LOW HIV INCIDENCE IN SOUTH AFRICAN PREGNANT WOMEN RECEIVING A COMMUNITY-BASED HIV PREVENTION INTERVENTION

Kheth'Impilo

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Background

- HIV acquisition in women is increased during pregnancy and post-natally due to behavioural, biological and sociological factors.
- Vertical HIV transmission to infants amongst women who acquire HIV during pregnancy and lactation contributes significantly to the sub-Saharan African paediatric HIV burden.
- We measured HIV incidence amongst pregnant and lactating women who received a combination HIV prevention intervention from lay community-based workers in a high HIV incidence South African district.

Intervention

- Individual counselling and education for women and male partners regarding HIV risk and safe sex practices.
- Education re multiple and concurrent partnerships, addressing alcohol/substance abuse, assessing and addressing mental health needs.
- Provision of male and female condoms.
- Home and clinic-based three-monthly individual and couples HTC till 18 months postpartum.
- Facilitated linkage to HIV care for either partner testing HIV positive with subsequent ART adherence counselling
- Referral of eligible men for VMMC.
- Symptom screening of both partners for STIs with referral.
- Assessment and counselling re gender-based violence.
- Discussion regarding gender identities and roles.

Methods

- Cohort study, eThekwini, KZN, South Africa (district antenatal HIV prevalence 39.0%)
- Included HIV-negative pregnant women between January 2014 – February 2016.
- Women/infants followed up till maximum 18 months postpartum.
- All women received community-based support from Patient Advocates.

Outcomes

Primary:

- HIV incidence during pregnancy & postpartum

Secondary:

- Factors associated with HIV acquisition.
- MTCT (6 weeks) amongst women with incident HIV
- Time till ART amongst women with incident HIV
- Maternal mortality rate
- Probability of LTFU of enrolled women
- Factors associated with LTFU.
- Proportion males who received HIV testing
- % newly diagnosed HIV +ve males linked to care.
- Proportion eligible males referred for VMMC.

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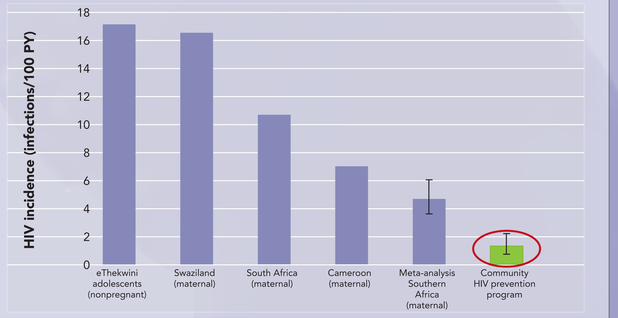
HIV incidence according to demographic and partners characteristics

	Total, N (%)	Infections/ 100 PY	Incidence rate per 100 PY (95% CI)	*P*-value
Overall	1356 (100.0)	11/828.3	1.33 (0.74-2.40)	–
Age at baseline				0.0303[$]
14-19 years	410 (30.2)	0/248.9	0 (0-1.48)	
20-24 years	488 (36.0)	5/305.4	1.63 (0.68-3.93)	
≥ 25 years	458 (33.8)	6/273.9	2.19 (0.98-4.88)	
Initial circumcision				0.011
circumcised	625 (46.1)	1/393.0	0.25 (0.04-1.80)	
not circumcised	484 (35.7)	7/303.9	2.30 (1.10-4.83)	
Partners HIV status				<0.0001
HIV uninfected	717 (52.9)	0/544.1	0 (0-0.7)	
Known HIV infected	4 (0.3)	1/2.48	40.3 (5.67-286.0)	
Newly diagnosed HIV-infected	5 (0.4)	4/1.81	221.4 (83.1-590)	
not HIV tested	630 (46.5)	6/279.9	2.1 (0.96-4.77)	

Factors significantly associated with Loss To Follow Up (LTFU)

	Univariable Hazard Ratio (HR)	Univariable 95% CI for HR	*P*	Multivariable HR	95% CI for multi-variable HR	*P*
Received contraception counselling	0.22	0.16-0.32	<0.001	0.58	0.35-0.97	<0.036
Received support to access social security grant	0.14	0.09-0.20	<0.001	0.31	0.18-0.53	<0.001
Male partner received HTC	0.16	0.10-0.24	<0.001	0.3	0.18-0.51	<0.001

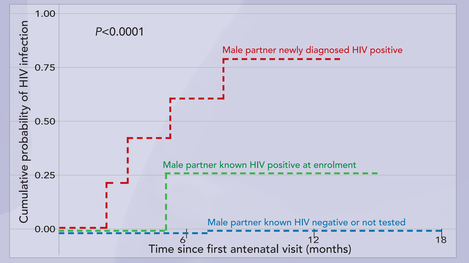
Previous measurements of maternal HIV incidence

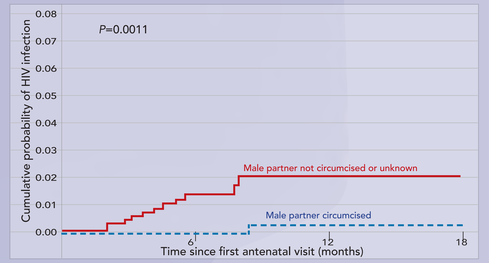


Conclusions

- **Maternal HIV incidence was 73%-86% lower than previous regional studies.**
- **Community-based combination HIV prevention interventions show promise in reducing high maternal HIV incidence.**
- **Expanded roll-out of home-based HIV testing and counseling for pregnant couples is critically needed in HIV hotspots in Southern Africa, as this provides an opportunity for early preventative intervention through HIV testing and initiating pre-exposure prophylaxis within serodiscordant couples.**

Factors associated with HIV acquisition





Results

- A total of 1356 women were included with median age of 22.5 years (IQR: 19.4-27.0) and median gestational age at presentation of 16 weeks (IQR: 12-16).
- Included women received 5289 HIV tests.
- Eleven new HIV infections were detected over 828.3 person-years (PY) of follow up, with HIV incidence being 1.33 infections/100 PY (95% CI: 0.74-2.40).
- The antenatal HIV incidence rate was 1.49 infections/ 100 PY (95% CI: 0.64 to 2.93) and the postnatal HIV incidence rate was 1.03 infections/100 PY (95% CI: 0.33-3.19).
- Women within known serodiscordant couples, adjusted hazard ratio (aHR)=32.7 (95% CI: 3.8-282.2), and women with newly diagnosed HIV-infected partners, aHR=126.4 (95% CI: 33.8-472.2) had substantially increased HIV acquisition.
- Women with circumcised partners had a reduced risk of incident HIV infection, aHR=0.22 (95% CI: 0.03-1.86).

Secondary Outcomes

	Point estimate	95% Confidence interval (or IQR)
Antenatal HIV incidence, infections/100 person-years	1.48	0.64 to 2.92
Postnatal HIV incidence, infections/100 person-years	1.03	0.33 to 3.19
Vertical HIV transmission amongst infants (at age six weeks) amongst women with incidence HIV infection, n/N (%)	22.20%	2.8% to 60%
Time since diagnosis until initiating ART amongst women with incident HIV infection, days	0	IQR: 0-0
Proportion of women with incident antenatal HIV infection who initiated ART antenatally, n/N (%)	8/8 (100%)	63.1% to 100%
Maternal mortality rate, deaths/100,000 live births	74.3	1.9 to 412.9
Cumulative probability of loss to follow-up 12 months after the first antenatal visit, %#	10.80%	9.1% to 12.8%
Proportion of eligible male partners received HTC with recorded test results, n/N (%)	53.40%	50.7% to 56.1%
Proportion of male partners who received HTC with newly diagnosed HIV infection, n/N (%)	0.70%	0.2% to 1.6%
Proportion of newly diagnosed HIV-infected male partners linked to HIV care facilities, n/N (%)	5/5 (100%)	47.8% to 100.0%
Time from HIV diagnosis till ART initiation amongst males partners eligible to initiate ART, days	7	-
Proportion of eligible male partners referred for VMMC, n/N (%)	65.90%	68.9% to 76.1%