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Reducing Sex under the Influence of Drugs or Alcohol for Patients in Substance Abuse Treatment

Donald A. Calsyn^{1,2}, Paul Crits-Christoph³, Mary A. Hatch-Maillette^{1,2}, Suzanne R. Doyle², Yong S. Song⁴, Susan Coyer⁵, and Sara Pelta⁴

¹Department of Psychiatry and Behavioral Sciences, University of Washington School of Medicine

²Alcohol and Drug Abuse Institute, University of Washington

³Department of Psychiatry, University of Pennsylvania, Philadelphia, PA

⁴Department of Psychiatry, University of California San Francisco and San Francisco General Hospital, San Francisco, CA

⁵Pretera Center for Mental Health Services Inc., Huntington, WV

Abstract

Aims—In a previous report, the effectiveness of the Real Men Are Safe (REMAS) intervention in reducing the number of unprotected sexual occasions among male drug abuse treatment patients was demonstrated. A secondary aim of REMAS was to reduce the frequency with which men engage in sex under the influence (SUI) of drugs or alcohol.

Design—Men in methadone maintenance ($n=173$) or outpatient psychosocial treatment ($n=104$) completed assessments at baseline, 3- and 6-months post intervention. Participants were randomly assigned to attend either REMAS (five sessions containing information, motivational exercises and skills training, including one session specifically targeting reducing SUI), or HIV education (HIV-Ed; one session containing HIV prevention information). SUI during the most recent sexual event served as the primary outcome in a repeated measures logistic regression model.

Findings—Men assigned to the REMAS condition reporting SUI at the most recent sexual event decreased from 36.8% at baseline to 25.7% at 3 months compared to a increase from 36.9% to 38.3% in the HIV-Ed condition ($t_{intervention}=-2.16, p=.032$). No difference between the treatment groups was evident at 6-month follow-up. At each assessment time point, sex with a casual partner versus a regular partner, and being in methadone maintenance versus psychosocial outpatient treatment, were associated with engaging in SUI.

Conclusions—Overall a motivational and skills training HIV prevention intervention designed for men was associated with greater reduction in SUI than standard HIV education at the 3-month follow-up.

Keywords

HIV prevention; substance abuse treatment; behavioral intervention

Corresponding author: Donald A. Calsyn, Ph.D. University of Washington, 1107 NE 45th St., Ste. 120, Seattle, WA, 98105, United States, calsyn@u.washington.edu.

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Introduction

Sexual behavior in the context of substance use is a growing area of scientific focus due to being a risk factor in the transmission of HIV and other sexually transmitted infections. Substance users may engage in sexual risk behaviors such as trading sex for drugs or money, vaginal and anal intercourse without condoms, or sex with multiple partners (1-3). In addition, engaging in sexual behavior while under the influence of drugs or alcohol, especially stimulants, has been associated with increased involvement in sexual risk behaviors (2,4-6).

Sex under the influence (SUI) is also a relapse prevention issue. In a pilot study of methadone maintenance patients Calsyn et al. (7) found that 77.8% of men and 76.9% of women reported SUI during their most recent sexual event, and of these 21.4% of men and 20% of women viewed this drug use as a relapse. In a self-report survey asking about sexual thoughts, feelings and behaviors while under the influence, Rawson and colleagues (8) found that men in substance abuse treatment reported their drug use was so strongly associated with sex that it would be difficult to separate the two. The respondents also reported that their drug use made them preoccupied with sex and/or significantly elevated their sex drive (8). This was reported more frequently by stimulant users compared to opiate or alcohol users. In a comprehensive report on the relationships between alcohol, drugs and sex, Califano (9) noted that expectations about heightened sexual arousal and performance ability also strengthen the sex-drugs relationship for many. Others have found that the majority of men who reported SUI during their most recent sexual event associated sexual enhancements (e.g., increased sexual desire, decreased sexual inhibition) with being under the influence, though they reported less actual sexual satisfaction than men reporting sober sex (10). Because this was a cross sectional analysis it is not known if the men reporting sex under the influence would report higher sexual satisfaction if they had instead been sober. These findings suggest that substance abusers in treatment may be tempted to use drugs to help meet sexual desires. Whether the temptation to use drugs for sexual needs predicts *subsequent* SUI events remains unclear.

Literature reviews indicate that engagement in substance abuse treatment is strongly associated with reductions in drug use behaviors that lead to HIV transmission (11-13). Substance abuse treatment programs typically provide some type of HIV prevention intervention as part of the treatment program (14,15). Although the typical program is one session, the intensity and structure of the interventions can vary widely (16,17). Overall, meta-analyses of HIV risk reduction interventions conducted in drug treatment programs and other clinical settings show that such interventions are effective--especially when containing attitudinal arguments, educational information, behavioral skills arguments and behavioral skills training (16,17). However, none of the studies reviewed specifically focused on reducing SUI, nor used it as an outcome measure.

The Real Men Are Safe (REMAS) workshop was developed as a gender specific HIV prevention intervention for men in substance abuse treatment (18). In the National Institute on Drug Abuse's (NIDA) Clinical Trials Network (CTN) study, Safe Sex for Men, the five session REMAS intervention was compared to a standardized one session HIV education (HIV-Ed) intervention designed to represent "treatment as usual." REMAS participants engaged in fewer unprotected vaginal and anal sexual intercourse occasions (USO) during the 90 days prior to the 3- and 6-month follow-ups than HIV-Ed participants (19).

The current report focuses on the impact of REMAS on the secondary outcome measure of engaging in SUI. We hypothesized that: 1) at their 3- and 6-month follow-up visits men randomized to REMAS will be less likely to report SUI at their most recent sexual event

compared to men randomized to HIV-Ed; 2) SUI is more likely to happen with a casual versus a main partner; 3) SUI will be more frequent among methadone maintenance patients compared to those attending outpatient psychosocial treatment programs; 4) sexual events not under the influence of drugs or alcohol would be rated as more satisfying than sexual events under the influence; 5) recent temptation to use drugs or alcohol to “enhance sex” or “increase the likelihood that sex will occur” will predict future SUI events.

Methods

Participants

Participants were 277 men enrolled in an HIV risk reduction intervention protocol delivered within seven methadone maintenance ($n = 173$) and seven outpatient, non-medication assisted psychosocial ($n = 104$) treatment programs. Inclusion criteria included: males over age 18, in substance abuse treatment, reported engaging in unprotected vaginal or anal intercourse during the prior 6 months. In the parent study, 15.4% men screened for inclusion had not been sexually active in the prior 6 months. For the analyses reported here, participation was limited to men who completed the baseline assessment and both the 3-month and 6-month follow up assessments, and who provided details of the most recent sexual event in the 90 days prior to the assessments.

Of the 590 participants randomized in the parent trial 359 (60.8%) completed assessments at baseline and both 3- and 6-months follow-up. Of these, 12 were not sexually active in the 90 days before baseline assessment and 1 did not provide details of the most recent sexual event at baseline. An additional 62 participants were not sexually active in the previous 90 days during one of the follow up periods, and 2 did not provide details of the most recent sexual event at one of the follow up assessments. For 5 additional cases partner type could not be determined for one of the most recent sexual event reports. Thus the final sample for the analysis reported here is $n=277$. For the vast majority of the sample, approximately 95%, the most recent sexual event had happened within 30 days of each assessment and the sexual partner was a woman. The mean age and education level obtained of participants were 40.08 ($sd=10.47$) and 12.22 ($sd=1.82$) years respectively. Sample ethnicity was 57.76% white, 27.08% African American, 12.64% Hispanic, 2.52% Asian/Pacific Islander/Native American/other. Only 20.94% of participants were married, 46.21% had never been married and 33.21% had previously been married. Baseline interviewers' identification of participants' primary substance abuse problem, based on the Addiction Severity Index-Lite (20), were: one or more drugs but not with alcohol (32.1%); alcohol alone or combined with one or more drugs (26.7%); opioids (16.3%); stimulants (12.6%); and other drugs such as cannabis and sedatives/hypnotics/tranquilizers (12.3%). At baseline 44.5% had been in treatment 3 months or less; 18.1% between 3 months and one year; and 37.0% more than one year.

Assessments

The Sexual Behavior Interview (SBI) was administered during the baseline assessment as part of a larger battery. The SBI items were selected or adapted from the SADAR (Sex and Drug Abuse Relationship Interview, 21) and the SERBAS (Sexual Risk Behavior Assessment Schedule, 22, 23). Behaviors assessed included: 1) frequency of unprotected vaginal, anal, oral sex by partner type (main versus casual); 2) number, gender, and perceived HIV serostatus of partners; 3) detailed assessment of the most recent sexual event (see appendix for the specific items). SBI items were administered using the audio computer-assisted self-interviewing (ACASI) method (24,25).

Interventions

Participants were randomized to attend either REMAS or HIV-Ed. REMAS was a workshop of five 90-minute group sessions. In addition to lecture material, there was liberal use of role-plays, peer group discussions and self-assessment motivational exercises (19). Session 3 was developed specifically for this protocol based on research indicating that combining sexual behavior and drug use is common among drug abusers and is associated with high risk HIV transmission behaviors and drug use relapse (7,10,21,26). A decisional balance approach challenged participants to weigh the pros and cons of SUI, and to brainstorm alternative ways to obtain the “pros” without using. Consistent with the practical clinical trials model (27,28) the HIV-Ed group was intended to represent a standardized treatment-as-usual intervention. This intervention consisted of selected educational material from the REMAS intervention. Details concerning randomization, intervention content and delivery, interventionist training and fidelity monitoring are provided in Calsyn et al (19).

Data analysis

Analysis of the primary outcome consisted of assessing the change in reported SUI during the most recent sexual event at 3- and 6-month follow-up by treatment intervention. A repeated measures logistic regression model was used. Baseline measures of SUI, partner type (main vs. casual) and treatment modality (methadone maintenance vs. outpatient psychosocial) were used as covariates. .

Secondary analyses included evaluating participant’s reported sexual satisfaction, and whether temptation to use drugs predicted SUI in the following 3 months. Satisfaction was measured with an SBI item requesting the participant to “Rate your level of satisfaction with this sexual experience on a scale from 0 (not at all pleasurable) to 10 (extremely pleasurable).” Temptation was measured with two SBI items: “In the past three months, were you tempted to use drugs to enhance your sexual experience?” and “In the past three months, were you tempted to use drugs in order to increase the likelihood of a sexual encounter occurring?”

Sexual satisfaction was analyzed with a repeated measures mixed-effects regression model. The analysis included a comparison of satisfaction with sex for those who consistently reported being under the influence versus those who consistently reported not being under the influence in their most recent sexual experience. In addition, the analysis examined participants who reported SUI at baseline but not at follow-up, and those reporting “sober” at baseline but SUI at follow-up. The purpose was to test whether satisfaction 1) improved for participants who shifted from SUI to sober sex, and 2) declined for participants who shifted from sober sex to SUI. To test these hypotheses, three dummy-coded variables were used to represent pairwise comparisons of four groups: 1) SUI at baseline but not at follow-up, 2) SUI at follow-up but not at baseline, 3) SUI at baseline and follow-up, with the comparison group 4) no reported SUI at baseline or follow-up. A significant group-by-time interaction effect comparing groups 1 and 2 with group 4, and a main effect of the comparison of group 3 with 4, were expected. The prediction of subsequent SUI from prior reporting of temptation to use drugs during sexual relations was assessed with a simple logistic regression model. Odds ratios (OR) are reported. All analyses were conducted with SAS software (29).

Results

The number of men having completed a baseline, 3- and 6-month follow-up assessments were ($n=141$) for the REMAS and ($n=136$) for the HIV-Ed intervention groups. The participants did not significantly differ on any of the demographic variables listed in the

participants section as a function of intervention assignment. Participants included in the current study ($n=277$) compared to those excluded from the analyses ($n=313$) were slightly younger ($M=38.19$ vs. $M=40.08$; $t_{588}=2.21$, $p=.028$, $ES=.18$), averaged fewer days since the most recent sexual event at baseline, ($M=8.66$ vs. $M=17.06$; $t_{410}=-5.13$, $p<.001$, $ES=.444$), were more likely to be in methadone maintenance (62.45% vs. 36.74%, $\chi^2=38.89$, $p<.001$) and were less likely to have had SUI at the most recent sexual event at baseline (36.96% vs. 46.95%, $\chi^2=5.95$, $p=.015$).

Presented in Table 1 is the summary table for the repeated measures logistic regression of the primary outcome. There were significant main effects for the intervention condition ($p=.032$), partner type ($p<.001$), and treatment modality ($p=.005$). Separate logistic regression models calculated for each assessment period indicate that the REMAS participants compared to HIV-Ed participants were less likely to engage in SUI at the most recent sexual event for the three month assessment ($p=.007$), but not for the baseline ($p=.730$) and six month assessments ($p=.581$). At each assessment period, SUI was significantly more likely to happen with a casual partner versus a main partner ($p<.001$ at baseline, $p<.001$ at 3-month follow-up, and $p=.002$ at 6-month follow-up). In addition, more men in methadone maintenance reported engaging in SUI significantly more often at each assessment period compared to men in outpatient psychosocial programs ($p=.009$ at baseline, $p<.001$ at 3-month follow-up, and $p<.001$ at 6-month follow-up). However, there was no differential change in the partner type effect or treatment modality effect over time as a function of intervention condition.

Presented in Table 2 are the percentages of men reporting SUI at the most recent sexual event for each assessment period as a function of intervention condition, partner type and treatment modality. The percentage of REMAS participants who reported SUI at the most recent sexual event decreased from 36.8% at baseline to 25.7% at 3 months, whereas men in HIV-Ed had a slight increase from 36.9% to 38.3%. The percent increase from 3 to 6 months for the REMAS sample was only 4.4%. However, the HIV-Ed sample decreased 7.1% between 3 and 6-months, and the groups were not statistically different at 6 months. Over half of men reporting SUI during the most recent sexual event at baseline report they had had a casual partner for that event, whereas less than a third reported their partner had been a regular/main sexual partner. Although these percentages decreased at both follow up assessments, SUI continued to happen more frequently with a casual partner compared to a regular partner. Similarly, 42.8% of methadone patients at the baseline assessment reported SUI at last sexual event compared to 26.9% of psychosocial outpatients. Although these percentages are lower at both follow up assessments, SUI continued to be more frequent among methadone maintenance compared to outpatient psychosocial patients.

As hypothesized, men who reported SUI during the most recent sexual encounter at both baseline and follow-up indicated less satisfaction than men reporting sober sex at both baseline and 3-months ($p=.002$) and at both baseline and 6-months ($p<.001$) (see Table 3). In addition, those men who reported SUI at baseline, but not at 3-month follow-up, increased their satisfaction with the sexual experience from a mean of 6.8 at baseline to 8.0 at 3-month follow-up. This change in satisfaction, relative to the participants who reported sober sex at either baseline or 3-months, was statistically significant ($p<.001$). Similarly, there was a decrease in satisfaction among the participants who at baseline reported sober sex ($M=8.5$), but at 6 months reported SUI ($M=7.0$, $p<.001$).

The baseline measure of temptation to use drugs to enhance sexual experience predicted SUI at the 3-month follow-up ($OR=2.29$, $p<.001$) and the 3-month measure of temptation to enhance predicted 6-month follow-up ($OR=2.21$, $p=.001$). In a similar manner, the baseline measure of temptation to use drugs to increase the likelihood of a sexual experience

predicted SUI during the most recent event at the 3-month follow-up ($OR=1.862$, $p=.015$). The same was true for temptation at 3-month predicting outcome at 6-months ($OR=3.154$, $p<.001$).

Discussion

These secondary data analyses from the NIDA CTN Safe Sex for Men study yielded five main findings. First, the primary hypothesis was partially confirmed. At the 3-month assessment, male participants in substance abuse treatment who received an intensive HIV prevention intervention with a special focus on reducing SUI engaged in SUI less than participants who received a standard HIV-education intervention. However, by the 6-month assessment, participants in the standard HIV-education intervention had continued to decrease their rates of SUI and there was no significant difference between the treatment groups. Second, SUI was more likely to happen with a casual partner versus a main partner. Third, participants in methadone maintenance treatment reported engaging in SUI more often than those in outpatient psychosocial programs. Fourth, satisfaction with the sexual experience when sober was greater than when under the influence. Sexual satisfaction improved when participants changed from identifying their most recent sexual experience as under the influence at baseline to not under the influence at follow-up. Conversely, when participants changed from identifying their most recent sexual experience as not under the influence at baseline to under the influence at follow-up, satisfaction decreased. Fifth, being tempted to use drugs to enhance the sexual experience was associated with doing so in the subsequent 3 months.

Meta-analyses indicate that HIV prevention interventions with substance abusers are effective at reducing HIV related risk behaviors, including sexual risk behaviors (16,17,30). However, to our knowledge this is the first HIV prevention intervention study that demonstrated a specific reduction in the frequency of engaging in SUI. Given the associations reported between SUI and sexually risky behaviors that might promote HIV transmission (2;4-6,31,32) reducing the frequency of SUI may have direct public health benefits. The extent of the public health benefit would relate to the degree of causal connection between SUI and sexually risky behaviors.

Possible alternative explanations for the greater effectiveness of the REMAS versus HIV-Ed condition are the dose and quality of the intervention. REMAS involved multiple and longer doses of intervention delivered, and included informational-motivational-behavioral change components (33). HIV-Ed was shorter and included only informational components.

In the current study, however, the fact that the intervention effect was apparent at the 3-month, but not the 6-month, follow-up assessment suggests that further work is needed to produce more enduring effects. It may be necessary to increase the focus on SUI within the 5 session REMAS intervention. Alternatively, it may be necessary to lengthen the treatment or provide intermittent “booster” sessions throughout the course of drug treatment so that decreasing SUI becomes an important theme of ongoing recovery and is addressed each time there is a relapse or a patient reports recent use urges.

The current study also provides important information about the context in which SUI is more likely to occur. SUI was more likely to occur with a casual partner than a main partner. The REMAS intervention has a brief module that focuses on ways to meet new partners without the assistance of drugs or alcohol. Possibly this component needs further expansion or follow up in other treatment related sessions. In addition, participants attending methadone maintenance treatment were more likely, at all assessments, to engage in SUI compared to those attending outpatient psychosocial treatment. Consistent with this finding,

previous research has also found that SUI is common among patients in methadone maintenance clinics (7,10,21,26). This connection between attending methadone maintenance treatment and SUI is probably not due to taking methadone per se, as recent use of methadone may actually decrease the likelihood of SUI (34). Rather, program policies regarding “in treatment” substance use may be contributing to this difference with methadone programs tolerating more “in treatment” use. Whether this effect is related to type of drug of abuse (opiates versus other), program policies or other variables (e.g., employment; marital status; medical or psychiatric co-morbidities; severity of drug and alcohol use) that might differentiate participants in methadone treatment from those in outpatient psychosocial treatment is not clear. Unraveling the set of potentially confounded reasons why patients in methadone maintenance clinics have relatively high rates of SUI is an agenda for future research. Regardless of which variables are primarily responsible for this connection, the fact that there are consistent individual differences in the tendency to engage in SUI suggests that HIV risk intervention programs may need to target specific at-risk subgroups to achieve improvements in these behaviors. Adding individual treatment sessions to REMAS, or increasing the focus on HIV risk behaviors within the context of individual drug counseling sessions when appropriate to the individual’s risk profile, might be needed to further impact the likelihood of engaging in SUI.

Two findings from the current study are relevant to use of motivational exercises in the REMAS sessions. These include the finding that satisfaction with the sexual experience while sober was greater than when under the influence, and the finding that reported temptation to use drugs to enhance the sexual experience was associated with being under SUI during the most recent sexual experience in the subsequent 3 months. Stated differently, many participants were *tempted* to use drugs to enhance sex, but when they actually *did* combine sex and drugs, their satisfaction with the sexual experience was lower. This discrepancy is clinically relevant because it represents another means for counselors to challenge cognitive rationalization of risky behavior. Patients may be romanticizing their substance use and remembering enhanced sexual experiences in the past associated with substance use, when more recent SUI has not been as satisfying. If this is true, clinicians might choose to examine with patients their more recent experiences compared to romanticized past experiences in order to highlight discrepancy and motivate change. Consistent with this approach, one of the central elements of REMAS session 3 is to challenge participants’ beliefs about how drugs or alcohol enhance the sexual experience. The current findings therefore validate the importance of this REMAS motivational component. The potential causal connection between current temptation to use drugs to enhance the sexual experience and subsequent likelihood of being under the influence during sex justifies a more in depth focus on the role of such “temptations.” Use of homework assignments with daily monitoring of the subjective temptations to use drugs to enhance sex might be one way of alerting patients that such temptations are occurring, and alerting the counselor to those individuals at highest risk.

Despite the strengths of this investigation (large sample size; broad range of patients, counselors, and “real-world” clinical settings; well-standardized interventions), there were a number of limitations. First, the current report focused on a secondary outcome measure; thus, these findings should be confirmed in a prospective study that is designed with a primary focus on SUI. Second, the results of the study are based upon a sample representing 47% of the original study group. Third, the extent to which the findings generalize across different patient ages, types of substance of abuse, psychiatric and substance abuse diagnosis, and sexual history, is not known. Fourth, the design of the study, comparing 5 sessions of REMAS to 1 session of standard HIV counseling, also limits inferences about whether the content of the REMAS treatment, or its duration, was most important in producing the relative advantage of REMAS compared to standard treatment at 3-months.

Fifth, a limitation in the sexual satisfaction analysis is that sexual partner was not held constant for all cases. In addition, there may be other variables related to sexual satisfaction that were different across sexual events other than being under the influence that contributed to a man's rating of sexual satisfaction. Sixth, we examined SUI at the most recent sexual event, which may underestimate the overall rate of SUI. Seventh, the study provided modest financial incentives to encourage intervention attendance, which most drug treatment programs typically cannot provide.

In summary, this study found that REMAS, an intensive skills-based HIV prevention intervention, was associated with greater reduction of SUI among men in substance abuse treatment compared to a standard HIV education intervention at the 3-month, but not the 6-month, follow-up. The findings from this study highlight the importance of discussing sex as a relapse trigger for many individuals in drug treatment, not simply those who abuse stimulants. The Real Men Are Safe intervention has now been shown to reduce the number of unprotected sexual intercourse occasions (19) and SUI events than a standard one hour HIV informational intervention. These findings highlight the effectiveness of HIV prevention interventions in substance abuse treatment settings that go beyond the typical informational focused interventions.

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Appendix A

Sexual Behavior Interview items related to the most recent sexual event

“How many days ago was your most recent sexual experience?”

“Were you under the influence of drugs or alcohol during this experience?”

“Was your partner under the influence of drugs or alcohol during this experience?”

If yes to either of under the influence questions the event was categorized as “sex under the influence,” and the respondent was asked to identify the specific drugs of abuse used, including alcohol.

“Was this experience with a man or a woman?”

“How would you describe your relationship with the woman or man with whom you had this sexual experience?”

Main partner characterizations: (spouse, fiance/fiancee, a lover you've been with for a while, a new lover (less than 6 months) with whom you've established a steady relationship,

Casual partner characterizations: someone you have or had sex with in exchange for drugs, money, or as part of a financial arrangement, a friend that you have sex

with occasionally, someone you had sex with once and are not sure if you ever will again.”

“Did you engage in vaginal intercourse?”

“Did you engage in insertive oral sex?”

“Did you provide oral sex to your partner?”

“Did you engage in anal intercourse?”

“Did you engage in mutual masturbation (without engaging in anal, vaginal or oral sex)?”

“Rate your level of satisfaction with this sexual experience on a scale from 0 to 10.” (0=Not at all pleasurable, 5=A pleasurable, enjoyable experience, but nothing special, 10=Extremely pleasurable).”

Additional questions concerning condom use, sexual enhancements and sexual impairments were also asked, but were not the focus of the current investigation.

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Table 1

Repeated measures logistic regression model for sex under the influence of drugs or alcohol during the most recent sexual event ($n=277$)

	Parameter Estimate	Standard Error	<i>t</i> - value	<i>p</i>
Intercept	-2.90	0.54	-5.36	<.001
Intervention ^a	-1.02	0.47	-2.16	0.032
Time	-0.61	0.36	-1.69	0.092
Intervention × Time	1.04	0.53	1.96	0.051
Partner Type ^b	1.71	0.42	4.06	<.001
Treatment Modality ^c	1.22	0.43	2.82	0.005
Baseline sex under the influence (covariate)	2.21	0.45	4.91	<.001

^aIntervention (0=HIV-Ed, 1=REMAS)

^bPartner Type (0=main, 1=casual);

^cTreatment Modality (0=outpatient psychosocial, 1=methadone maintenance)

Table 2

Percent of sex under the influence of drugs or alcohol at most recent sexual event as a function of assessment period, intervention condition, partner risk, and treatment modality

Percent under the influence by Intervention Condition			
Assessment Period	HIV Education (n=141)	Real Men are Safe (n=136)	χ^2 (df=1) (p-value)
Baseline	36.88	36.76	0.00 (.984)
3-month follow-up	38.30	25.74	5.01 (.025)
6-month follow-up	31.21	30.15	0.04 (.849)

Percent under the influence by Partner Type			
	Regular	Casual	
Baseline	31.17 (n=211)	54.55 (n=66)	11.70 (<.001)
3-month follow-up	26.91 (n=223)	53.70 (n=54)	14.32 (<.001)
6-month follow-up	25.91 (n=220)	49.12 (n=57)	11.47 (<.001)

Percent under the influence by Treatment Modality			
	Methadone Maintenance (n=173)	Outpatient Psychosocial (n=104)	
Baseline	42.77	26.92	7.02 (.008)
3-month follow-up	38.73	21.15	9.20 (.002)
6-month follow-up	36.99	20.19	8.62 (.003)

Statistical analysis summary table provided in Table 1.

Table 3

Results of repeated measures comparisons of reported satisfaction of sex under the influence of drugs or alcohol at most recent sexual event

Sex Under the Influence		Sexual Satisfaction Mean (SD)			
		Baseline	3-months Follow-up	Baseline	6-months Follow-up
Baseline	Follow-up	n=258	n	n=255	n
Yes	No	6.71 (2.51)	8.02 (2.10)	6.80 (2.59)	7.26 (2.46)
No	Yes	7.67 (2.51)	7.45 (2.61)	8.50 (2.44)	7.00 (2.86)
Yes	Yes	6.72 (2.60)	7.00 (2.56)	6.87 (2.56)	6.49 (3.04)
No	No	8.03 (2.29)	7.58 (2.32)	7.73 (2.29)	8.00 (2.01)
Mixed Effects Regression Results					
Group Comparison	F _{1,254}	p	F _{1,251}	p	
1 vs. 4	1.67	0.197	8.15	0.005	
2 vs. 4	0.44	0.507	0.18	0.670	
3 vs. 4	9.39	0.002	16.42	<.001	
Time	4.87	0.028	4.41	0.037	
1 vs. 4 × Time	11.42	<.001	0.21	0.647	
2 vs. 4 × Time	0.17	0.681	4.56	<.001	
3 vs. 4 × Time	2.36	0.126	2.32	0.129	