PrEP Adherence and Acceptability of Urine Tenofovir Testing in Pregnant and Postpartum Women

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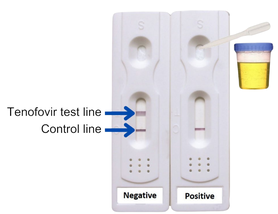
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BACKGROUND

- Pregnant and postpartum women (PPW) in South Africa face disproportionate risk for HIV acquisition.
- Oral pre-exposure prophylaxis (PrEP) is effective at preventing HIV in PPW, however challenges to PrEP adherence in this population persist.
- Urine tenofovir (TFV) testing is a newly developed objective method to rapidly evaluate recent PrEP use (in past 72 hours).
- Understanding acceptability, usability, and results of urine TFV testing in PPW is essential to inform future interventions incorporating real-time biofeedback to support optimal adherence of PrEP.

METHODS

- SCOPE-PP (R01HD106862) is an ongoing RCT in pregnant women taking oral PrEP, aiming to improve PrEP adherence and persistence.
- September 2022 to May 2024: enrolled n=750 pregnant women without HIV, age ≥16 years, and on or initiating PrEP
- Participants followed quarterly through 12-months postpartum.
- Urine TFV testing at baseline & follow-up visits in participants self-reporting PrEP use within the past 7 days.
- Women in intervention arm receive enhanced biofeedback counselling paired with results of urine TFV test.



Statistical analysis

- Logistic regression to evaluate predictors of positive urine TFV results at 3-month follow-up across arms, adjusted for baseline maternal and gestational age
- Descriptive statistics of urine TFV acceptability

Urine tenofovir (TFV) rapid tests with counselling biofeedback are **acceptable when used** to objectively evaluate recent PrEP adherence among pregnant and postpartum women.

RESULTS

- Among N=750 women at baseline, median age 26 years (IQR: 22-32); median gestational age 29 weeks (IQR: 22-35); 42% primigravid; 48% completed secondary or tertiary education; 35% of low socioeconomic status.
- 78% of women (n=588) returned for the 3-month visit:
  - 84% self-reported taking PrEP in last 30 days (87% pregnant vs.75% postpartum, p<0.01).
  - 47% self-reported taking PrEP in the last 7 days (51% pregnant vs. 39% postpartum, p<0.01).
- Among n=550 completing urine TFV testing, 49% of women had positive urine TFV results (n=272; 59% pregnant vs. 42% postpartum; p<0.01). (**Table 1**)
  - Correlation between self-reported adherence and positive urine TFV was 0.60.
  - 11% of women reporting PrEP use in the last 7 days received negative urine TFV results.

Table 1. Self-reported and objective PrEP adherence (via urine tenofovir assay) at 1-month and 3-months in pregnancy and postpartum women in Cape Town, South Africa

	Baseline (n=750*)	1-month visit (N=747*)			3-month visit (N=742*)		
	Pregnant	Pregnant	Postpartum	p-value	Pregnant	Postpartum	p-value
Total	750	552 (74%)	195 (26%)		300 (40%)	442 (60%)	
Attended visit	**379 (41%)**	**521 (94%)**	**125 (64%)**		**253 (84%)**	**335 (76%)**	
Self-reported adherence							
7-day adherence**	154 (32%)	289 (55%)	48 (34%)	**<0.001**	130 (51%)	132 (39%)	**0.004**
30-day adherence	326 (77%)	472 (99%)	136 (95%)	**0.023**	220 (87%)	249 (75%)	**<0.001**
Urine tenofovir results							
Urine tenofovir +	120 (32%)	317 (61%)	41 (33%)	**<0.001**	144 (59%)	128 (42%)	**<0.001**
Urine tenofovir -	259 (68%)	150 (29%)	84 (67%)		99 (41%)	179 (58%)	

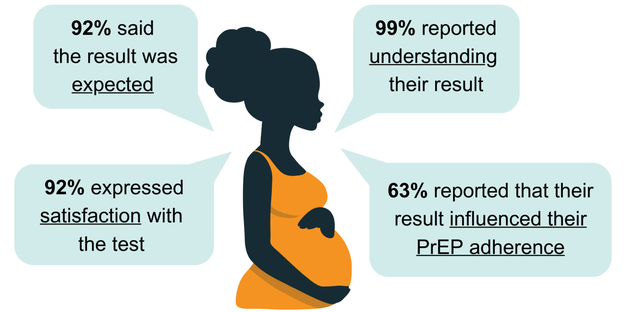
* Censored participants removed from denominator in each visit
** Self-reported taking all 7 PrEP pills in last 7 days (perfect 7-day adherence)

RESULTS CONTINUED

Factors associated with urine TFV+ test results

- Younger age (<24 vs. ≥24 years; aOR=1.47; 95%CI=1.04, 2.06),
- Education level (secondary vs. primary; aOR=1.47; 95%CI=1.04, 2.05),
- Current PrEP use (previously using PrEP vs. initiated at baseline; aOR=1.83; 95%CI=1.27, 2.64)

High acceptability of urine TFV testing among PPW



CONCLUSIONS

- Urine TFV testing is a rapid point-of-care measurement tool to assess recent PrEP use
  - **Well understood** by and **acceptable** to pregnant women in antenatal care settings.
- Half of women completing urine TFV tests received negative results, suggesting discordance between self-reported and objective use of PrEP.
- Postpartum women continue to need additional support for optimal PrEP adherence.

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