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Substance Use and HIV-Risk Behaviors Among Young Men Involved in the Criminal Justice System

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Abstract

Objectives—We examined the relationship between substance use and sexual HIV-risk behaviors among young men who have been incarcerated, in order to understand how HIV risks develop for this vulnerable population.

Methods—A sample of 552 young men in a New York City jail was interviewed at the time of incarceration. Bivariate analyses were performed to examine demographic and sexual HIV-risk behavior differences between men with and without recent alcohol and marijuana use. Logistic regression was used to examine associations between alcohol and marijuana use and sexual HIV-risk behaviors in the 90 days prior to incarceration.

Results—Respondents were predominantly Black (57%) or Latino (37%), with a mean age of 17.4 years. The most common substances used were marijuana (82%) and alcohol (65%). Alcohol use prior to incarceration was significantly associated with having three or more sexual partners in the same time period (OR = 2.40, $p < .001$), as well as with having unprotected sex with a long-term partner (OR = 1.72, $p < .01$). Marijuana use was significantly associated with having multiple sex partners (OR = 1.55, $p < .01$). Heavy alcohol and marijuana use did not result in an increased likelihood of sexual HIV-risk behaviors.

Conclusions—High rates of substance use and unprotected sex may have unintended health consequences for incarcerated young men. Severity of substance use is not a significant predictor of risk behaviors, suggesting the importance of contextual and social factors. Results highlight the need for HIV prevention efforts for this population that take into account contextual and social factors.

Keywords

Incarceration; substance use; young men

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Introduction

HIV/AIDS and criminal justice involvement have emerged as public health concerns for young men of color (1,2). Young Black and Latino men are disproportionately affected by HIV compared to other racial/ethnic groups (2). Young Black and Latino men are also disproportionately targeted by law enforcement and thus more likely to become involved in the criminal justice system (1,3,4). In 2003, Black and Latino males comprised 62% of those in custody (5,6).

In a longitudinal study of 1,829 youth (ages 10 to 18) arrested and detained between 1995 and 1998, Teplin and colleagues (7) report that “youth offenders should be at great risk for developing HIV as they age” (p. 906). Other studies suggest that young men involved in the criminal justice system are vulnerable to HIV and substance use during incarceration and re-entry from jail or prison to the community (5,8–12,16). Although social scientists have studied HIV-risk behaviors among young men involved in the criminal justice system (13–15,17–19), relatively little has been written on the use of alcohol and marijuana by these young men and the ways that this may contribute to increased risk for HIV (19). The aim of this study was to assess the relationship between sexual HIV-risk behaviors and alcohol and marijuana use among low-income young men involved in the criminal justice system.

Methods

Participants

REAL MEN, an acronym for *Returning Educated African-American and Latino Men to Enrich Neighborhoods*, is an intervention study designed to reduce HIV risk, substance use, and recidivism for adolescent males incarcerated in New York City (NYC) (20). Participants were recruited from two facilities that house all male adolescent inmates in NYC. In New York State, young people 16 and older are sent to adult jails when arrested; those under 16 enter the juvenile justice system. Participants were recruited in the jail and completed an informed consent process. Males between the ages of 16 and 18, individuals eligible for release within 12 months of intake, and those planning to return to the Bronx, Brooklyn, or Manhattan (the boroughs with the highest incarceration rates), were eligible for enrollment. Individuals with serious psychiatric conditions were excluded. Participants were volunteers who received no special legal considerations for enrollment.

Measures

Demographic Characteristics—Respondents were asked to report their age, ethnic and racial identity, highest year of school completed, whether they were ever held back a grade or dropped out of school, and employment situation.

Substance Use—Respondents were asked to report lifetime substance use behaviors, favorite drug in past 12 months, and substance use in the 90 days prior to incarceration.

Sexual Behavior—Respondents were asked to report age at first intercourse, sexual behavior practices with long term and other partners in the past 90 days, condom use with long term and other partners in the past 90 days, and substance use and sexual related activities with long term and other partners.

Data Analysis

The analyses for this study were based on baseline interview data. Descriptive statistics were generated for variables of interest. Sociodemographics and sexual HIV-risk behaviors were

stratified by whether the participant had used both alcohol and marijuana in the 90 days prior to incarceration. Significant differences were identified between these two groups by using difference in means *t*-tests for continuous variables and chi-square tests of independence for dichotomous variables.

We examined the association between alcohol and/or marijuana use and sexual HIV-risk behaviors in the 90 days prior to incarceration. We calculated unadjusted odds ratios for the bivariate associations by regressing each participant's HIV-risk behavior on whether the participant used alcohol, marijuana, or both. Each participant's HIV-risk behavior was analyzed as a separate outcome variable with alcohol and/or marijuana use as independent variables. Variables associated with alcohol and marijuana use were examined for use as controls in an adjusted model. A second level of logistic regression analyses was then conducted, using "problematic" use of alcohol and marijuana, defined as any incidence of intoxication or binge drinking (drinking heavily for several days) in the 90 days prior to incarceration. Problematic marijuana use was defined as daily use in the 90 days prior to incarceration.

Results

Demographic Characteristics

The majority of the 552 young men who participated in the study identified themselves as either Black (57%) or Latino (37%), and the remaining 6% identified as either White, Non-Hispanic, biracial, or "other." The participants' ages ranged from 16 to 18 years at the time of the study, with a mean age of 17.4 years ($SD = 69$). The average education was at the 10th grade level ($SD = 1.12$). Almost half (47%) of the participants had been left back a grade in school, and 36% reported dropping out of school. More than half (63%) were unemployed prior to incarceration.

Substance Abuse

Marijuana was the most common substance used by the sample, with 82% having used in their lifetime and 73% using in the 90 days prior to incarceration. The second most commonly used substance was alcohol, with 65% reporting use. About two-thirds (68%) of the participants identified marijuana and 10% alcohol as their favorite substance.

Sexual Behavior/HIV-Risk Behaviors

Nearly all of the participants (99%) reported prior vaginal sex. Respondents reported only female sexual partners, and the mean age of first coitus was 13 years. In the 90 days prior to incarceration, 63% reported having anal or vaginal sex with more than one partner. Of the young men with long-term partners, 81% reported less than consistent condom use with these partners, and of those who reported sex with casual partners, 38% reported inconsistent condom use.

Association Between Alcohol and/or Marijuana Use and Participant HIV-Risk Behaviors

Table 1 presents a summary of logistic regression results (both adjusted and unadjusted) of participant's HIV-risk behaviors on using alcohol, marijuana, or both substances in the 90 days prior to incarceration. Alcohol use 90 days prior to incarceration was significantly associated with having three or more sexual partners in the same time period (adjusted OR (AOR) = 2.40, $p < .001$) as well as with having unprotected sex with a long-term partner (AOR = 1.72, $p < .01$). Marijuana use alone was not associated with unprotected sex with either long-term or other partners. However, marijuana use was significantly associated with having multiple sex partners (AOR = 1.55, $p < .01$).

Having used both alcohol and marijuana in the 90 days prior to incarceration was associated with all HIV-risk behaviors measured. Both alcohol and marijuana use was significantly associated with multiple sex partners (AOR = 2.84, $p < .001$), unprotected sex with long-term partners (AOR = 1.75, $p < .01$), and unprotected sex with other partners (AOR = 1.53, $p < .05$).

Association Between Problematic Alcohol and/or Marijuana Use and Participant HIV-Risk Behaviors

Problematic alcohol use, defined as binge drinking or drinking to intoxication in the 90 days prior to incarceration, was associated with having multiple sex partners (AOR = 2.25, $p < .001$) and having unprotected sex with a longer-term partner (AOR = 1.51, $p < .05$). Problematic marijuana use, defined as daily use in the 90 days prior to incarceration, was associated with having multiple sex partners (AOR = 1.88, $p < .001$) and unprotected sex with casual partners (AOR = 1.52, $p < .05$). Problematic use of both alcohol and marijuana in the 90 days prior to incarceration was associated only with having multiple sex partners (AOR = 2.65, $p < .001$).

Discussion

Our findings confirmed that alcohol and marijuana were the most commonly used substances for young men involved in the criminal justice system. Alcohol use prior to incarceration was significantly associated with having three or more sexual partners in the same time period as well as with having unprotected sex with a long-term partner. Marijuana use alone was not associated with unprotected sex with either long-term or other partners. However, marijuana use was significantly associated with having multiple sexual partners.

One possible interpretation of these findings might be that the use of marijuana and alcohol, especially in combination, leads to impaired judgment and sexual behavior that increases risk for HIV and other STIs. If this hypothesis were valid, we should expect to see higher levels of HIV risk associated with problematic substance use, as increased use of a substance is likely to indicate higher levels of impairment. However, most of the findings regarding problematic use of alcohol and/or marijuana do not support this conclusion. Although the associations were consistent, problematic alcohol use demonstrated a lower odds ratio for multiple partners and unprotected sex with longer-term partner than any alcohol use. In addition, problematic use of both substances demonstrated a lower odds ratio for multiple sex partners and no significant association with unprotected sex with either longer-term or casual partners. The primary increased risk associated with heavier use is that of marijuana, which increased the likelihood of multiple sex partners (OR = 1.88 vs. 1.55), and also contributed to a significant association with unprotected sex with casual partners, which was not present with any use of marijuana. Nevertheless, these associations may have clinical and public health implications because combined use of alcohol and marijuana may be linked to poor response inhibitions and impulsivity that may harm health.

Limitations

Our findings may not be generalizable to all low-income young men who have been incarcerated in the United States. Response bias may have interfered with the reporting. By sample design, we recruited from one site, and therefore our results only pertain to youth in NYC. However, despite these limitations, this study demonstrates that many young men who have been incarcerated are vulnerable to HIV and therefore represent a population in need of HIV prevention interventions.

Implications for Prevention

Our results have important implications for alcohol and substance use programs and HIV prevention. We found that marijuana and alcohol were the most common substances used among incarcerated young men and that combined use increased sexual HIV-risk behaviors and inconsistent condom use with female sexual partners. This relationship warrants further investigation in alcohol and substance use programs that examines distal and proximal factors that indirectly and directly influences behavior (21–24) of incarcerated young men. Further exploration of these adolescent vulnerabilities may enhance a prevention intervention targeting young men of color in the criminal justice system.

Ultimately, examining the complexities of these vulnerabilities may aid in making decisions about the appropriate focus of clinical and HIV preventive interventions. By better understanding the intersections of race/ethnicity, and how social circumstances influence the sexual and substance use behaviors associated with HIV risk, it may be possible to design HIV intervention prevention programs that address the stressful life events facing young people of color caught up in the criminal justice system (25).

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TABLE 1

Logistic regression results: HIV-risk behaviors (90 days prior to incarceration) on marijuana and alcohol (any use and problematic use) use (90 days prior to incarceration). Unadjusted and adjusted odds ratios and 95% confidence intervals

Independent variable	Dependent variable		Unprotected sex with longer-term partner (90 days)		Unprotected sex with other partners (90 days)	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
Alcohol use in 90 days prior to incarceration	2.51 ^{***} (1.76–3.58)	2.40 ^{***} (1.64–3.51)	1.79 ^{***} (1.28–2.53)	1.72 ^{**} (1.20–2.49)	1.58 [*] (1.09–2.30)	1.45 (0.97–2.17)
Problem drinking in 90 days prior to incarceration	2.33 ^{***} (1.63–3.34)	2.25 ^{***} (1.53–3.32)	1.58 ^{**} (1.12–2.23)	1.51 [*] (1.05–2.17)	1.4 (0.96–2.04)	1.29 (.88–1.92)
Marijuana use 90 days prior to incarceration	1.81 ^{**} (1.22–2.69)	1.55 ^{**} (1.02–2.36)	1.26 (.85–1.87)	1.11 (.73–1.68)	1.59 [*] (1.0–2.53)	1.44 (.88–2.34)
Daily marijuana use 90 days prior to incarceration	2.03 ^{***} (1.44–2.87)	1.88 ^{***} (1.31–2.71)	1.19 (.85–1.66)	1.09 (.77–1.55)	1.57 [*] (1.08–2.21)	1.52 ^{**} (1.03–2.24)
Both alcohol and marijuana use 90 days prior to incarceration	2.62 ^{***} (1.81–3.80)	2.84 ^{***} (1.93–4.19)	1.79 ^{***} (1.26–2.55)	1.75 ^{***} (1.22–2.52)	1.58 [*] (1.08–2.31)	1.51 [*] (1.04–2.24)
Both problem alcohol use and daily marijuana use 90 days prior	2.51 ^{***} (1.63–3.86)	2.65 ^{***} (1.70–4.13)	1.48 [*] (1.00–2.20)	1.45 (.97–2.16)	1.31 (.86–2.0)	1.29 (.84–1.98)

* $p < .05$ ** $p < .01$ *** $p < .001$.

Adjusted models are adjusted for Black, Hispanic, history of gang involvement, history of homelessness, and history of abuse. Alcohol models adjusted for marijuana use, and vice versa.