

Amphetamine and ecstasy use and confidence in treatment predict ongoing sexual risk for HIV transmission among recently infected men who have sex with men

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OBJECTIVE

Identified predictors of ongoing sexual risk for HIV transmission among recently infected (< 12 months) men who have sex with men (MSM).

BACKGROUND

- In the U.S., there is increased interest in HIV prevention efforts for persons with HIV.
- Epidemiological surveys have shown decreased perceptions of HIV severity, elevated sexually transmitted infection incidence, and increased unprotected sexual intercourse among risk groups.
- Asymptomatic HIV is a critical stage for intervention, as elevated viral loads and lapses in risk reduction following HIV diagnosis may increase risk of transmission.

METHODS

Sample

- 198 participants were recruited through a referral network because of possible recent (< 12 months) HIV infection.
- Participants were age 18 or older, sexually active at baseline, confirmed to be newly infected with HIV, identified behaviorally as MSM, English-speaking, and able to provide informed consent.

Measures

- Participants completed structured questionnaires at baseline, 12, 24, and 48 weeks.
- Assessments included demographics, substance use, sexual risk behavior, and health beliefs regarding perceived infectiousness and sexual precautions due to treatment for HIV disease.
- Laboratory testing and medical record review were used to confirm cases of recent infection.

Statistical Analyses

- Univariate statistics tested associations between demographics, substance use, and health beliefs with unprotected insertive anal intercourse (UIAI) and unprotected anal sex (UAS). Linear contrasts examined differences within variables.
- Demographics (i.e., age, ethnicity, education level, income) were entered as control variables in multiple logistic regression models of predictors of UAS.

Table 1. Association of Characteristics of Recently Infected MSM with Unprotected Sex with Potentially Serodiscordant Partners (n=198)

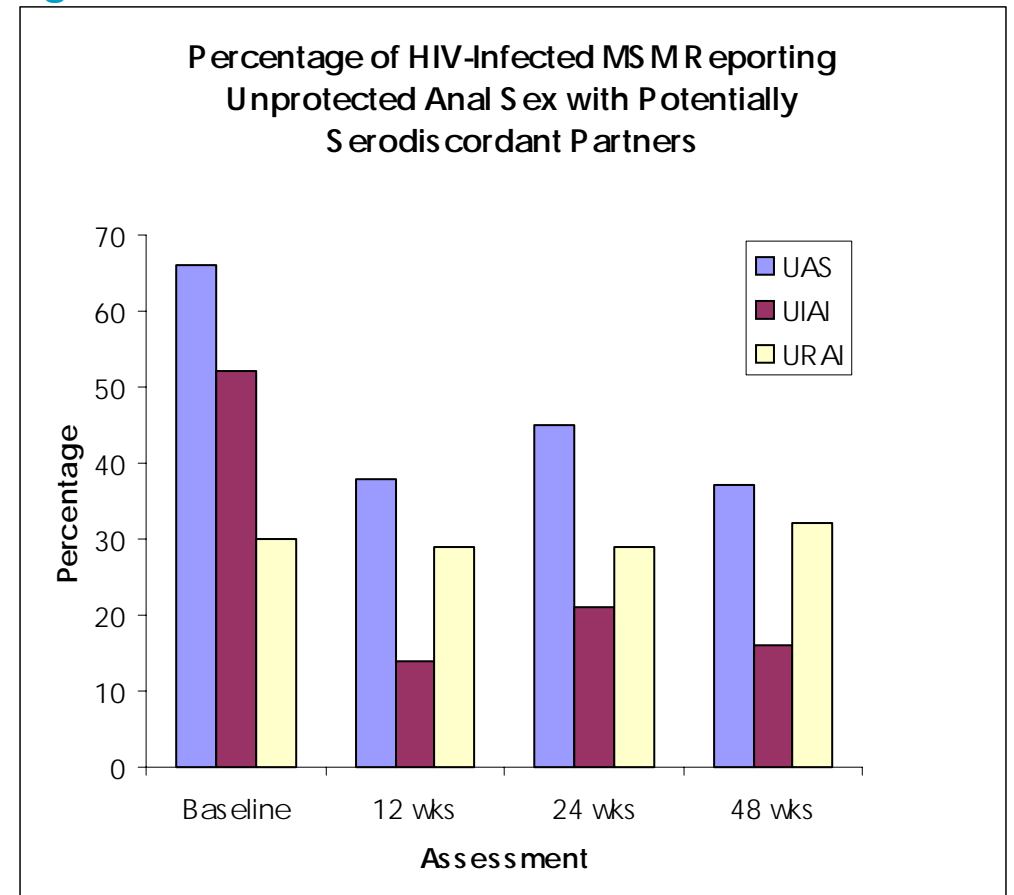
Variables	UIAI		UAS	
	% (n)	OR (95% CI)	% (n)	OR (95% CI)
Age				
20–29	23 (10)	—	46 (20)	—
30–39	26 (28)	1.2 (0.5–2.7)	51 (56)	1.3 (0.6–2.6)
40–49	26 (9)	1.2 (0.4–3.3)	49 (17)	1.1 (0.5–2.8)
50+	40 (4)	2.3 (0.5–9.6)	50 (5)	1.2 (0.3–4.7)
Ethnicity				
Other	21 (9)	—	53 (82)	—
White	27 (42)	1.4 (0.6–3.2)	37 (16)	1.9 (1.0–3.8)†
Highest Degree				
< BA	16 (11)	—	36 (25)	—
BA	28 (21)	2.1 (0.9–4.7)†	54 (40)	2.1 (1.1–4.0)*
> BA	35 (19)	2.8 (1.2–6.5)*	60 (33)	2.6 (1.3–5.5)**
Monthly Income				
< \$2k	26 (17)	—	43 (28)	—
\$2k–4k	28 (20)	1.1 (0.5–2.3)	53 (38)	1.5 (0.8–2.9)
\$4k+	23 (14)	0.8 (0.4–1.9)	53 (32)	1.5 (0.7–2.9)
Any Speed Use, 6 mos				
No	24 (32)	—	79 (37)	—
Yes	40 (19)	2.1 (1.1–4.3)*	46 (61)	4.4 (2.0–9.5)**
Any Ecstasy Use, 6 mos				
No	47 (62)	—	77 (36)	—
Yes	77 (36)	2.1 (1.1–4.3)*	47 (62)	3.7 (1.7–7.9)**
Other Drug Use, 6 mos				
No	40 (27)	—	63 (71)	—
Yes	63 (71)	1.5 (0.7–2.9)	40 (27)	2.6 (1.4–4.9)**
Believe medications reduce transmission risk				
Disagree	27 (32)	—	50 (59)	—
Agree	23 (12)	0.8 (0.4–1.7)	51 (27)	1.1 (0.6–2.0)
Less careful due to improved HIV treatment				
Disagree	26 (36)	—	44 (61)	—
Agree	30 (12)	1.2 (0.6–2.7)	70 (28)	3.0 (1.4–6.4)**

Note: OR—Odds Ratio. CI—Confidence Interval. UIAI—Unprotected Insertive Anal Intercourse. UAS—Unprotected Insertive or Receptive Anal Intercourse. Significance determined by Fisher's exact test. † $p < .1$, * $p < .05$, ** $p < .01$.

RESULTS

- We compared 198 newly infected MSM who did (49%) or did not (51%) report unprotected anal sex (UAS) at any point over 48 weeks with partners of negative or unknown status.
- The mean age was 35 years, 78% were white, and 67% were college educated.
- UAS was common in this cohort, reported by 38% at 12 weeks, 45% at 24 weeks, and 37% at 48 weeks.

Figure 1.



Note: UIAI/URAI – Unprotected insertive/receptive anal intercourse. UAS – Unprotected insertive or receptive anal intercourse.

- Logistic regression indicated that UAS was more common among MSM who were college-educated (OR = 1.8, 95% CI = 1.2, 6.4), reported amphetamine use (OR = 3.0, 95% CI = 1.2, 7.9), and ecstasy use in the past six months (OR = 2.4, 95% CI = 0.9, 6.1, $p < .08$), and believed they were less careful about HIV risk behavior due to improved treatment (OR = 3.5, 95% CI = 1.3, 8.9). Age, ethnicity, income, other substance use and the belief that HIV medications reduce infectiousness were not associated with UAS.

Table 2. Logistic Regression Model of Unprotected Sex in MSM with Serodiscordant Partners (n=198)

Variables	OR (95% CI)	Model χ^2 (df) 35.6 (8)*
Age	1.2 (0.8–2.0)	
White ethnicity	2.0 (0.8–4.8)	
Education	1.8 (1.2–6.4)*	
Income	0.9 (0.6–1.5)	
Speed Use, 6 mos.	3.0 (1.2–7.9)*	
Ecstasy Use, 6 mos.	2.4 (0.9–6.1)†	
Believe medications reduce risk	0.6 (0.3–1.4)	
Less careful due to improved treatment	3.5 (1.3–8.9)**	

Note: OR—Odds Ratio. CI—Confidence Interval. Serodiscordant UIAI/UAS—unprotected sex with uninfected or serostatus unknown partners. † $p < .10$. * $p < .05$. ** $p < .01$.

CONCLUSIONS

- Despite evidence of risk reduction following the baseline assessment, ongoing sexual risk for HIV transmission was common in this cohort of recently infected MSM.
- Among some MSM, greater education, use of amphetamines and ecstasy, and the perception of being less careful about HIV risk behavior due to improved HIV treatments are associated with sexual behavior that may transmit HIV following diagnosis.
- It is possible that well-educated MSM who admit to drug use may be more candid in reporting risk behavior than other men.
- HIV-infected MSM reporting amphetamine and ecstasy use may benefit from focused and tailored risk reducing interventions.
- Addressing implications of HIV treatment efficacy for transmission risk may enhance secondary prevention efforts delivered in clinical settings.

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