Published in final edited form as:

J Correct Health Care. 2012 April ; 18(2): 96–104. doi:10.1177/1078345811435322.

Substance use and sexual behavior among men prior to parole revocation: Prevalence and correlates

David Wyatt Seal, Ph.D., Michelle Parisot, M.A., and Wayne DiFranceisco, M.A.

Center for AIDS Intervention Research, Department of Psychiatry and Behavioral Medicine, Medical College of Wisconsin

Abstract

Men's risk behavior during a 3-month period prior to parole revocation was assessed. Frequent alcohol use was higher among men who had more children, were homeless, or had a history of AODA treatment. The use of drugs was greater among men who were younger or had a history of STIs. The use of hard drugs was higher among men who had history of injection drug use. Unprotected vaginal or anal sex was increased among men who were younger, single, or had a history of STIs. Sex with a high risk partner was greater among men who were older, used hard drugs, or had a history of STIs. Findings highlight the importance of developing risk reduction programs for men on parole. (120)

Keywords

Parole; HIV Risk; Men; Sexual Behavior; Substance Use

At year-end 2008, about 5.1 million adults were on probation or parole (Glaze & Bonczar, 2009), the majority of whom were male and a racial or ethnic minority. Although considerable research has focused on the HIV risk behavior of men entering correctional facilities (e.g., Braithwaite & Stephens, 2005; Chen, Callahan, & Kerndt, 2002; Conklin, Lincoln, & Turnhill, 2000; Margolis, MacGowan, Grinstead, Sosman, Iqbal, et al., 2006), less attention has focused on the HIV risk behavior of men under community supervision (e.g., probation, parole).

Nonetheless, studies have documented frequent behaviors among people under community supervision that place them and their partners at considerable risk for HIV, hepatitis, and other sexually transmitted infections (STIs), including unprotected sex with multiple and high-risk sex partners, sex and substance use co-occurrence, and injection drug use with needle sharing (e.g., Belenko, Langley, Crimmins, & Chaple, 2004; Grinstead, Faigeles, Comfort, Seal, Nealey-Moore, et al., 2005; Morrow, Eldridge, Nealey-Moore, Grinstead, Belcher, et al., 2007; Morrow & the Project START Study Group, 2009). Further, in two

Correspondence should be addressed to: David Seal, Center for AIDS Intervention Research, Department of Psychiatry and Behavioral Medicine, Medical College of Wisconsin, 2071 North Summit Avenue, Milwaukee, WI, USA 53202. Phone: 414-955-7700. Fax: 414-287-4209. dseal@mcw.edu.

Mailing Address (All Authors): 2071 N. Summit Avenue, Milwaukee, WI 53202

Conflict of Interest. None of the authors have any conflicts of interest in the conduct or submission of this manuscript.

studies which examined sexually transmitted and hepatitis infection rates among men six months after their release from prison in four states, 24% and 26% of men, respectively, tested positive for at least one infection (Sosman, MacGowan, Margolis, Eldridge, Flanigan, et al., 2005).

Similarly, a recent review (Seal, MacGowan, Eldridge, Charania, & Margolis, 2010) identified over 30 published HIV prevention studies targeted at adults confined to a correctional facility. In contrast, less than 5 prevention studies were identified that specifically focused on people under community corrections supervision. These findings highlight a need to provide prevention programs for people under community corrections supervision. Toward this goal, the purpose of this study was to assess substance use and sexual behavior, and their correlates, among men who had a recent parole revocation. This period of brief reincarceration may provide a window of opportunity to intervene with men to reduce risk behavior in the community or to reinforce previous prevention programs.

Method

One-hundred and twenty-six participants were recruited from a short-term state prison in Wisconsin that primarily houses men who have been re-incarcerated due to parole violations. Over a 3-week period, men who were re-incarcerated due to a parole violation were notified of the study during intake by a designated correctional liaison using a standardized recruitment script. If interested, potential participants were scheduled, typically occurred within 48 hours of reincarceration, to meet with project staff in a private room where they were provided with a detailed explanation of the study. Emphasis was placed on ensuring that the men understood the survey was anonymous, their participation was voluntary, and their decision whether to participate would not have any affect on their legal process. Men who chose to enroll went through the informed consent process and completed a 30-minute anonymous, face-to-face survey. Participants were not compensated for their participation.

Respondent characteristics

We collected information about the participant's age, current relationship status (single, married, divorced), race/ethnicity, level of education, number of children, and sexual identity.

Substance use

We assessed whether participants had ever used alcohol, marijuana, PCP, ecstasy, crack or powder cocaine, hallucinogens, amphetamines, heroin, speedballs, sedatives, steroids and other drugs specified by the participant. For each substance that men reported using, the frequency of substance use during the 3 months prior to their reincarceration was assessed using a 4-point response scale: never, 1–2 times per week, 3–5 times per week, or 6+ times per week. Participants who reported any injection drug use in the 3 months prior to their incarceration were asked about their needle sharing and needle cleaning behavior. In this article, we report on 4 substance use outcomes during the prior 3 months: any substance use, any alcohol use, any marijuana use, and hard drug use (use of drugs other than marijuana).

Sexual behavior

Men first were asked if they had ever had vaginal or anal sex. Men who reported one or both of these behaviors were asked about their lifetime sexual history, including: number of anal or vaginal sex partners and their typical condom use pattern (on a 5-point scale ranging from 1: always to 5: never). Participants who reported anal or vaginal sex during the 3 months prior to their reincarceration were further asked to provide aggregate information about the number of acts of vaginal or anal intercourse with and without a condom. For both lifetime and recent sexual behavior, questions were delineated by partner gender (male, female), type of sexual behavior (vaginal or anal), and penetrative or receptive partner (for anal sex with men). For recent sexual behavior, questions were further delineated by main and non-main partners. We also assessed whether men had engaged in sex with a risky partner in the prior 3 months, defined as a partner they believed had a history of injection drug use, crack or cocaine use, exchange of sex for money or drugs, or HIV or STIs.

Incarceration history

Men were asked about their total number of lifetime incarcerations, the types of facilities in which they have been incarcerated, and the total amount of time spent incarcerated in their life.

Life circumstances

We collected information about whether men were employed prior to revocation and the length of any reported employment. We also assessed where men lived and how long they had been at this housing location. Lifetime and recent (3 months prior to revocation) of AODA treatment were assessed.

HIV/STI/hepatitis testing and infection history

Men were asked whether they had ever been tested for or told by a doctor or nurse that they were infected with HIV, Hepatitis B or C, trichomonas, chlamydia, gonorrhea, syphilis, genital arts, and/or genital herpes.

Analyses

We examined three substance use outcomes during the 3 months prior to parole revocation: frequent drinking defined as 3 days or more per week, any drug use, and use of drugs other than marijuana. We also examined two sexual behavior outcomes: any unprotected vaginal and/or anal sex with a non-main partner and sex with a high-risk partner, defined as someone who the participant believed had a history of injection drug use, crack or cocaine use, exchange of sex for money or drugs, or HIV or sexually transmitted infection (STI).

For substance use and sexual behavior outcomes, univariate predictors included age (continuous), current relationship status (single, married), race/ethnicity (African-American, other), level of education (< high school, high school graduate or higher), number of children (continuous), total number of lifetime years spent incarcerated, employed during the 3 months prior to revocation (yes, no), housing situation at the time of revocation (homeless or in a shelter, living in a house or apartment), ever had an STI (yes, no), and ever

infected with Hepatitis C (yes, no). Additionally, alcohol use during the 3 months prior to revocation (< 3 days per week, 3+ use days per week), any drug use during the 3 months prior to revocation (yes, no), any hard drug use during the 3 months prior to revocation (i.e., other than marijuana; yes, no), and any injection drug use lifetime (yes, no) were added as predictors of sexual risk behavior. All predictors associated with the outcome with a p-value of at least $p < .10$ were included in the multivariate regression analyses.

Results

Participant characteristics

As shown in Table 1, men ranged in age from 18 to 57 years (median=31.0 years). Three-fourths (73.8%) of the men were African-American. All but one man, who refused to answer, self-identified as heterosexual. Although the majority of men (74.6%) had never been married, about three-fourths (76.8%) reported having a child or children. More than half of the men (56.4%) had less than a high school education. Slightly less than two-thirds of men (63.5%) reported living in a house or apartment at the time of their incarceration. Similarly, 61.9% of men said they had part- or full-time employment prior to arrest. Few (11.1%) men reported being in school or any type of job training program. About two-thirds of men (65.9%) had a lifetime history of AODA treatment, but only 15.9% of men were in AODA treatment during the prior 3 months. The median number of lifetime incarcerations was 8.0, and men reported a median of 5.0 years total lifetime incarceration. Slightly more than half (53.2%) of the participants reported lifetime infection with a sexually transmitted disease, the most common which were gonorrhea (28.6% of men) and chlamydia (23.8%). Only two men said they were HIV-positive, while 8.7% said they were infected with Hepatitis C.

Substance use prevalence

All participants reported lifetime alcohol use, and about two-thirds (63.5%) reported alcohol use in the 3 months prior to their parole revocation. Over four-fifths (81.7%) of men reported lifetime drug use, including marijuana (79.4%) crack/cocaine (46.0%), hallucinogens (26.2%), sedatives (23.0%), ecstasy (21.4%), amphetamines (13.5%), heroin/speedballs (12.7%), or PCP/angel dust (11.1%). Ten men (7.9%) reported lifetime injection drug use, while only one man reported illegal steroid use. During the 3 months prior to their parole revocation, 53.2% of men reported using drugs. Marijuana (39.7%) and crack/cocaine (24.6%) were the most commonly used substances during this time frame, while about one-fourth of men (27.8%) reported using other types of drugs. Two men reported injection drug use during the 3 months prior to their parole revocation.

Univariate and multivariate correlates of substance use during the 3 months prior to parole revocation

The univariate odds of drinking alcohol 3 or more days per week, on average, were significantly higher for men who were older, had more children, lived in an institution or on the street prior to arrest, had been incarcerated for a greater number of total years in their lifetime, had ever been in an AODA program, or had ever been infected with an STI (see Table 2 for comparison groups, univariate statistics, unadjusted odds ratios, confidence

intervals, and p-values). In the multivariate analyses, three of the univariate correlates remained significant. The odds of reporting drinking alcohol 3 or more days per week, on average, were significantly higher for men who had more children [AOR=1.29, 95% CI: 1.01–1.67, $p<.05$], lived in an institution or on the street prior to arrest [AOR=3.15, 95% CI: 1.09–9.12, $p<.05$], or had ever been in an AODA program [AOR=14.62, 95% CI: 1.77–120.6, $p<.05$].

Both the univariate (see Table 3) and multivariate odds of using any drug were significantly higher for men who were younger [AOR=0.95, 95% CI: 0.92–0.99, $p<.05$] or had ever been infected with an STI [AOR=2.58, 95% CI: 1.22–5.46, $p<.05$]. Only one variable was significantly associated with an increased likelihood of having used drugs other than marijuana: history of injection drug use [AOR=6.36, 95% CI: 1.56–26.1, $p<.05$].

Sexual behavior prevalence

All of the participants reported having vaginal sex and 54.8% reported having anal sex with at least one female partner. Most men (97.6%) reported having had multiple lifetime female vaginal or anal sex partners, with a median of 20.0 such partners. Among participants who had engaged in the behavior, few men said they always used condoms for vaginal (7.1%) or anal (24.6%) sex with a woman. In contrast, 15.9% and 42.0% of men who had engaged in the behavior said they never used a condom for vaginal and anal sex with women, respectively. Three men also reported having anal sex with multiple male sexual partners. None of these men said they had ever used a condom when having anal sex with a man.

During the 3 months prior to their parole revocation, 96.0% of men reported having vaginal or anal sex. All of these men reported at least one female sexual partner, about half (53.2%) of whom reported multiple female sexual partners (median=2.0). One man also reported a male anal sex partner. A third (33.3%) of all participants reported having sex with a known high-risk partner, including those who used crack/cocaine (25.4%), had a history of sexually transmitted infection (13.5%), had traded sex for money or drugs (11.9%), used injection drugs (5.6%), or were HIV-positive (2.4%).

Among sexually active men, half (50.0%) reported only main sexual partners, 7.9% reported only non-main partners, and 41.8% reported both main and non-main partners. Men who had vaginal sex reported a median of 20 acts. Over half (55.7%) of the men who had vaginal sex said they never used a condom, while 13.1% of men who said they always used a condom for vaginal sex. About one-fifth (18.9%) of sexually active men also reported having had at least one act of anal sex with a female partner (median = 2 acts among men who had engaged in the behavior). When having anal sex with a female partner, 69.6% and 17.4% of men said they never or always used a condom, respectively.

Univariate and multivariate correlates of sexual risk behavior during the 3 months prior to parole revocation

The univariate odds of having had unprotected vaginal or anal sex with one or non-main female partners were significantly higher for men who were younger, not currently in a relationship, employed prior to incarceration, had used drugs in the prior 3 months, or had ever been infected with an STI (see Table 4). In the multivariate analyses, three of the

univariate correlates remained significant. The odds of having had unprotected vaginal or anal sex with a female partner were significantly higher for men who were younger [AOR=0.94, 95% CI: 0.9–0.98, $p<.01$], not currently in a relationship [AOR=4.11, 95% CI: 1.06–15.9, $p<.05$], or had ever been infected with an STI [AOR=3.11, 95% CI: 1.40–6.87, $p<.01$].

Table 5 shows that the likelihood of having had sex with a high risk partner were greater among men who were older, had more children, had ever injected drugs, had drank alcohol 3 or more times per week during the prior 3 months, had used hard drugs during the prior 3 months, were infected with Hepatitis C, or had ever been infected with an STI. In the multivariate analyses, three variables remained significant. Men were more likely to have had sex with a high risk partner if they were older [AOR=1.41, 95% CI: 1.13–1.75, $p<.01$], had used hard drugs during the prior 3 months [AOR=4.00, 95% CI: 1.09–14.6, $p<.05$], or had ever been infected with an STI [AOR=2.63, 95% CI: 1.11–6.21, $p<.05$].

Discussion

Limitations of our study include our reliance on self-reported behavior from a self-selected group of men. We do not know to what extent our findings may have been influenced by biases associated with the reporting of stigmatized behaviors, such as sex with men or illicit drug use. Further, we do not know to what extent our findings generalize to other types of men under community supervision (e.g., men on probation) who have not experienced longer-term incarceration. Nonetheless, our findings further document the need to focus effort on the prevention of substance use and sexual risk behavior among men who are on parole. Over half of the men in our study reported a lifetime history of STIs. In the 3 months prior to their parole revocation, both the use of drugs and sex with multiple partners were reported by over half of the sample.

Our findings further suggest that there may be identifiable subgroups of men whom warrant particular attention in prevention efforts. One such subgroup in our study involved older men had spent more years incarcerated since age 18, had an increased incidence of Hepatitis C infection, drank more often, and were more likely to have sex with a risk partner during the 3 months prior to revocation. These behaviors also were associated with having more children, homelessness in the 3 months prior to their parole revocation, and increased lifetime incidence of STIs. Although these men also were more likely to have a history of AODA treatment, they reported more hard (not-marijuana) and injection drug use during the 3 months prior to their parole revocation. These findings suggest that past treatment has inadequately enabled men to avoid relapse into risky drug use patterns after release from prison. This failure to adequately impede substance abuse among men during incarceration increases the probability that they will remain entrapped in a cycle of repeated incarceration. Indeed, two-thirds of people released from prisons in the United States are re-incarcerated within 3 years, many for substance use violations (CDC, 2001).

In contrast, younger men in our sample were more likely to limit their drug use during the 3 months prior to revocation to marijuana (data not reported). However, they were more likely to be report unprotected vaginal or anal sex with a non-main female partner during the 3

months prior to their parole revocation, a behavior that also was associated with increased lifetime STI incidence. These findings suggest that this group might receive greater benefit from a prevention intervention focused on sexual risk reduction. Research with 18–29 year old men being released from a state prison has demonstrated that a transitional individualized HIV-STI-Hepatitis risk reduction intervention can help men to reduce their post-release sexual risk behavior (Wolitski et al., 2006).

Nearly three-fourths (70%) of adults under U.S. correctional supervision are on probation or parole (Glaze & Bonczar, 2009). However, few published HIV prevention interventions have specifically targeted people on probation or parole (excluding transitional interventions). Yet, as our study has shown, men on parole do engage in significant risk behavior putting themselves and their partners at risk for HIV and other STIs. People under community correctional supervision have greater opportunity to engage in HIV risk behavior than individuals who are incarcerated, and most incarcerated people who are HIV-positive were infected in the community. Collectively, these data highlight a critical need to develop prevention interventions for people under community correctional supervision or in short-term detention facilities likely to house people whose parole has been revoked.

Acknowledgments

This project was supported by NIMH grant P30-MH52776 (Jeffery A. Kelly, Principal Investigator). The study was reviewed and approved by the Human Research Review Committee at the Medical College of Wisconsin and by the Wisconsin Department of Corrections. We thank the staff at the detention facility for their support.

References

- Belenko S, Langley S, Crimmins S, Chaple M. HIV risk behaviors, knowledge, and prevention education among offenders under community supervision: A hidden risk group. *AIDS Education and Prevention*. 2004; 16:367–385. [PubMed: 15342338]
- Braithwaite R, Stephens TT. Use of protective barriers and unprotected sex among adult male prison inmates prior to incarceration. *International Journal of STD and AIDS*. 2005; 16:224–226. [PubMed: 15829022]
- Centers for Disease Control and Prevention. Drug use, HIV, and the criminal justice system. 2001. Retrieved July 2005, from <http://www.cdc.gov/idu>
- Chen JL, Callahan DB, Kerndt PR. Syphilis control among incarcerated men who have sex with men: Public health response to an outbreak. *American Journal of Public Health*. 2002; 92:1473–1475. [PubMed: 12197977]
- Conklin TJ, Lincoln T, Turnhill RW. Self-reported health and prior health behaviors of newly admitted correctional inmates. *American Journal of Public Health*. 2000; 90:1939–1941. [PubMed: 11111273]
- Glaze, LE., Bonczar, TP. Probation and parole in the United States, 2008. Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice; 2009. Retrieved January 2010, from <http://bjs.ojp.usdoj.gov/content/pub/pdf/ppus08.pdf>
- Grinstead OA, Faigues B, Comfort M, Seal D, Nealey-Moore J, Belcher L, Morrow K. the Project Start Study Group. HIV, STD, and hepatitis risk to primary female partners of men being released from prison. *Women and Health*. 2005; 41:63–80.
- MacGowan RJ, Margolis A, Gaiter J, Morrow K, Zack B, Askew J, McAuliffe T, Sosman JM, Eldridge GE. the Project START Study Group. Predictors of risky sex of young men after release from prison. *International Journal of STD and AIDS*. 2003; 14:519–523. [PubMed: 12935380]

- Morrow KM, Eldridge G, Nealey-Moore J, Grinstead O, Belcher L. the Project START Study Group. HIV, STD, and hepatitis risk in the week following release from prison: An event level analysis. *Journal of Correctional Health Care*. 2007; 14:27–38.
- Morrow KM. the Project START Study Group. HIV, STD, and hepatitis risk behaviors of young men and after incarceration. *AIDS Care*. 2009; 21:235–243. [PubMed: 19229694]
- Margolis AD, MacGowan RJ, Grinstead O, Sosman J, Iqbal K, Flanigan TP. the Project START Study Group. Unprotected sex with multiple partners: Implications for HIV prevention among young men with a history of incarceration. *Sexually Transmitted Diseases*. 2006; 33:175–180. [PubMed: 16505732]
- Seal DW, MacGowan RJ, Eldridge GE, Charania MR, Margolis AD. HIV prevention interventions for incarcerated populations in the United States: A critical review. Invited book chapter in progress. 2010
- Sosman JM, MacGowan RJ, Margolis AD, Eldridge G, Flanigan T, Vardaman J, Fitzgerald C, Kacanek D, Binson D, Seal DW. The Project START Study Group. The feasibility of STD and hepatitis screening among 18–29 year old men recently released from prison. *International Journal of STDs and AIDS*. 2005; 16:117–122.
- Wolitski RJ. the Project START Writing Group, for the Project START Study Group. Relative efficacy of a multisession sexual risk-reduction intervention for young men released from prisons in 4 states. *American Journal of Public Health*. 2006; 96:1854–1861. [PubMed: 17008583]

Table 1

Predictor variables included in univariate analyses (N=126).

Predictor Variable	
Age	Median: 31.0; Range: 18–57
Current relationship status	
Single	86.5%
Married	13.5%
Race	
African-American	73.0%
White	15.1%
Other	11.9%
Education	
< high school degree	56.3%
high school degree or higher	43.7%
Number of children	
0	23.0%
1	33.3%
2–3	23.8%
4 or more	19.8%
Total number of lifetime years spent incarcerated	Median: 5.0 years; Range: 5 days–31.2 years
Employed prior to revocation	
Yes	61.9%
No	38.1%
Was homeless or lived in institutional setting during 3 months prior to revocation	
Yes	28.6%
No	61.4%
Ever had an STI ^a	
Yes	53.6%
No	46.4%
Ever infected with Hepatitis C	
Yes	8.7%
No	91.3%

Table 2

Univariate and multivariate logistic regression models predicting high frequency alcohol use (>3 days/week) during the 3 months prior to parole revocation among 126 men

Predictor	Univariate Model		Multivariate Model	
	OR	95% CI	OR	95% CI
Age (in years)	1.06	1.01, 1.11 *		
Number of children	1.28	1.05, 1.56 *	1.29	1.01, 1.67 *
Living status in institution or on the street at the time of revocation ^b	3.32	1.33, 8.28 *	3.15	1.09, 9.12 *
Number of years incarcerated-lifetime	1.09	1.02, 1.16 **		
Ever in AODA program	17.09	2.22, 131.3 **	14.62	1.77, 120.6 *
Ever infected with an STI ^a	3.05	1.19, 7.79 *		

^aOne case was missing from this variable.

^bLast residence was jail, halfway house, drug treatment center, or participant was homeless

[†]p < .10,

* p < .05,

** p < .01

Table 3

Univariate and multivariate logistic regression models predicting any drug use during the 3 months prior to parole revocation among 126 men

Predictor	Univariate Model		Multivariate Model	
	OR	95% CI	OR	95% CI
Age (in years)	0.96	0.92, 0.99 [*]	0.95	0.92, 0.99 [*]
Ever infected with an STI ^a	2.33	1.13, 4.79 [*]	2.58	1.22, 5.46 [*]

^aOne case was missing from this variable.

[†]
p < .10,

^{*}
p < .05,

^{**}
p < .01

Table 4

Univariate and multivariate logistic regression models predicting unprotected vaginal or anal intercourse with one or more non-main female partners during the 3 months prior to parole revocation among 126 men

Predictor	Univariate Model		Multivariate Model	
	OR	95% CI	OR	95%
Age (in years)	0.95	0.91, 0.98 ^{**}	0.94	0.90, 0.98 ^{**}
Marital Status	4.26	1.16, 15.7 [*]	4.11	1.06, 15.9 [*]
Employed at time of revocation	0.38	0.18, 0.79 [*]		
Any drug use prior 3 months	2.21	1.07, 4.54 [*]		
Ever infected with an STI ^a	2.67	1.29, 5.53 ^{**}	3.11	1.40, 6.87 ^{**}

^aOne case was missing from this variable.

[†]p < .10,

^{*}p < .05,

^{**}p < .01

Table 5

Univariate and multivariate logistic regression models predicting sex with one or more high risk ^a partners during the 3 months prior to parole revocation among 126 men

Predictor	Univariate Model		Multivariate Model	
	OR	95% CI	OR	95% CI
Age (in years)	1.05	1.01, 1.09 [*]		
Number of children	1.41	1.15, 1.72 [*]	1.41	1.13, 1.75 ^{**}
Number of years incarcerated	1.05	.099, 1.11 [†]		
In AODA program, prior 3 months	2.42	0.92, 6.39 [†]		
Drank 3+ /week, prior 3 months	2.82	1.15, 6.93 [*]		
Any drug use prior 3 months	2.12	0.99, 4.50 [†]		
Any hard drug use prior 3 months	5.16	1.63, 16.3 ^{**}	4.00	1.09, 14.6 [*]
Ever injected drugs	5.63	1.37, 23.1 [*]		
Ever infected with an STI ^b	2.67	1.29, 5.53 ^{**}	2.63	1.11, 6.21 [*]
Infected with Hepatitis C	4.44	1.38, 14.3 [*]		

^aDefined as a partner the participant reported had a history of injection drug use, crack or cocaine use, exchange of sex for money or drugs, or HIV or STI infection

^bOne case was missing from this variable.

[†]p < .10,

^{*}p < .05,

^{**}p < .01