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Authors

Philbin, Morgan M
Kinnard, Elizabeth N
Tanner, Amanda E
[et al.](#)

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The Association between Incarceration and Transactional Sex among HIV-infected Young Men Who Have Sex with Men in the United States

Morgan M. Philbin · Elizabeth N. Kinnard · Amanda E. Tanner · Samuella Ware ·
Brittany D. Chambers · Alice Ma · J. Dennis Fortenberry

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Abstract Criminal justice practices in the USA disproportionately affect sexual and racial/ethnic minority men, who are at higher risk of incarceration. Previous research demonstrates associations between incarceration and sexual risk behaviors for men who have sex with men (MSM). However, little of this work focuses on young MSM (YMSM), particularly HIV-infected YMSM, despite nearly one-third reporting engagement in sexual risk behaviors, such as transactional sex. We therefore explored the association between incarceration and transactional sex among HIV-infected YMSM. We recruited 97 HIV-infected YMSM across 14 clinical sites in urban centers from August 2015 to February 2016. We used multivariate logistic regression to examine the

relationship between incarceration and transactional sex among YMSM. The majority was 24 years old (78%) and racial/ethnic minority (95%); over half were not in school and reported an annual income of < \$12,000. In the multivariate model, having ever been incarcerated (aOR = 3.20; 95% CI 1.07–9.63) was independently associated with a history of transactional sex. Being 24 years vs. younger (aOR = 9.68; 95% CI 1.42–65.78) and having ever been homeless (aOR = 3.71, 95% CI 1.18–11.65) also remained independently associated with a history of transactional sex. This analysis fills a gap in the literature by examining the relationship between incarceration and transactional sex among HIV-infected YMSM. Facilitating youths' engagement

M. M. Philbin (✉) · E. N. Kinnard
Department of Sociomedical Sciences, Columbia University
Mailman School of Public Health, 722 West 168th Street, Floor 5,
Room 536, New York, NY 10032, USA
e-mail: mp3243@columbia.edu

E. N. Kinnard
e-mail: ek3003@columbia.edu

A. E. Tanner · S. Ware
Department of Public Health Education, University of North
Carolina Greensboro, Greensboro, NC, USA

A. E. Tanner
e-mail: aetanner@uncg.edu

S. Ware
e-mail: soware@uncg.edu

B. D. Chambers
Preterm Birth Initiative, University of California San Francisco,
San Francisco, CA, USA
e-mail: Brittany.Chambers@ucsf.edu

A. Ma
Department of Applied Health, Southern Illinois University
Edwardsville, Edwardsville, IL, USA
e-mail: ama@siue.edu

J. D. Fortenberry
Department of Pediatrics, Indiana University School of Medicine,
Indianapolis, IN, USA
e-mail: jfortenb@iu.edu

with social services available in their HIV clinic may serve as a key strategy in promoting health. Public health efforts need to address social-structural factors driving disproportionate rates of arrest and incarceration and related harms among this population.

Keywords Incarceration · Transactional sex · Young men who have sex with men (YMSM) · HIV · Health disparities

Introduction

Sexual minority youth (SMY) are disproportionately represented in the juvenile justice system: 12.2% of youth in state facilities self-identify as sexual minorities and 8% identify as young men who have sex with men (YMSM) [1]. SMY are nearly three-times more likely to report being criminally sanctioned (e.g., stops, arrests, convictions) compared to heterosexual peers [2]. SMY's high rates of incarceration are partially due to stigma, social disadvantage, and discrimination [3, 4]. This marginalization facilitates discriminatory treatment at all stages of the criminal justice system: initial contact, arrest, sentencing, and incarceration. Public health-related policies (e.g., prevention of sexually transmitted infections) often focus on SMY, leading to increased surveillance, disproportionate police contact, and incarceration [3, 5].

Transactional sex—participation in sexual acts in exchange for drugs, money, shelter, or other goods—often draws high levels of public health and police scrutiny in urban centers [6–8]. The vulnerabilities that SMY face at all stages of the criminal justice system are associated with transactional sex for survival [9, 10]. In one NYC-based survey, nearly 20% of youth who reported transactional sex also reported at least weekly police contact [11]. In addition, street-based individuals who engage in transactional sex are at greater risk for arrest or victimization than those who work indoors [12–14]. Cumulative exposure to stressful life events, including incarceration, is associated with increased odds of sexual risk behaviors, such as transactional sex [15, 16]. However, little research has examined the specific relationship between incarceration and transactional sex among YMSM—particularly in the USA—even though 6–44% of YMSM have reported transactional sex [6, 15, 17].

HIV status compounds the marginalization YMSM often face. In 2015, over 7000 YMSM were diagnosed with HIV, of whom 86% were of color [18]. An estimated 25% of HIV-infected people in the USA were incarcerated during the past year [19–21], placing them at risk for poorer antiretroviral adherence and clinical outcomes [22–24].

The intersection of incarceration and transactional sex among YMSM, particularly youth living with HIV (YLHIV) thus has critical health implications. However, little is known about the demographic and behavioral correlates of incarceration and transactional sex among YMSM, a gap this paper fills.

Methods

Study Description

Data for the Comprehensive Assessment of Transition and Coordination for HIV-infected Youth as they Move from Adolescent to Adult Care (CATCH) study were collected from Adolescent Medicine Trials Network (ATN) clinical sites that treat adolescents ages 13–24 [25, 26]. These 14 clinical sites were located in urban centers: Boston, New York, Washington DC, Baltimore, Philadelphia, Miami, Tampa Bay, New Orleans, Memphis, Houston, Detroit, Chicago, Los Angeles, and Denver. Inclusion criteria included being HIV-infected and eligible to transition to adult HIV care within six months, and speaking English or Spanish. Youth first provided written informed consent and signed a release of electronic health record (EHR) information and then completed an ACASI survey. We recruited 156 adolescents, of which 135 agreed to participate. We collected data on medical and behavioral history; EHR information (e.g., viral load) was also abstracted. Youth received \$25 for their time. Institutional Review Boards at University North Carolina at Greensboro and participating ATN sites approved the study.

Analytic Sample

These analyses were limited to 97 individuals who satisfied MSM criteria: currently identified as male, and reported having sex with a man in the last six months and/or reported their route of HIV acquisition as male-to-male sexual contact.

Independent and Dependent Variables

Incarceration history was determined by asking, “Have you ever been incarcerated (been put in jail or prison, or held overnight after an arrest) or put in juvenile detention (juvy)?” and dichotomized as yes/no. Transactional sex was determined by asking, “Have you ever had sex in exchange for money or drugs?” and dichotomized as yes/no.

Sociodemographic Variables and Covariates

While no existing framework explicitly describes the relationship between incarceration and transactional sex for YMSM, variable selection was informed by the Minority Stress Model [27], as well as factors previous research has found to be correlated with transactional sex for youth [6, 28, 29] and potentially YMSM [15, 30]. Age was dichotomized as <24 vs. 24 years old. Ethnicity options were Hispanic/non-Hispanic, and racial categories included American Indian, Alaska Native, Asian, Pacific Islander, Black/African American, White, or mixed. These variables were combined to create a dichotomous race/ethnicity variable of “White/non-Hispanic” vs. “racial/ethnic minority.”

Participants’ relationship status was dichotomized as “in a relationship” vs. “single/other,” educational attainment as “in school/graduated high school” vs. “not in school,” homelessness as ever vs. never, income as <\$12,000 annually vs. >\$12,000, and insurance status as “private insurance/Medicaid/combo” vs. “no insurance/don’t know.”

Cannabis use was defined as using “marijuana, pot, grass, hash, etc.” at least monthly in the last three months. Participants were categorized as using “other drugs” if they endorsed non-medical monthly use of any of the following in the past three months: cocaine, stimulants, inhalants, sedatives, anxiety medications, sleeping pills, hallucinogens, opioids/pain medication, or ADHD medication.

Statistical Methods

We used logistic regression to measure bivariate relationships between incarceration, transactional sex, and relevant covariates. We then fit a multivariate logistic regression model to determine whether having been incarcerated was independently associated with transactional sex. Covariates with an overall p value of ≤ 0.20

in bivariate analyses were entered into the final model, as was race/ethnicity given previous evidence linking race/ethnicity and incarceration/arrest rates [19, 31–33]. Adjusted odds ratios were calculated for all variables in the model to determine significance after controlling for all covariates. Analyses were performed using SPSS® Statistics version 24.0 (Armonk, NY).

Results

The majority of YMSM (78%) were 24 years old and 95% identified as an ethnic or racial minority (see Table 1). Nearly half (46%) reported being in school/having graduated and ever being homeless (41%). Approximately two-thirds earned <\$12,000 in the past year. Nearly all (90%) reported being insured, primarily through Medicaid. Over half (56%) used cannabis at least monthly in the past three months, whereas 13% used other drugs at least monthly. Three-quarters described their relationship status as single/other. Of the YMSM in our sample, 42% reported a history of incarceration and 28% reported having engaged in transactional sex.

Factors Associated with Transactional Sex

Table 2 shows the bivariate relationships between incarceration and transactional sex, as well as sociodemographic variables. In bivariate analyses, having ever been incarcerated (OR = 5.18; 95% CI 1.97–13.64; $p = 0.001$) was significantly associated with increased odds of a history of transactional sex, as was being 24 years old (OR = 4.66; 95% CI 1.01–21.58; $p = 0.049$), having ever been homeless (OR = 5.54, 95% CI 2.10–14.64; $p = 0.001$), and monthly use of cannabis (OR = 3.03, 95% CI 1.14–8.06; $p = 0.027$). Education and monthly use of other drugs met the $p \leq 0.20$ cut-off for inclusion in the final model; the remaining covariates did not and were excluded from the final model.

In the multivariate model (Table 3), having ever been incarcerated (adjusted odds ratio [aOR] = 3.20; 95% CI 1.07–9.63; $p = 0.038$) remained independently associated with a history of transactional sex after controlling for age, race/ethnicity, homelessness, education, and monthly use of cannabis and other drugs. Being 24 years old (aOR = 9.68; 95% CI 1.42–65.78; $p = 0.02$) and having ever been homeless (aOR = 3.71, 95% CI

Table 1 Demographic characteristics of 97 HIV-infected YMSM

Characteristic	Total (%) (N = 97)
Age	
24 years of age	76 (78.4)
Less than 24	21 (21.6)
Race/ethnicity	
White/non-Hispanic	5 (5.2)
Person of color/Hispanic	92 (94.8)
Relationship status	
In a relationship	25 (25.8)
Single/other	72 (74.2)
Education	
Currently in school/graduated	45 (46.4)
Not in school	52 (53.6)
Ever homeless	
Yes	40 (41.2)
No	57 (58.8)
Annual income	
Less than \$12,000 in the past year	58 (59.8)
\$12,000 or more in the past year	33 (34.0)
Insurance status (current)	
Insured	87 (89.7)
Uninsured/don't know	10 (10.3)
Monthly use of cannabis [#]	
Yes	54 (55.7)
No	43 (44.3)
Monthly use of other drugs ^{#†}	
Yes	13 (13.4)
No	84 (86.6)
Ever incarcerated [‡]	
Yes	41 (42.3)
No	56 (57.7)
Ever engaged in transactional sex	
Yes	27 (27.8)
No	70 (72.2)

Percentages do not sum to 100% on some variables due to missing data

[#] Monthly denotes at least monthly (i.e., monthly, weekly, or daily) use

[†] Other drugs include non-tobacco, alcohol, or cannabis (i.e., non-medical use of cocaine, stimulants, inhalants, sedatives, anxiety medications, sleeping pills, hallucinogens, opioids/pain medication, ADHD medication)

[‡] Ever been put in jail or prison, held overnight after an arrest, or put in juvenile detention

1.18–11.65; $p = 0.025$) also remained independently associated with a history of transactional sex.

Discussion

The men in our sample reported high levels of incarceration and transactional sex; in the multivariate model, incarceration remained significantly associated with increased odds of transactional sex. Although nearly three-quarters were virally suppressed, they were all eligible for transition to adult care, a stage at which approximately 50% of youth fall out of care [34].

SMY are disproportionately incarcerated compared to heterosexual youth [3], and arrest and incarceration constrain people's access to material goods, employment, housing, and healthcare [31, 35, 36]. This means that YMSM's engagement in transactional sex occurs within a broader structural context of social and economic instability [37]. Research has identified a constellation of sexual risk behaviors—e.g., concurrent partnerships, non-consensual sex, and transactional sex [20, 36, 38–40]—that often occur post-incarceration. However, previous work among YMSM has focused on the impact of cumulative “life stressors,” as opposed to incarceration specifically [15, 30].

Incarceration represents a particularly harsh stressor for young men at the intersection of multiple marginalized identities: HIV-infected, having sex with men, homelessness, and racial/ethnic minority [41, 42]. Homelessness remained significant in the final model, suggesting that YMSM may be engaging in transactional sex—likely as a form of survival sex [6, 43]—as a result of being homeless. This homelessness may have resulted from marginalization due to being HIV-infected, YMSM, etc. Age also remained significant in the model, likely because older youth had more time to be exposed to additional vulnerabilities that could increase their likelihood of engaging in transactional sex.

The high rates of incarceration among YMSM must be examined within the social-structural context. In addition to being sexual minorities, many were also men of color, who are disproportionately targeted by police under the auspices of the “War on Drugs” [44]. Although monthly cannabis use was only significant in the unadjusted model, it hints at the impact substance use may have on incarceration. Though this study did not examine reasons for incarceration, research shows that men of color are disproportionately arrested and

Table 2 Bivariate logistic regression with sociodemographic variables and transactional sex (unadjusted odds ratios)

Variable	Unadjusted odds ratio (OR)	95% confidence interval (CI)	<i>p</i> value
Age			
(24 of age vs. less than 24)	4.66	(1.01–21.58)	0.049*
Race/ethnicity			
(White vs. person of color)	1.79	(0.28–11.33)	0.538
Relationship status			
(In a relationship vs. single)	1.31	(0.49–3.53)	0.590
Education			
(Not in school vs. in school/grad)	2.12	(0.84–5.35)	0.113
Ever homeless			
(Yes vs. no)	5.54	(2.10–14.64)	0.001*
Annual income			
(<\$12,000 vs. ≥\$12,000 per year)	1.19	(0.45–3.18)	0.728
Insurance status (current)			
(Uninsured vs. insured)	1.61	(0.32–8.13)	0.562
Monthly use of cannabis [#]			
(Yes vs. no)	3.03	(1.14–8.06)	0.027*
Monthly use of other drugs ^{#†}			
(Yes vs. no)	2.57	(0.78–8.51)	0.122
Ever incarcerated [‡]			
(Yes vs. no)	5.18	(1.97–13.64)	0.001*

[#] Monthly denotes at least monthly (i.e., monthly, weekly, or daily) use

[†] Other drugs include non-tobacco, alcohol, or cannabis (i.e., non-medical use of cocaine, stimulants, inhalants, sedatives, anxiety medications, sleeping pills, hallucinogens, opioids/pain medication, ADHD medication)

[‡] Ever been put in jail or prison, held overnight after an arrest, or put in juvenile detention

*Statistically significant at $p < 0.05$ level

Table 3 Multivariate logistic regression model with sociodemographics and transactional sex (adjusted odds ratios)

Variable	Adjusted odds ratio (aOR)	95% confidence interval (CI)	<i>p</i> value
Ever incarcerated [‡]			
(Yes vs. no)	3.20	(1.07–9.63)	0.038*
Age			
(24 or older vs. less than 24)	9.68	(1.42–65.78)	0.020*
Race/ethnicity			
(White vs. person of color)	1.95	(0.20–18.86)	0.566
Ever homeless			
(Yes vs. no)	3.71	(1.18–11.65)	0.025*
Education			
(Not in school vs. in school/graduated)	2.92	(0.91–9.34)	0.071
Monthly use of cannabis [#]			
(Yes vs. no)	2.18	(0.67–7.15)	0.198
Monthly use of other drugs ^{#†}			
(Yes vs. no)	2.80	(0.61–12.87)	0.185

[‡] Ever been put in jail or prison, held overnight after an arrest, or put in juvenile detention

[#] Monthly denotes at least monthly (i.e., monthly, weekly, or daily) use

[†] Other drugs include non-tobacco, alcohol, or cannabis (i.e., non-medical use of cocaine, stimulants, inhalants, sedatives, anxiety medications, sleeping pills, hallucinogens, opioids/pain medication, ADHD medication)

*Statistically significant at $p < 0.05$ level

incarcerated for low-level drug crimes [45, 46]. Racial disparities in the criminal justice system are particularly salient, given recent calls for harsher sentencing policies for low-level offenses [47]. Continued enforcement of racialized, punitive policies related to substance use and transactional sex [48] will certainly perpetuate the cycle of incarceration and associated risk behaviors for YMSM of color. Our study contributes to evidence of an association between discriminatory policing and sentencing practices and lasting harm among sexual and racial minority populations; consequently, these practices should be reformed in order to address substance use and sexual risk behaviors in the public health, rather than criminal justice, sphere.

These findings demonstrate youths' need for additional support following periods of incarceration that adolescent clinics may be able to provide. Youth-focused programs can often offer support and resources to address social-structural barriers (e.g., housing support, vocational training) which, in turn, may increase care retention [25, 26]. This is particularly important because YLHIV may receive HIV care in youth-focused clinics, but many are treated as adults in the criminal justice system and often receive few post-release support services. Helping to improve post-release stability is particularly important for YLHIV who struggle with care retention, loss of access to services, poor medical outcomes, and higher viral loads [26, 49].

The present analysis has strengths and limitations. First, the data are cross-sectional, which limits our ability to determine the temporal relationship between transactional sex and incarceration. Second, the youth in this study may not be representative of the greater HIV-infected YMSM population; due to recruitment from ATN clinics, youth were engaged in care and likely had higher levels of service access. In addition, we were only able to capture youth who were not currently incarcerated, meaning that the most vulnerable youth were not part of this study. However, this likely means that our estimate is conservative, and that the association between incarceration and transactional sex may actually be more robust than reported here. The major strength is that, unlike previous work among YMSM, this paper examined incarceration as an independent exposure, vs. the "cumulative exposure" method that previous studies have used [15]. The final strength lies in the uniqueness of our study population, HIV-infected urban YMSM, who

have not been previously examined in the context of incarceration and transactional sex.

Conclusion

This analysis fills a gap in the literature by examining the relationship between incarceration and transactional sex among young HIV-infected YMSM. Public health efforts and policy changes should be made to prevent YMSM's contact with the criminal justice system. Facilitating youths' engagement with the social services already available in their HIV clinic may serve as a key strategy in preventing arrest and incarceration; however, social-structural factors such as racialized policing and sentencing practices must also be reformed in order to mitigate their impact on sexual and racial minority communities. Our findings highlight the need to address factors such as homelessness, unemployment, educational attainment, and stigma, which increase insecurity for YMSM. Indeed, this research should serve as a call for advocacy that goes beyond health to prevent criminal justice contact, and ensures that previously incarcerated youth have access to services that facilitate their ability to earn a livelihood, particularly during the period of instability following incarceration.

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