

Determinants of DNA PCR uptake among HIV exposed infants attending clinic within a HIV program in Kenya; A retrospective cohort study.

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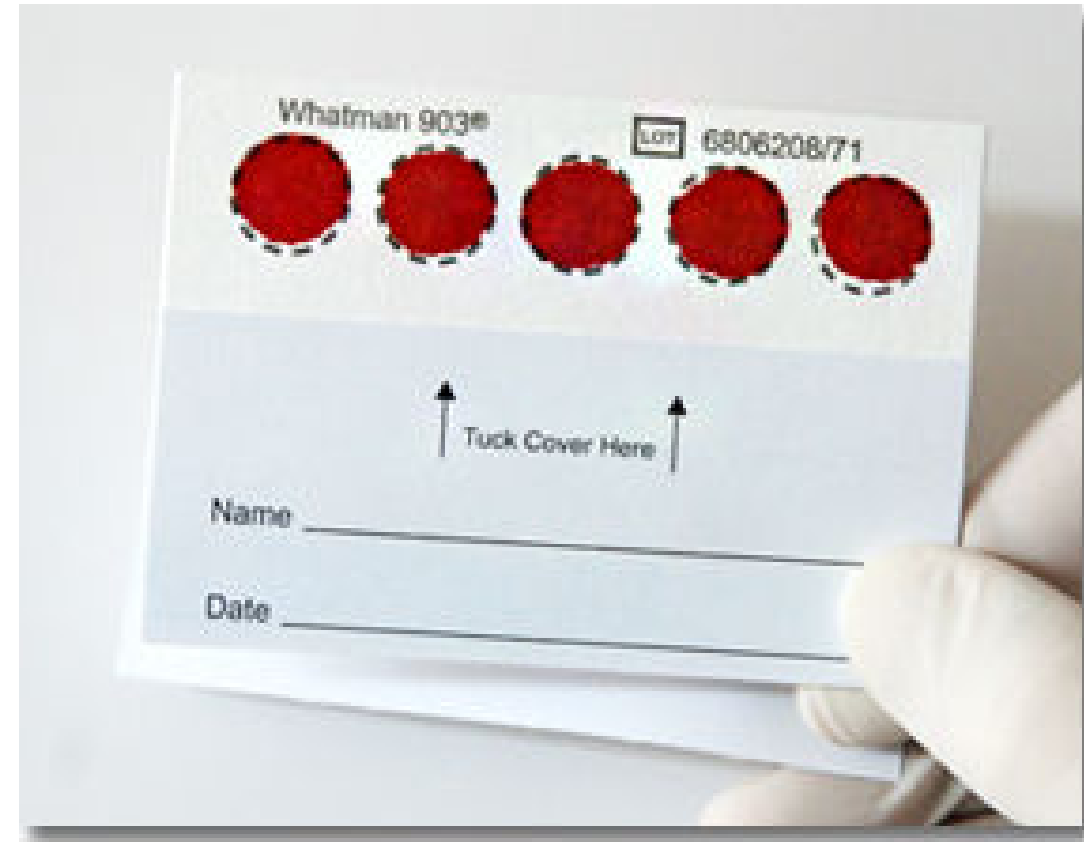


Conflict of Interest

None to Declare

Background

- Kenya among 21 priority countries, approx. 70,000 HIV exposed infants yearly
- MTCT rates declined from 22.4% to 8.9% between 2009 and 2015 respectively
- In Kenya transmission rates increased from 8.3% in 2015 to 11.5% in 2017



United Nations Joint Programme on HIV/AIDS (UNAIDS). Unaid Data 2018. 2018; Available from: http://www.unaids.org/sites/default/files/media_asset/unaid-data-2018_en.pdf

UNAIDS. on the Fast-Track To an Aids-Free Generation [Internet]. 2016. Available from: <http://www.childrenandaids.org/sites/default/files/2017-05/UNAIDS-On-the-fast-track-to-an-AIDS-free-generation.pdf>

National AIDS Control Council. KENYA AIDS RESPONSE PROGRESS REPORT 2018 [Internet]. 2018. Available from: https://www.lvcthealth.org/wp-content/uploads/2018/11/KARPR-Report_2018.pdf%0D

Background

- WHO recommends HIV DNA PCR assay as the preferred test for EID within 4-6 weeks of birth for HEI
- In 2015, only 50% of 1.2 million HIV exposed infants within the priority countries received a virologic test within 2 months of birth
- In Kenya according to 2017 estimates only 51% of HEI had HIV DNA PCR test done within two months of birth

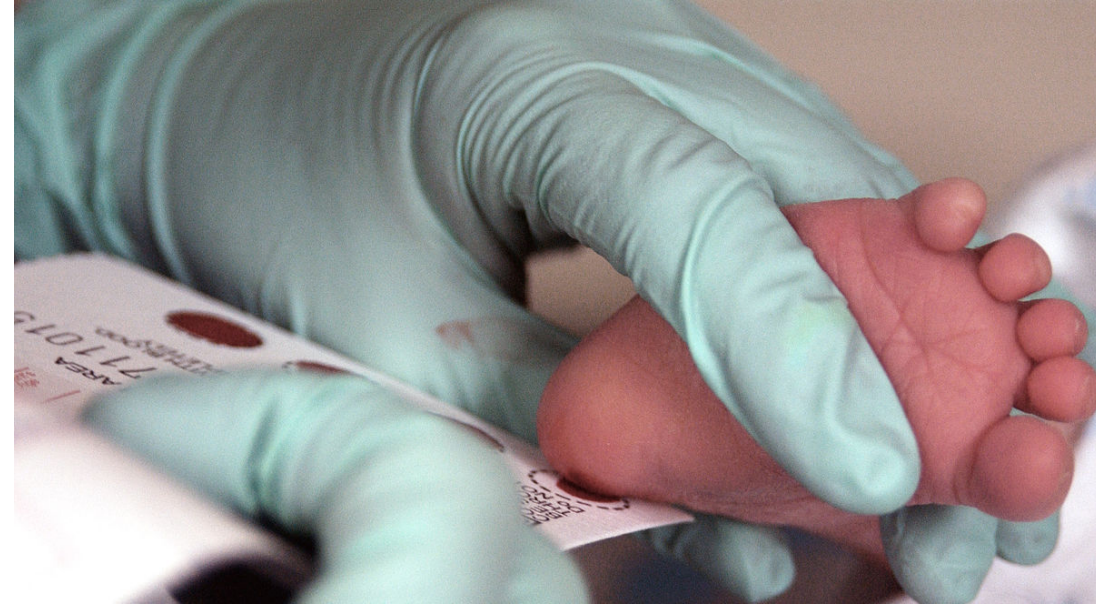


Background

Early diagnosis of HIV

Reduces
infant
mortality
by 76%

Reduces
HIV
progression
by 75%



Missed opportunities for EID among those infected during pregnancy or labor and delivery results in the death of a third by the age of one year and 50% by 2 years

Penazzato M et al. Early infant diagnosis of HIV infection in low-income and middle-income countries: does one size fit all? *Lancet Infect Dis* [Internet]. 2014;Volume 14. Available from: [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(13\)70262-7/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(13)70262-7/fulltext)

Martin F, Palladino C, Mateus R, Bolzan A, Gomes P, Brito J, et al. Early infant diagnosis of HIV-1 infection in Luanda, Angola, using a new DNA PCR assay and dried blood spots. *PLoS One*. 2017;12(7):1–12.

Objective / Rationale

- To describe factors associated with uptake of HIV DNA PCR for early infant diagnosis (EID) of HIV as this is vital for designing strategies to prevent missed opportunities.
- There is a paucity of data on factors associated with delayed virologic testing for EID within programmatic settings in Kenya.

Methods

- Retrospective cohort study
- Used de-identified data from EMR of 54 health facilities.
- We enrolled all HEI who had their first HIV DNA PCR between January 2015 and December 2017
- Outcome of interest was either early or late first HIV DNA PCR test
- Early HIV DNA PCR test – Test done within 8 weeks of birth.
- Late HIV DNA PCR – Test after 8 weeks of birth



Methods

- Predictor variables studied include gender, birth weight, entry point into care, provision of ART prophylaxis for the infant, maternal ART, mode of delivery and place of delivery (either facility or home).
- To determine factors associated with late initial HIV DNA PCR uptake, we conducted a bivariate analysis and multivariable logistic regression analysis.

Results

- We included 2,020 HEI -1,596 (79%) had their first HIV DNA PCR done within 8 weeks
- Median time to PCR was 6.4 weeks [Inter-quartile range (IQR) – 6-7.4].
- 50.4% of the infants were female; median age at enrollment was 1 month (IQR 1-2).
- 73% of deliveries were at health facilities; 62.7% SVD.
- Half of the infants (53.1%) - Entry point into care was Maternal Child Health clinics
- Uptake of maternal ART and provision of infant prophylaxis was sub-optimal with 5.8% and 3.3% having not received this intervention at the time of initial HIV DNA PCR
- The positivity rate at the first HIV DNA PCR was 1.2%.

Results

Variable	PCR test (weeks)		Crude OR (95%CI)	P value	aOR (95% CI)	P value
	At ≤8 weeks of Birth (Early)	After 8 weeks of birth (Late)				
Gender						
Male	797	203	Ref		Ref	
Female	799	221	1.1 (0.88-1.35)	0.424	1.1 (0.8-1.5)	0.505
Birth weight						
≥2,500 g	1,412	349	Ref		Ref	
<2,500 g	135	49	1.5 (1.04-2.08)	0.03	1.1 (0.6-1.8)	0.778
ARV prophylaxis (infant)						
Yes	1,322	287	Ref		Ref	
no	21	45	9.9 (5.79-16.82)	<0.0001	3.2 (1.5-7.1)	0.002
Mother on ART						
Yes	1,225	234	Ref			
No	58	60	5.4 (3.68-7.98)	<0.0001	3.6 (2.1-5.9)	<0.0001
Mode of delivery						
Vaginal delivery	1,022	245	Ref		Ref	
C-section	328	63	0.80 (0.59-1.08)	0.152	1.0 (0.7-1.4)	0.994
Place of Birth						
Facility	1,221	262	Ref		Ref	
Home	77	39	2.4 (1.57-3.55)	<0.0001	1.8 (1.1-3.2)	0.024

Conclusion

- Our program had better uptake of EID compared with the national program. The public health sector can employ some of our strategies towards a relatively successful EID program.
- Barriers in accessing ART for treatment among HIV infected pregnant and breastfeeding women and prophylaxis for their HEI coupled with home delivery are associated with delayed EID.

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