PEPFAR) through the Center for Disease Control and Prevention (CDC) under the terms of cooperative agreement # U2GGH000994. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the funding agencies.

