PrEP Discontinuation and High HIV Incidence in South African Pregnant and Breastfeeding Women

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26 September 2024

PrEP-PP
Pre-exposure Prophylaxis in Pregnancy & Postpartum

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Background

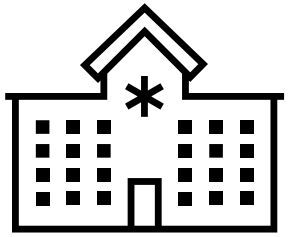
- High HIV incidence is a major concern for pregnant and breastfeeding women (PBFW) in South Africa (SA) due to risk of HIV acquisition doubling during these periods.
- New HIV infections are still high during and after pregnancy
  - An incidence of up to 3.3% in pregnancy and postpartum period[1]
- Availability of oral pre-exposure prophylaxis (PrEP) for PBFW in SA health facilities is still limited and PrEP discontinuation remains a challenge to effective use in this population.

[1]Dinh TH, Delaney KP, Goga Aet al. Impact of maternal HIV seroconversion during pregnancy on early mother-to-child transmission of HIV (MTCT) measured at 4–8 weeks postpartum in South Africa 2011–2012: a national population-based evaluation. PLoS One2015; 10:e0125525.

Background

Aim:

Evaluate the proportion of pregnant and breastfeeding women in the PrEP-PP study who seroconvert by PrEP use



Setting: Midwife Obstetrics Unit in Gugulethu, Cape Town in diverse urban townships in with high HIV incidence

Study population:

- 1195 pregnant women attending first antenatal visit
- Follow up through 12 months post-partum
- Start in August 2019 (through June 2023)

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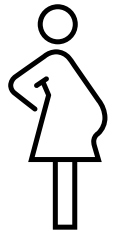
Methods



- Enrolled:
  - Pregnant women ≥ 16 years old
  - Confirmed HIV negative (with antigen and antibody HIV test)
  - Test negative for Hepatitis B surface antigen
  - No history of liver infection
  - No psychiatric or medical contraindications
  - Plans on giving birth in Cape Town

Methods

- At quarterly visits, the study provided:
  - ❖ HIV testing and counselling, to monitor serostatus of PBFW
  - ❖ Counselling on PrEP adherence and
  - ❖ Choice to start/continue on oral PrEP (TDF/FTC)
- Review of electronic patient and laboratory files at end of study to evaluate HIV results, CD4 counts, and viral load analyses
- We calculated HIV incidence rate using study follow-up person-time of Aug 2019 – Feb 2023.
- Numerator included seroconversions in study and lab results (incl. lost to follow-up).
- HIV incidence was stratified by pregnancy and postpartum time, using estimated delivery dates for those who were LTFU.
- Crude and adjusted hazard ratios from the Cox proportional hazard (PH) models accounted for the total time on PrEP until PrEP discontinuation (no PrEP use for >3 months) and adjusted for a priori confounders including maternal age (continuous) and time in study[2]

Results

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N=1195 women enrolled in study

Median age=26

Median gestation age= 21 weeks

1009 (84%) received PrEP at study enrolment and 82% confirmed PrEP initiation through self-report.

93% sexually active

90% reported recent condomless sex

31% unsure of partner's serostatus

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Results

- N=16 women (0.5%) seroconverted over 1684.8 woman-years follow-up with an **HIV incidence rate of 0.95/100 woman-years** [95% confidence interval (CI) 0.58–1.55].
    - 1 woman (6%) discontinued PrEP and seroconverted during pregnancy
    - The remaining 15 participants seroconverted during postpartum period
        - 2 women (13%) never initiated PrEP
        - 12 women (75%) discontinued PrEP
        - 1 women (6%) reported inconsistent PrEP use in last 30 days
- HIV incidence was higher in women who had **stopped or never started PrEP**
- Postpartum women had **higher hazard of HIV compared to pregnant (HR: 4.36, p-value: 0.051)**.
- 60% of the breastfeeding women seroconverted later in postpartum (>6 months)

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Results

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Table 1. Rates of HIV incidence in PrEP-PP Cohort Study (2019 – 2022), Cape Town, South Africa

	Time in study (years)	Seroconversions (n)	Rate per 100 years	[95% Confidence interval]	
By PrEP use					
Continued PrEP	889.3151	1	0.1124	0.01584	0.7982
Discontinued PrEP	795.4521	15	1.886	1.137	3.128
By pregnancy status					
Pregnant	357.9836	1	0.2793	0.03935	1.983
≤6 months postpartum	563.2576	6	1.065	0.4318	2.216
>6 months postpartum	763.526	9	1.179	0.6133	2.265
Total	**1684.767**	**16**	**0.9497**	**0.5818**	**1.55**

* Continued PrEP: Self-reported PrEP use in last 3 months at final study visit (12 months postpartum)

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Findings

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- Despite the encouraging PrEP initiation at enrolment, we observed a high HIV incidence rate in the postpartum period and in women who had started PrEP and discontinued
- This highlights the importance of appropriate interventions targeting postdelivery PrEP continuation through integration of PrEP delivery services such as family planning and baby visits.
- Effective interventions for post-delivery PrEP use is essential.

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Acknowledgements

- Acknowledgements: We would like to thank the PrEP-PP study participants, study staff, and Western Cape Department of Health healthcare workers.
- Co-authors: Kalisha Bheemraj, Aurelie Nelson, Linda-Gail Bekker, Thomas J. Coates, Landon Myer, Dvora Leah Joseph Davey
- Funding: DJD, TC and LM have funding from NIMH and NICHD. DJD has funding from Fogarty International Center/NIH.
- Lancet paper: Initiation of oral pre-exposure prophylaxis (PrEP) and continued use among pregnant and postpartum women in South Africa: Results from the PrEP in pregnancy and postpartum (PrEP-PP) cohort study *(in press)*