

Comparison of Behavioral Factors in Men Who Have Sex with Men who go on PrEP by Partner Status

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Background

Men who have sex with men (MSM) who have a single serodiscordant partner have a relatively low risk of HIV transmission if that partner's HIV viral load is suppressed, however, these same individuals still seek pre-exposure prophylaxis (PrEP) with tenofovir/emtricitibine (TDF/FTC)

Objective

- To explore the behavioral risk factors of MSM in single serodiscordant partnerships compared to other MSM that started PrEP.

Methods

- Subjects were sexually active HIV-uninfected MSM enrolled at four Southern California sites to receive pre-exposure prophylaxis
- Subjects are in study that is randomized (1:1) to either TDF/FTC with routine prevention services or TDF/FTC/prevention services and text message reminders for adherence.
- Subjects with single serodiscordant partnerships were asked if their partner was on antiviral therapy and if his HIV viral load was undetectable.
- Baseline factors were compared between subjects that reported a single serodiscordant partner (one HIV serodiscordant partner for ≥ 4 weeks and those ≥ 3 male partners with HIV-positive or unknown HIV status OR condomless anal sex with ≥ 1 male partner and had a sexually transmitted infection (STI).
- Groups were compared at baseline for demographics, number of condomless anal sex acts, STI prevalence, sexual compulsivity, and use of methamphetamine and other substances of abuse.

Results

Baseline Characteristics

- There were 399 individuals in analysis.
- Baseline characteristics (**table 1**) found that 49% had at least one regular HIV+ partner, and 12% had only a single serodiscordant partner as their risk for HIV. Among that group 91% reported that their single partner was on antiretroviral medication and all but two of them were confident their partners were suppressed on their medication.

Table 1: Baseline Characteristics

Characteristics		N (%)
		399
Mean Age		35.2
Race	White Black Other	289 (74%) 61 (16%)
Ethnicity	Hispanic	116 (30%)
Education	\leq High school	36 (9%)
Monthly Income	$<$ \$2000	81 (24%)
Gender of Partners (n=384)	Male M to F Female	379 (99%) 7 (2%) 2 (<1%)
Single Serodiscordant partner	Total (n=351) Partner on ARVs (n=43) Partner Suppressed (n=39)	43 (12%) 39 (91%) 37 (95%)
≥ 1 HIV+ partner for $>$ 4weeks		193 (49%)
≥ 3 male partners in 3 months*		272 (69%)
STI diagnosis past 3 months**		64 (16%)
STIs at baseline	RPR+ GC or CT any site	30 (8%) 77 (20%)

Table 1 N (%): number (percentage) of participants; HIV: human immunodeficiency virus, ARV: antiretroviral therapy; STI: sexually transmitted infection; RPR: rapid plasmin reagin; GC: gonorrhea; CT: chlamydia
*condomless sex with 3 or more partners past 3 months
** had at least one male partner and a diagnosis of STI in past 3 months

Table 2: Sexual Behaviors

	Single Serodiscordant Partner	Multiple Partners	p
Subjects (N)	N (%)	N (%)	
Mean Age	35.0	35.2	0.89
Race:			0.75
White	38 (79.2)	243 (74.5)	
Hispanic Ethnicity	24 (51.1)	89 (27.2)	$<$ 0.01
Any STI	5 (10.6)	93 (27.9)	0.01
RPR+	1 (2.1)	28 (8.4)	0.23
GC or CT any site	4 (8.5)	71 (21.3)	0.05
Median condomless anal sex acts past month (range)	2 (0-120)	1 ((0-102)	0.16
Mean Sexual Compulsivity Score	1.38	1.70	$<$ 0.01
Mean DAST Score	2.0	2.16	0.32
Mean AUDIT Score	5.1	5.5	0.20
Methamphetamine use	3 (6.3)	58 (17.3)	0.06

Table 2 N (%): number (percentage) of participants; STI: sexually transmitted infection; RPR: rapid plasmin reagin; GC: gonorrhea; CT: chlamydia; DAST: drug abuse screening test; AUDIT: alcohol use disorder identification tool; methamphetamine use is any use in past 3 months

Results

Comparison of PrEP users with Single Serodiscordant Partner with those with multiple partners (median partner number past three months = 7, IQR 4-12)

Those with a single serodiscordant partner:

- Were more likely to be Hispanic (51.1% vs. 27.2%, $p=0.002$)
- Less likely to have an STI (10.6% vs. 27.9%, $p=0.01$)
- Had lower sexual compulsivity scores (1.4 vs. 1.7, $p<0.001$).
- Less than half the rate of any reported methamphetamine use (6.3% compared to 17.3%, $p=0.057$)
- Higher median condomless anal sex acts in past month (median of 2, IQR 0-8.5, versus 1, IQR 0-4, $p=0.162$).

Conclusions

- Individuals who have a single serodiscordant partner usually suppressed on ARVs still seek HIV pre-exposure prophylaxis.
- Sexual behavior and STI data support that these individuals are lower risk for HIV acquisition.
- These findings suggest that despite possible low risk of transmission there are perceived benefits of PrEP for individuals with a single serodiscordant partner.
- Further longitudinal data are needed to study changes in sexual behaviors of PrEP users in serodiscordant partnerships for change in partner number and practices.

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