BEHAVIORAL AND STRUCTURAL INTERVENTIONS FOR PREP ADHERENCE AMONG YOUNG FEMALE SEX WORKERS IN KENYA

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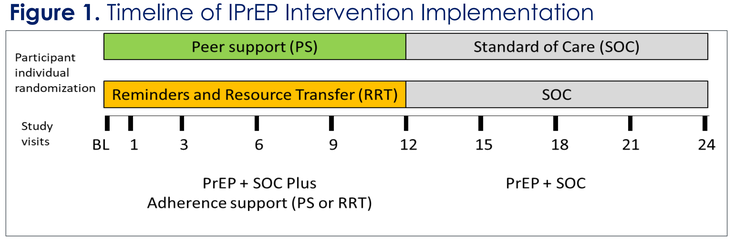
BACKGROUND

- In 2022, in eastern and southern Africa, female sex workers (FSW) represented 13% of new HIV cases despite comprising only 1% of the population.
- Although reliable HIV prevalence estimates disaggregated by age among FSW are lacking, research on adolescents girls and young women suggests that younger FSW are especially vulnerable due to a confluence of biological, behavioral and structural risk factors such as their power differentials with men who buy sex, multiple sexual partnerships, gender-based violence, and lack of legal protection.
- In Kenya, estimated HIV incidence is substantially higher among young female sex workers (YFSW) compared to similar-age women not engaged in sex work (2.2% vs. 0.15%).
- Pre-exposure prophylaxis (PrEP) for HIV prevention is recommended for at-risk populations, but its effectiveness requires consistent access and adherence.
- To support ongoing PrEP adherence, we assessed the effectiveness of two interventions – peer support, and reminders plus resource transfer – among YFSW in Kisumu, one of the four counties with the highest HIV burden in Kenya.

METHODS

- From October 2019 -March 2022, we conducted the IPrEP study, an unblinded, randomized-controlled trial that enrolled 18-24 year-old HIV-negative YFSW with no current or recent PrEP use.
- Participants were provided oral PrEP and randomized to either weekly adherence support from a trained peer supporter (PS) or short messaging system (SMS) reminders and resource transfer (RRT) for 12 months. All participants received PrEP without the adherence support interventions for an additional 12 months to assess durability of the interventions (Fig 1).
- Participant follow-up in the study coincided with national restrictions on travel and gatherings due to the COVID-19 pandemic.
- Primary outcomes compared adherence in study arms via detectable levels (>0.500ng/mL) of tenofovir in whole blood samples via a validated assay and self-report at 12, 18, and 24 months of follow-up. We also assessed self-reported adherence via Wilson's Adherence Score (>90).
- An intention-to-treat analysis of differences in intervention effectiveness at months 12, 18 and 24 was conducted. Sensitivity analyses used inverse probability weighting with stabilized weights to correct for selection bias due to lost to follow-up.

Figure 1. Timeline of IPrEP Intervention Implementation



Overall, low adherence to PrEP was noted, with no difference by social support intervention among young female sex workers in Kisumu, Kenya.

RESULTS

- We enrolled 200 YFSW (100 per arm). Socio-demographic and sexual behavior characteristics are presented in Table 1.
- At 12-month follow-up (n=179), 86% in PS and 93% in RRT arms reported decreases in number of weekly clients.
- At 12, 18, and 24 months, detectable levels of PrEP were 3%, 1%, and 0% in the PS arm compared to 9%, 9%, and 1% in the RRT [p-value = 0.4, (Table 2, Figure 2)]. Our sensitivity analysis found similar results.
- In contrast, 85%, 81% and 83% in the PS arm, and 86%, 87% and 76% in the RRT arm self-reported perfect 7-day adherence at months 12, 18 and 24, respectively.

Table 1. Socio-demographic and sexual behavior characteristics of IPREP participants, n-=200

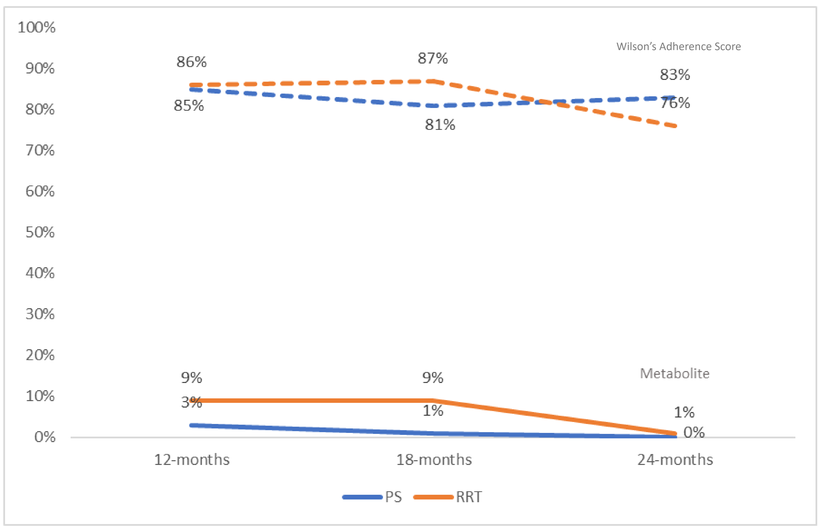
		Study Arm	
Characteristics	**Total N=200**	**PS (n=100)**	**RRT (n=100)**
Age, Median (IQR)	22 (20-23)	21 (20-23)	22 (20-23)
Secondary education or more	157 (79%)	85 (85%)	72 (72%)
Current condom use (male and female)	92 (46%)	49 (49%)	43 (43%)
Insufficient income	87 (43%)	42 (42%)	45 (45%)
Number of clients in past month, Mean (SD)	26 (32)	23 (31)	28 (35)
Frequency of alcohol use 4+ times a week	29 (15%)	10 (10%)	19 (19%)
Non-prescribed drug use, past year	20 (10%)	8 (8%)	12 (12%)
Depressive disorder (4+ symptoms)	22 (11%)	14 (14%)	8 (8%)

Table 2. Difference in proportion adherent to oral PrEP by intervention arm

Metabolite (any measurable value of drug compared with below lower level of detection)						
	12-months (n=179)		18-months (n=159)		24-months (n=173)	
ARM	**Proportion Adherent**	**Difference, 95% CI***	**Proportion Adherent**	**Difference, 95% CI**	**Proportion Adherent**	**Difference, 95% CI**
PS	3%	-6% (-12% to 1%)	1%	-8% (-15% to -1%)	0%	-1 (-4% to 4%)
RTT	9%		9%		1%	
Self-reported: Wilson's Adherence Score (Adherence Score of 90 or higher)						
	12-months (n=179)		18-months (n=159)		24-months (n=173)	
ARM	**Proportion Adherent**	**Difference, 95% CI**	**Proportion Adherent**	**Difference, 95% CI**	**Proportion Adherent**	**Difference, 95% CI**
PS	85%	-1 (-10-10)	81%	-6 (-20-6)	83%	7 (-10-20)
RTT	86%		87%		76%	

*per 100; CI: Confidence Interval

Figure 2. Adherence at 12-months, 18-months, and 24-months follow-up by arm based on metabolite detection and self-report



CONCLUSIONS

- In this population of YFSW, no difference in adherence by drug levels or self-report was noted across study arms. The very low levels of drug metabolites in contrast to high self-reported adherence are consistent with findings from previous research of PrEP use in young women.
- Non-daily PrEP options, including long-acting PrEP that do not require daily adherence may be more feasible for this population.

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