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Predictors of sexual behaviour among men and women in New York City area prisons

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Abstract

The USA currently has the highest incarceration rate in the world. Individuals at greatest risk for HIV also tend to be among those at an elevated risk for incarceration. The HIV epidemic is driven by injection drug use and sexual behaviour, and estimates of prison-based sexual behaviour vary widely. This study examined sexual behaviour among 1,369 incarcerated men and women in the New York City area. Approximately 13 percent of the sample (n=176) reported being sexually active while incarcerated over the previous 6 months. Multiple logistic regression models were used to examine the predictors of prison sexual behaviour. The following variables were associated with increased odds of sexual activity within the previous six months: female gender (OR= 3.28; 95%CI=1.95,5.51), Black race (OR= 2.26; 95%CI=1.47,3.46), history of drug use (OR=1.85; 95%CI=1.04,3.30), bisexual (OR= 3.19; 95%CI=1.90,5.38) or homosexual identity (OR=8.50; 95%CI=3.92,18.43), and conjugal visitation programme participation (OR=66.26; 95%CI=31.42,139.74). Educational programmes regarding sexually transmitted infections and appropriate harm reduction measures are warranted for this population. The expansion of conjugal visitation programmes may also be useful in helping prisoners sustain their relationships with partners from their community and reduce the risk of infectious disease transmission in this environment.

Keywords

prisoners; sexual behaviour; corrections; incarceration; HIV risk; USA

Introduction

There are approximately 1.6 million individuals incarcerated in the USA (Carson and Golinelli 2013), a population that has grown substantially over the past 30 years (West et al. 2010). Even though sexual behaviour during incarceration is generally considered misconduct (Wilkinson 2003), research suggests that prisoners are sexually active during imprisonment (Fleisher and Krienert 2009; Hensley 2001; Hensley and Tewksbury 2002).

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Sexual activity in prison is problematic for numerous reasons. First, the burden of HIV/AIDS is particularly heavy among incarcerated individuals (Spaulding et al. 2009; Fazel and Baillargeon 2011; Seal et al. 2008), and intra-prison seroconversion has been well documented (Taussig et al. 2006; Horsburgh et al. 1990; Krebs and Simmons 2002; Mutter, Grimes, and Labarthe 1994; Pinkerton, Galletly, and Seal 2007; Jafa et al. 2009). Correctional authorities in the US generally prohibit the use of harm reduction strategies such as condom distribution (Krienert, Walsh, and Lech 2014; Hammett, Harmon, and Maruschak 1999). Hence, prisoners who engage in sexual activities may be at risk of contracting HIV, which is largely driven by injection drug use and sexual behaviour (Prejean et al. 2011).

Second, because it is considered institutional misconduct, prison-based sexual behaviour is punishable, regardless of whether it is consensual or non-consensual, and can result in a variety of sanctions. In addition to the potential spread of infectious diseases (Wolfe et al. 2011) and institutional penalties, sexual behaviour in this environment is associated with additional negative outcomes such as violence and stigmatisation (Trammell 2011; Hensley et al. 2003). Finally, correctional authorities may experience some difficulty in distinguishing between consensual and non-consensual sexual contact among prisoners (Eigenberg 2000), which may compromise efforts to adequately respond to sexual violence in this environment.

The rather thin line drawn between consensual sexual behaviour and prison sexual violence prevents correctional authorities from developing the most effective strategies for reducing sexual violence. In correctional settings, sexual behaviour is often seen as a commodity that can be purchased or used to secure certain services or protection from violence (Warren et al. 2010), and the establishment of a prison sexual hierarchy ensures that vulnerable segments of the prison population are coerced into sexually submissive roles (Hensley et al. 2003; Kelly-Hanku et al. 2015). This aspect of prison sexual behaviour undermines the Prison Rape Elimination Act of 2003 directive to eliminate sexual violence.

Despite the importance of the aforementioned consequences associated with prison sexual behaviour, there are very few recent studies on sexual behaviour in prison settings (Garland, Morgan, and Beer 2005; Hensley and Tewksbury 2005; Pardue, Arrigo, and Murphy 2011), and previous estimates of sexual behaviour in correctional settings vary widely. While some research in this area indicates that sexual behaviour in correctional institutions is relatively common (Seal et al. 2004; Dean, Lansky, and Fleming 2002; Hensley and Tewksbury 2002), others report that sexual behaviour in correctional institutions is rare (Hensley and Tewksbury 2005). Research suggests that the longer individuals remain incarcerated, the more likely they are to endorse some preference for same-sex sexual activity (Garland, Morgan, and Beer 2005), even though such preferences may be situational in nature (Gibson and Hensley 2013).

Although much of the recent literature on prison sexual behaviour focuses on sexual assault (Blackburn, Mullings, and Marquart 2008; Fowler et al. 2010; Beck, Rantala, and Rexroat 2014; Morash et al. 2012; Wolff, Blitz, and Shi 2007), which may give the impression that the majority of the sexual activity in correctional settings is coercive, this has been disputed

(Fleisher and Krienert 2009). Research has shown that certain characteristics increase the likelihood of engaging in sexual behaviour in prison environments. This limited body of research has demonstrated that characteristics such as race, age, sexual orientation, and gender are consistently associated with prison sexual behaviour (Hensley, Tewksbury, and Koscheski 2002; Abiona et al. 2009; Hensley 2001; Greer 2000). For instance, in a recent study on risk markers for prison-based sexual violence, researchers indicated that 44 percent of the 288 male prisoners and 46 percent of the 183 female prisoners in their study engaged in consensual sexual activity during incarceration (Warren et al. 2010). The authors reported that prisoners who engaged in consensual sexual behaviour also reported sexually assaulted another individual while incarcerated, demonstrating the complexity of prison sexual behaviour. According to the authors, sexual orientation was the best predictor of sexual behaviour among female inmates (Warren et al. 2010). Similarly, a study of 245 female inmates found that prison sexual behaviour is largely an indicator of past sexual histories (Koscheski and Hensley 2001), while others have found that sexually active prisoners tend to be younger and incarcerated longer than their abstinent counterparts (Hensley, Tewksbury, and Koscheski 2002). Additional research suggests that there are few differences between prisoners who are and are not sexually active while incarcerated (Tewksbury and Connor 2014).

In the interest of learning more about sexual activity among prisoners, this research study examined correlates of sexual behaviour, including HIV serostatus and conjugal visitation programme involvement, among incarcerated men and women housed in two prisons in the New York City area. Based on the previous body of research on prison sexual behaviour, we anticipated that participants who had been incarcerated longer, those with a history of multiple sexual partnerships, sexual minorities, and male prisoners would be at an increased odds of engaging in sexual behaviour within the previous six months of incarceration. To the best of our knowledge, this study is one of few empirical investigations of sexual behaviour among a large proportion of inmates within two prisons in the metropolitan New York City area. With the recent attention directed toward the termination of conjugal visitation programmes, this study also examines the extent to which conjugal visits affects prison sexual behaviour in one of the remaining few states in the USA that still permits them (Boudin, Stutz, and Littman 2012). As one of the limited number of recent studies to examine consensual sexual behaviour in prison settings, findings from this study can potentially be used to inform targeted sexual health and risk reduction programmes.

Methods

Sample and Setting

The data for this study were collected from prisoners housed within one male (approximately 1800 inmates) and one female (approximately 800 inmates) New York State maximum-security correctional institutions. Prisoners were eligible for participation if they met the following inclusion criteria: 1) were at least 18 years of age; 2) had been incarcerated for at least 6 months; and 3) were English-speaking; and 4) provided written informed consent. Participants did not receive any form of compensation for their participation.

Procedures

From January 2011 to December 2013, prisoners within these institutions were approached by a research assistant and asked to participate in a research study. Male prisoners were invited to participate by research assistants stationed in common areas such as the reception halls and intake waiting room; female participants were recruited from their cellblocks. More specific information on the study methodology has been published elsewhere (Bai et al. 2014). Although all participants had been incarcerated within the prison system for at least six months, a small number were being transferred from other prisons within the New York State Department of Corrections and Community Supervision (NYSDOCCS) system.

Prisoners were generally responsive; 94 percent of men and 81 percent of women approached agreed to participate. Due to such a high response rate, our sample was quite representative of the prison population within these two facilities. However, we did not collect any information on participants who refused to participate. Participants were interviewed by a male or female research assistant in a private room in each facility. Research assistants were had a first degree and were extensively trained in research ethics and how to appropriately interact with prisoners, including guidance on how to build rapport with participants. Research protocols were continually reviewed and evaluated during weekly meetings with senior investigators. Although every effort was made to match the gender of the interviewee to that of the interviewer, this scenario was not possible for every interview. However, an internal review of the data indicated that there were no significant differences in responses based in opposite-gender interviews.

In addition to collecting survey data, paper-based medical records were reviewed and extracted by research assistants to determine whether participants had a history of any sexually transmitted infections, including HIV, reports of multiple sexual partnerships, and sexual orientation. Data from medical records were also self-reports and were collected by medical personnel during each participant's institutional medical evaluation. All participants provided written consent granting explicit permission for their medical records to be reviewed. These records included information on a variety of health outcomes and behavioural health indicators, including sexual behaviour and illicit drug use.¹ A review of the concordance between the self-report and medical records indicated that self-report interviews were more likely to capture sensitive information such as illicit drug use among this population (Bai et al. 2014). The study was approved and monitored by the institutional review boards of the Columbia University Medical Center and the New York State Department of Corrections and Community Supervision (NYSDOCCS).

Measures

Demographics—Participants were asked to provide demographic information such as their date of birth, highest level of education completed, and racial and ethnic background. Data regarding their duration of incarceration were collected from institutional records and recorded in number of days. Incarceration duration was divided into two categories: incarceration for less or greater than one year.

¹Additional information on the data extraction process is discussed in (Bai et al. 2014)

Sexual behaviour—To measure sexual behaviour, participants were asked the following question, “Have you been sexually active in the past 6 months?” We selected this question wording intentionally avoiding any mention of non-consensual sexual behaviour, in the interest of encouraging more honest reporting. Further, the NYSDOCCS has its own system for collecting data on prison rape in compliance with Prison Rape Elimination Act of 2003 (PREA) guidelines (Beck 2015a). Participants were also asked to specify the number of male and female sexual partners over the previous six months and whether they had conjugal visits during this period. They were also asked whether they ever used illicit drugs. Finally, inmates' sexual orientation (heterosexual, bisexual, homosexual), whether they have ever had multiple (concurrent) sexual partnerships (yes/no), and lifetime history of sexually transmitted infections (STIs) including HIV serostatus were extracted from participants' medical records.

Data Analysis—Statistical analyses were conducted using the Statistical Analysis System (SAS) 9.3. Frequencies were used to examine the distribution of the sample. Chi square tests were conducted to examine differences between sexually active participants and those who were not reportedly sexually active within the previous six months of incarceration. Variables that were statistically significant at the $p<0.05$ level in bivariate analysis were entered into multivariable logistic regression models to examine predictors of recent sexual behaviour, controlling for a variety of personal characteristics. Observations with missing values for these variables were omitted from the multivariable logistic regression model. Our primary multivariable logistic regression model examined predictors of sexual behaviour among all participants in our study (Model 1). Our secondary models examined predictors of prison sexual behaviour among participants who did not participate in the conjugal visitation programme (Model 2), among male participants in our study (Model 3), and among female participants in our study (Model 4). Chi-square tests were also used to further investigate differences in sexual partnerships among sexually active men and women separately.

Results

Demographic characteristics

There were 1,369 participants in this study. The average age of participants was 38 years ($SD=10.9$). As Table 1 indicates, the majority of the participants were male (59.2%) and Black American (50.5%). All participants had been incarcerated for at least six months; the majority had been housed in the current facility for more than six months (73.6%). Most of the participants self-identified as heterosexual (76.6%). Participants had been incarcerated for five years, on average ($SD=5.7$).

Sexual Behaviour

Approximately 13 percent of the sample ($n=176$) reported being sexually active while incarcerated over the previous 6 months. Approximately 17 percent ($n=30$) of the participants who were sexually active reported having a history of multiple sexual partnerships. Fifteen percent ($n=201$) of participants had a history of STIs. Approximately three percent ($n=45$) of the participants were HIV-positive; only one of these individuals was reportedly sexually active within the previous six months. There were statistically significant

differences between participants who were sexually active during the previous six months and those who were not ($p<.001$). Bivariate analyses identified numerous factors associated with sexual behaviour within the previous six months of incarceration (Table 1) including age 18–30 ($p<.001$), female gender ($p<.001$), Black race ($p<.001$), identifying as homosexual or bisexual ($p<.001$), and engagement in the institution's conjugal visitation programme ($p<.001$).

Gender differences—We present any variables with significant gender differences in distribution in Table 2. Approximately three percent of the sexually active men reported having male partners; 62.6% of the sexually active women reported having female partners. While the majority of sexually active women reportedly had sex with other women (65.2%, $n=75$), only 3.3% ($n=2$) of male prisoners reported same sex sexual behaviour. A larger percentage of women than men reported being a sexual minority (53.1% v. 0%; $p<.001$), while a larger proportion of men were conjugal visitation programme participants within the last six months (63.9% v. 9.6%; $p<.001$).

According to our first multivariable logistic regression model (Table 3), women were approximately three times more likely than men to report sexual activity over the previous six months (Odds Ratio [OR] = 3.28; 95% Confidence Interval [CI] = 1.95,5.51). Participants aged 31–45 and 46–89 years were less likely than younger participants to report sexual activity (OR=0.70; 95%CI=0.43,1.10 and OR=0.28; 95%CI = 0.15,0.53), respectively. Black participants were twice as likely as members of other racial groups to report sexual activity (OR= 2.26; 95%CI=1.47,3.46). Participants who identified as bisexual were three times more likely than heterosexuals to report sexual activity (OR= 3.19; 95%CI=1.80,5.38); those with a homosexual identity were eight times more likely to report sexual activity during the previous six months (OR=8.50; 95%CI=3.92,18.43). Although men in our sample reported same-sex sexual behaviour, none of them self-identified as a member of a sexual minority, suggesting that these findings are entirely driven by the women in our study.

Participants who reported a history of illicit drug use were more likely than non-illicit drug users to report sexual activity (OR= 1.85; 95%CI=1.04,3.30). Finally, participants of the institution's conjugal visitation programme were 66 times more likely to report sexual activity (OR=66.26; 95%CI=31.42,139.74). Even when we removed conjugal visitation participants from our analyses, our results did not differ substantially (Table 3; Model 2). The relationships found to be significant in the first model persisted in this model as well.

As previously mentioned, we ran the multivariable logistic regression separately for men and women (Table 3; Models 3 & 4). In the model for men only, incarceration duration was a significant predictor of sexual activity over the previous six months (OR=0.25; 95%CI=0.10,0.62), whereas the effect of incarceration duration was statistically insignificant in both the overall model and the model for women only. The findings regarding sexual identity were driven entirely by women in our study, as we were unable to examine the effect of sexual orientation in men due to the lack of men self-identifying as sexual minority in our study sample. In the gender-specific models, the effect of illicit drug use is no longer statistically significant for both men and women, possibly due to reduced sample size and

power. Our findings for conjugal visits remain significant for both men and women, but the estimate was much higher among men (OR= 197.85; 95%CI=73.32,533.90 vs. OR=13.06; 95%CI=3.98,42.85).

Discussion

Contrary to what prison wardens have reported (Hensley and Tewksbury 2005), the results of this study demonstrate that prisoners are engaging in sexual behaviour during periods of incarceration. The number of sexually active participants in our study is comparable to what other researchers in this area have reported (Richters et al. 2012). Similar to our research findings, in a study of 245 female prisoners, Hensley et al. (2002) found that younger and Black prisoners were more like to engage in sexual behaviour. Also consistent with our findings, history of illicit drug use has been associated with prison sexual behaviour (Seal et al. 2008). Although it has been previously documented that incarceration duration is associated with prison-based sexual behaviour (Abiona et al. 2009; Hensley, Tewksbury, and Koscheski 2002), only our findings in the multivariable logistic regression analyses with male participants supported this relationship.

Despite the existence of a conjugal visitation programme, only 4.3 percent of the participants in this study were reportedly engaged in this programme over the previous six months (n=55); 71 percent (n=39) of these individuals reported sexual activity during that time period. Although conjugal visitation programmes are strongly endorsed by prisoners (Struckman-Johnson et al. 2013), and research has shown that participation in such programmes provides many advantages during incarceration, including preserving relationships (Carlson and Cervera 1991) and reducing prison rape (D'Alessio, Flexon, and Stolzenberg 2012), the vast majority of the sexually active participants in our study were not conjugal visitation programme participants within the previous six months.

A greater proportion of women than men in our study reported sexual activity during the previous six months of incarceration, which is similar to what Abiona et al. (2009) demonstrated in their study of HIV risk behaviours among 1,819 prisoners in Illinois. Since STI rates are higher among incarcerated women than incarcerated men (Willers et al. 2008; Hale et al. 2009; Kouyoumdjian et al. 2012) and condoms are not available in this environment, this remains a high-risk environment for sexually active prisoners. However, although incarcerated women were more likely than men to be sexually active in this study, their sexual partners are also largely women which places them at a lower risk for HIV infection (Centers for Disease Control and Prevention 2006b). Research suggests that in contrast to men, female prisoners may resort to sexual activity to provide them with emotional support (Jones 1993) or out of curiosity (Severance 2005) during a vulnerable period of their lives. However, these relationships are often short-lived and exploitative (Watterson 1996), which may lead to additional conflict within the institution.

While our results for female prisoners are consistent with existent literature, our findings for male inmates contrast with previous research suggesting a higher prevalence of same-sex sexual behaviour and sexual minority identity among male prisoners (Hensley and Tewksbury 2002). There are a few possible explanations for this discrepancy. There may

have been a reluctance among male prisoners to report stigmatised same-sex sexual behaviours (Braithwaite and Arriola 2008; Derlega, Winstead, and Brockington Jr 2008; Grinstead et al. 2005). There may also be institutional factors that prevented sexual behaviour within the male prison in our study. The male prison setting in our study is notoriously harsh and may be more restrictive than the female prison, which may have prevented our male participants from engaging in sexual activities.

Another important note is that for male and female prisoners, a substantial proportion of their heterosexual sexual partners were not conjugal visitation programme participants, which suggests that correctional officers or other institutional personnel are engaging in sexual behaviour with prisoners since the two prisons were segregated by sex. This finding is concerning given the power disparities between prisoners and correctional officials, and the limited autonomy among prisoners. Previous research suggests that prisoners are active pursuers of inappropriate relationships with correctional staff (Worley, Marquart, and Mullings 2003; Marquart, Barnhill, and Balshaw-Biddle 2001; Seal et al. 2004; Warren et al. 2010), and such relationships pose a serious threat to maintaining institutional security. For correctional staff, intimate relationships with inmates compromise professional judgment, resulting in ... the provision of special privileges to some inmates (Beck 2015b) and moral tension that can create job-related stress in environments where such behaviour flourishes (Worley and Worley 2011). Even though prisoners may be willing to engage in sexual activities with correctional staff, because of differences in power between prisoners and prison staff, such behaviour constitutes coercion nevertheless. Additional research is needed to further examine inappropriate contacts and relationships between prisoners and correctional staff (Beck 2015b).

Black participants were more than twice as likely as their White and Latinocounterparts to report sexual behaviour. Since Black Americans comprise the highest proportion of HIV-infected prisoners who contract HIV while incarcerated (Centers for Disease Control and Prevention 2006a; Krebs and Simmons 2002), HIV prevention services in this environment can educate prisoners about modes of HIV transmission and how to prevent infection. Such knowledge is crucial to promoting improved sexual health decision making. Since sexual minorities and younger participants, two groups of prisoners who are also overrepresented among HIV-infected individuals in the USA (Centers for Disease Control and Prevention 2013), had an increased odds of being sexually active in this environment, prevention programmes that focus on the unique challenges that these individuals encounter during incarceration may be warranted.

Harm reduction programmes such as condom distribution reportedly reduce unsafe sex in prison environments (Butler et al. 2013), avert future HIV infections (Leibowitz et al. 2013), and can be implemented in this environment at a low cost with very little disruption to institutional security (Lucas et al. 2014). While condoms are available in New York City jails, they are prohibited in New York State prisons, with the exception of prisoners engaged in the conjugal visitation programme. In addition to STI prevention programming and appropriate harm reduction measures, the expansion of conjugal visitation programmes may also be useful in helping prisoners sustain their relationships with partners from their community, perhaps incentivising the subsequent release and successful reintegration of

incarcerated individuals into their home communities. Although our findings are primarily confirmatory in nature, the information regarding gender and sexual behaviour offers greater insight into the extent to which same-sex sexual behaviour is occurring among incarcerated men and women.

Limitations

Some study-related limitations should be acknowledged. Sexual behaviour in correctional settings is often underreported, masking the magnitude of risky sexual behaviour that occurs in prison environments. Sexual behaviour in this environment is highly stigmatised (Hensley et al. 2003), and due to fear of repercussions among inmates or correctional officers, sexually active prisoners may have been discouraged or afraid to report any sexual activity. Further, participants were not specifically asked about the nature of the sexual activity being reported or whether it was consensual. This may overlook the importance of the dynamics of sexual relationships in correctional institutions. Because information on specific sexual acts was not collected during our study, we were unable to determine the range of penetrative and non-penetrative sexual behaviours in which prisoners were engaging, and thus unable to thoroughly assess disease transmission risk. However, our evidence does suggest that prisoners in this study may be at risk for infections transmitted through physical contact, including Methicillin-resistant *Staphylococcus aureus* (MRSA), which is also elevated among New York State prisoners (Lowy et al. 2007) and among prisoners in general (Aiello et al. 2006). These limitations may have resulted in underreporting so that this study likely reflects just the 'tip of the iceberg' of sexual activity in prison settings. Finally, the findings from this study are not generalisable to all incarcerated individuals. However, given our large sample size which is representative of the populations within these two prisons, we are confident that our findings may be generalisable to similar institutions within the state prison system from which our sample was drawn.

Conclusions

This study demonstrated that prisoners are sexually active while incarcerated, which suggests a need for HIV and STI prevention and/or harm reduction strategies in this environment. Prisoners who are Black, sexual minorities, younger in age, and female had increased odds of being sexually active in the previous six months of incarceration. Hence, the prisoners with a greater likelihood of being sexually active in our study are generally also those overrepresented among new HIV cases in the USA.

Correctional institutions might usefully consider programming options that offer education and information about consequences associated with unprotected sexual behaviour without compromising institutional security. Such programmes should be offered both to prisoners and to correctional personnel. Correctional environments are important settings for programmes to promote positive behavioural change and reduction in HIV-risk related behaviours (Swartz, Lurigio, and Weiner 2004; Spaulding et al. 2009; Harrison et al. 2001). Since correctional populations are traditionally medically underserved and experience a disproportionate burden of infectious diseases and STIs (Spaulding et al. 2009; Braithwaite and Arriola 2008; Braithwaite, Treadwell, and Ariola 2008), providing good quality services

during incarceration can potentially improve the quality of life among this population while promoting sexual health.

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Table 1

Sexual behaviour in previous six months by participant characteristics

Variable*	Sex in past 6 months		No sex in past 6 months		Total		P-value
	N	%	N	%	N	%	
Overall	176	12.9	1193	87.1	1369	100	
Age							<.001
18–30	76	43.2	368	30.8	444	32.4	
31–45	75	42.6	493	41.3	568	41.5	
46–89	25	14.2	331	27.8	356	26.0	
Education							.05
College or more	64	36.4	331	27.7	395	28.9	
High school/GED	61	34.7	434	36.4	495	36.2	
Less than high school	48	27.3	419	35.1	467	34.1	
Gender							<.001
Men	61	34.7	708	59.3	769	59.2	
Women	115	65.3	485	40.7	600	43.8	
Race							<.001
Black	114	64.8	577	48.4	691	50.5	
Hispanic	26	14.8	283	23.7	309	22.6	
White	25	14.2	254	21.3	279	20.4	
Other	11	6.3	79	6.6	90	6.6	
Incarceration duration							.54
Less than 12 months	60	34.1	435	36.5	495	36.2	
More than 12 months	116	65.9	758	63.5	874	63.8	
Sexual orientation							<.001
Bisexual	43	24.4	105	8.8	148	10.8	
Heterosexual	94	53.4	955	80.1	1049	76.6	
Homosexual	18	10.2	19	1.6	37	2.7	
Multiple sex partners							0.69
Yes	30	17.0	226	18.9	256	18.7	
No	137	77.8	902	75.6	1039	75.9	
Drug use							.008
Yes	150	85.2	909	76.2	1059	77.4	
No	26	14.8	284	23.8	310	22.6	
Conjugal visits							<.001
Yes	50	28.4	18	1.5	68	5.0	
No	122	69.3	1175	98.5	1297	94.7	
HIV							.02
Yes	1	0.6	44	3.7	45	3.3	

Variable*	Sex in past 6 months		No sex in past 6 months		Total		P-value
	N	%	N	%	N	%	
No	175	99.4	1144	95.9	1319	96.4	
Sexually transmitted infection							.64
Yes	28	15.9	173	14.5	201	14.7	
No	147	83.5	1008	84.5	1155	84.4	

* Categorical variables with mutually exclusive categories where percentages should add up to 100. Exceptions may occur due to rounding and missing data.

Table 2

Characteristics of participants sexually active within last six months by gender

Variable	Men		Women		P-value
	N	%	N	%	
Overall	61	34.7	115	65.3	
Sexual orientation					<.001
Bisexual	0	0	43	37.4	
Heterosexual	51	83.6	43	37.4	
Homosexual	0	0	18	15.7	
Multiple sex partners					<.001
Yes	18	29.5	12	10.4	
No	37	60.7	100	87.0	
Conjugal visits					<.001
Yes	39	63.9	11	9.6	
No	22	36.1	100	87.0	
Partner type					.005
Male partner only	2	3.3	26	22.6	
Female partner only	49	80.3	72	62.6	
Both male and female	0	0	3	2.6	

Table 3

Adjusted* odds ratios and 95% confidence intervals for predictors of prison sexual behaviour during previous six months

	Model 1	Model 2	Model 3	Model 4
Predictors	Overall adjusted odds ratio (95% CI)	Adjusted odds ratio for non-conjugal visitation participants (95% CI)	Adjusted odds ratio for men (95% CI)	Adjusted odds ratio for women (95% CI)
Incarceration duration				
Less than 12 months	1.00**	1.00**	1.00**	1.00**
More than 12 months	0.91 (0.59, 1.40)	0.99 (0.64, 1.55)	0.25 (0.10, 0.62)	1.38 (0.83, 2.29)
Gender				
Men	1.00**	1.00**	--	--
Women	3.28 (1.95, 5.51)	4.11 (2.36, 7.19)	--	--
Age				
18–30	1.00**	1.00**	1.00**	1.00**
31–45	0.70 (0.45, 1.10)	0.74 (0.47, 1.18)	1.46 (0.62, 3.41)	0.55 (0.32, 0.95)
46–89	0.28 (0.15, 0.53)	0.24 (0.11, 0.49)	0.88 (0.30, 2.54)	0.21 (0.10, 0.47)
Race				
Not black	1.00**	1.00**	1.00**	1.00**
Black	2.26 (1.47, 3.46)	2.05 (1.30, 3.21)	3.93 (1.66, 9.33)	1.77 (1.07, 2.92)
Sexual orientation				
Heterosexual	1.00**	1.00**	--	1.00**
Bisexual	3.19 (1.90, 5.38)	3.02 (1.79, 5.10)	--	3.13 (1.83, 5.34)
Homosexual	8.50 (3.92, 18.53)	8.45 (3.85, 18.53)	--	9.99 (4.31, 23.12)
Drug use history				
No	1.00**	1.00**	1.00**	1.00**
Yes	1.85 (1.04, 3.30)	2.17 (1.14, 4.16)	1.80 (0.68, 4.76)	1.77 (0.88, 3.56)
Conjugal visits				
No	1.00**	--	1.00**	1.00**
Yes	66.26 (31.42, 139.74)	--	197.85 (73.32, 533.90)	13.06 (3.98, 42.85)

* Multivariable logistic regression models with predictors of sexual activity in the past 6 months (in each model, predictors with odds ratios presented were included).

** Reference category