Trust in the PrEP provider is associated with accurate self-reported PrEP adherence among adolescent girls and young women in sub-Saharan Africa

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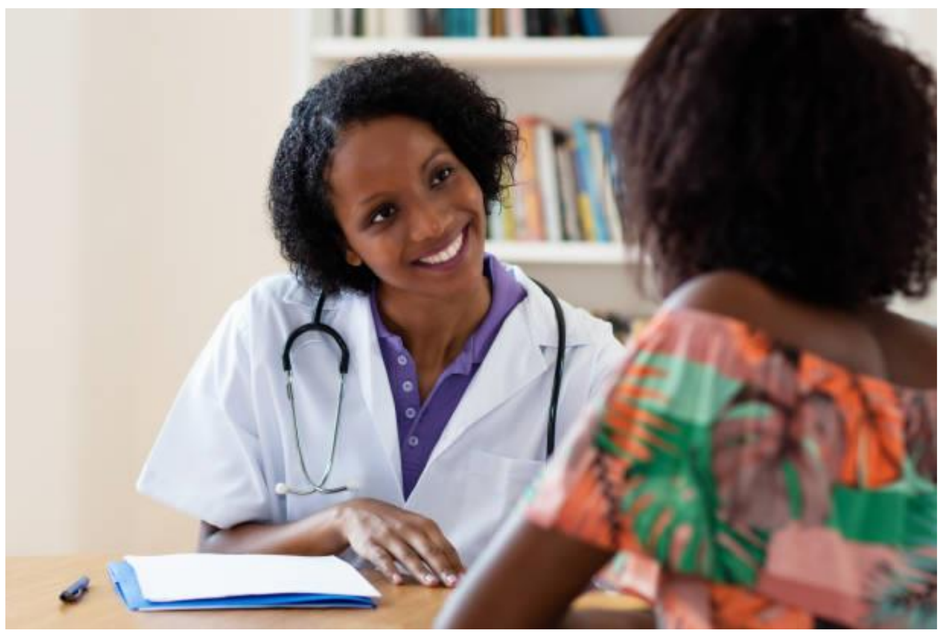
BACKGROUND

- Consistent use of PrEP by young key populations including adolescent girls and young women (AGYW) in sub-Saharan Africa (SSA) is necessary to prevent disproportionate levels of new HIV infections. [1]
- Patient-reported PrEP adherence is an inexpensive and low-burden measure but has been observed to be substantially higher than bio-marker concentration in several placebo-controlled PrEP clinical trials.[2]
- Qualitative studies among women in SSA revealed trust in the clinician as a facilitator among women who had evidence of PrEP adherence.[3]
- We assessed if high-level of trust in the PrEP provider was associated with ***concordant adherence*** (high patient-reported & high biomarker) and ***concordant non-adherence*** (low patient-reported & low biomarker) compared to ***discordant non-adherence*** (high patient-reported & low biomarker).



African adolescent girls and young women who have high trust in their PrEP provider are more likely to have both high self-reported and drug level measures of PrEP adherence.

METHODS

- Cross-sectional (month three data) analysis of HPTN 082 open-label PrEP demonstration study (2016 - 2018).
- **Population:** 451 HIV-uninfected AGYW ages 16-25 years from Cape Town and Johannesburg, South Africa; and Harare, Zimbabwe.[4]
  - In addition to PrEP, AGYW were offered STI diagnosis and treatment, contraceptive counseling and services, 2-way text messages, and counseling in youth-friendly clinics.
- **Study measures**
  - Levels of trust: The responses to provider characteristics questions are considered as indicators of trust (Table 1), and they were collected on a 5-point Likert scale.
    - The responses were dichotomized as ***agree*** if 'agree or strongly agree' and ***disagree*** if 'neither agree/disagree, disagree or strongly disagree'.
  - Patient-reported adherence: The response to 'how often the PrEP pills were taken in the past month' was dichotomized as ***high*** (every day/most days), and ***low*** (some days/not many days/never).
  - Biomarker adherence: TFV-DP in dried blood spot (DBS) reflects an average adherence during the prior four to six weeks.[5]
    - ***High adherence*** if DBS TFV-DP ≥ 700 fmol/punch and ***low adherence*** if DBS TFV-DP < 350 fmol/punch. Excluded (n=84) if 350 to 700 fmol/punch to avoid misclassification.
  - Outcome: Patient-reported and biomarker adherence data were combined to create ***concordant adherence*** (high patient-reported & high biomarker), ***concordant non-adherence*** (low patient-reported & low biomarker) and ***discordant non-adherence*** (low patient-reported & low biomarker).
- Log odds of *concordant adherence* relative to *discordant non-adherence* and log odds of *concordant non-adherence* relative to *discordant non-adherence* were modeled as a linear function of trust indicators, using multinomial logistic regression.

RESULTS

- Of the 427 AGYW who accepted PrEP, 381 (89%) completed the month 3 visit. Both biomarker DBS TFV-DP lab data and patient-reported adherence data were available for 354 (83%).
- About one-fourth (23%) of the participants were 'concordant adherent', 16% were 'concordant non-adherent', 36% were 'discordant non-adherent', and 24% were not categorized to avoid misclassification.
- In the multivariate logistic regression, concordant adherence versus discordant non-adherence was strongly associated with a trusting relationship with the PrEP providers (AOR 3.72, 95% CI 1.20-11.51, p = 0.02) (Table 1).

Table 1. Association between trust factors and concordant adherence and non-adherence compared to discordant non-adherence

Provider Characteristics	Effect	Response Reference= Discordant non-adherence	Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)[+]
Trusting relationship with the study staff	Agree vs. Disagree	Concordant adherence	3.72 ** (1.20, 11.51)	3.72** (1.20, 11.51)
		Concordant non-adherence	0.81 (0.34, 1.92)	
Let study staff know if missed pills	Agree vs. Disagree	Concordant adherence	2.04 * (0.93, 4.51)	
		Concordant non-adherence	1.87 (0.81, 4.32)	
Know who to contact for questions/problems about PrEP	Agree vs. Disagree	Concordant adherence	2.94 ** (1.05, 8.29)	
		Concordant non-adherence	1.37 (0.54, 3.52)	

All models were adjusted for site, * < 0.1, ** < 0.05

[+] Variables significant at p-value < 0.1 in the univariate analysis were included and backward elimination selection method was used.

CONCLUSIONS

- In the context of adolescent and youth-friendly services, our study provides empirical evidence that trust in the PrEP provider increases likelihood of concordance between patient-reported adherence and biomarker concentration of PrEP.
- Education and training that focuses on building trusting relationship between providers and AGYW may lead to not only preventing HIV infection, and it may also lead to better health outcomes in the long-term.

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