Brief Behavioral Intervention Increases PrEP Drug Levels in a Real World Setting

Sarit A. Golub[1], Stephanie Peña[2], Amy Hilley[1], John Pachankis[3], Asa Radix[2]

[1] Hunter College and Graduate Center, City University of New York, New York, NY, US [2] Callen Lorde Community Health Center, New York, NY, US [3]Yale School of Pubic Health , New Haven, CT, USA

BACKGROUND

The effectiveness of pre-exposure prophylaxis (PrEP) depends on optimizing adherence. However, few (if any) brief counseling interventions have demonstrated efficacy improving PrEP adherence in real-world settings. Past adherence research has demonstrated the importance of patient-centered counseling that affirms agency, empowers health behavior, and provides concrete solutions and strategies.

METHODS

SPARK is a community-based PrEP demonstration project conducted at the largest LGBT health center in New York City. Participants were 300 patients (18-63; 49% White) who met PrEP eligibility criteria and decided to start PrEP.

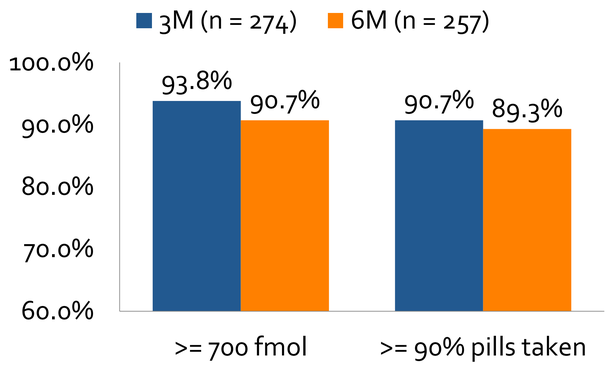
SPARK tested the efficacy of two brief interventions: a sexual health intervention (SHI) designed to frame PrEP use as part of sexual health, and a PrEP adherence intervention (AI) designed to provide detailed information about the rationale for daily dosing and concrete logistical adherence support. Each intervention was tested against an educational control, based on existing clinic protocols (i.e., treatment as usual (TAU)). Participants were randomly assigned to one of four conditions, in which they received SHI only, AI only, both, or neither.

Adherence was monitored using dried blood spot testing (DBS) and self-report at 3- and 6-month follow-up visits.

RESULTS

Among the 300 patients who began PrEP, 92% (n = 276) were still on PrEP at their 3-month visit and 86% (n = 259) were still on PrEP at 6-months. Rates of PrEP persistence at 6M were higher among those with a college degree (89%) versus those without (81%), p < .05. Persistence did not differ by age, race/ethnicity, or intervention condition. Overall adherence in the study was high (Table 1); almost 94% of participants demonstrated drug levels consistent with >= 4/week dosing (TDF ≥ 700 fmol) at 3M and 90.7% demonstrated these levels at 6M. Drug levels matched patients self-reports of their adherence behavior.

Table 1. Adherence Over Time



At 3-months, participants who received one or both of the brief interventions demonstrated better adherence as measured by both DBS and self-report (Tables 2 and 3). Adherence at 3M did not differ by demographic factors (age, race, income, education, insurance). At 6M there was a trend toward greater adherence in the intervention conditions (92.1% vs. 85.7%), but this difference was not statistically significant.

At 3M, participants who had received one or both of the brief interventions had significantly higher adherence, compared to those who received TAU.

Table 2. TDF ≥ 700fmol by condition

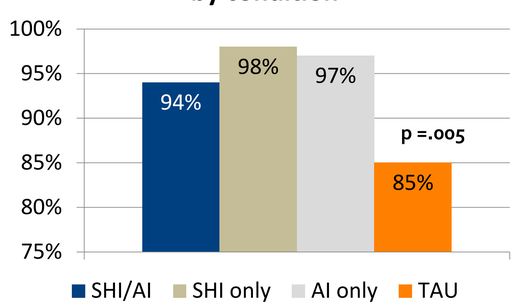
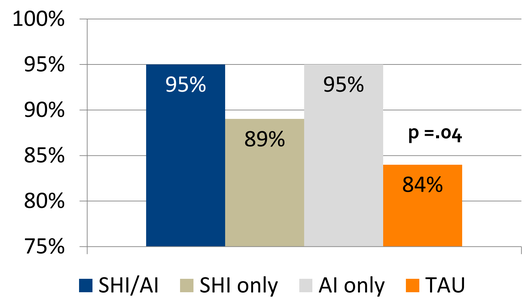


Table 3. ≥ 90% pills taken by condition



CONCLUSIONS

Both SPARK interventions significantly improved adherence at 3M, regardless of whether patients received the sexual health or adherence intervention. These data suggest that the SPARK model itself may be more important than individual intervention components. Follow-up analyses and future research should examine model factors as mediators of adherence behavior.

SPARK Intervention Model

1. **Frames prevention practices not in terms of risk, but as part of having a healthy and fulfilling sex life**
2. **Stresses patients' agency in choosing PrEP**
3. **Presents adherence information as a tool to empower and motivate patients**
4. **Assists patients in considering personal adherence challenges and brainstorming solutions**

A brief client-centered counseling intervention can significantly improve PrEP adherence in a real world setting, even among patients who are highly motivated to adhere. Additional "boosters" may be needed at follow-up visits to better support highest priority patients.

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For more information, contact: Sarit A. Golub, PhD, MPH
sgolub@hunter.cuny.edu or 212-396-6304