Interest and Knowledge of HIV Pre-Exposure Prophylaxis in a Unified Jail and Prison Setting

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Abstract

Pre-exposure prophylaxis (PrEP) may be an effective approach to prevent HIV among people who are currently incarcerated or who have been recently released from incarceration. However, awareness and interest in PrEP are largely unknown in this population. This study assessed 417 incarcerated men's lifetime HIV risk engagement and gauged their interest and willingness to take PrEP. Twenty percent reported ever injecting drugs and 4% ever having sex with a man without a condom; 88% had never heard of PrEP. More White men had heard of PrEP, but higher percentages of men of color were interested in learning more about PrEP and willing to take PrEP to prevent HIV. Future interventions should focus on PrEP education and uptake among individuals who are incarcerated.

Keywords

incarceration, pre-exposure prophylaxis, PrEP, HIV

HIV disproportionately affects incarcerated populations, with approximately one in seven HIV-positive adults in the United States passing through a jail each year (Spaulding et al., 2009). The 1.3% prevalence of HIV in jails and prisons is more than quadruple that of the general U.S. population (0.3%; Kaeble & Glaze, 2016; Maruschak & Bronson, 2017). Most disease transmission in this population occurs during community reentry after release (Harawa & Adimora, 2008). In the

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period immediately after release from incarceration, individuals may engage in behaviors that place them at substantial risk of HIV acquisition, such as condomless and transactional sex, injection drug use and other substance abuse, and concurrent sexual relationships (Adams et al., 2011; Brinkley-Rubinstein et al., 2016; Ramaswamy & Freudenberg, 2010).

Among individuals who have been recently released from incarceration, traditional HIV prevention approaches have had limited success (Underhill et al., 2014), attenuated by relapse to substance use. Daily oral pre-exposure prophylaxis (PrEP) has demonstrated efficacy in preventing HIV among high-risk groups including men who have sex with men, people who use injection drugs, and high-risk heterosexual populations (Anderson et al., 2012; Choopanya et al., 2013; McCormack et al., 2016). Although referrals for and initiation of PrEP have increased in the United States since 2012, gaps in the health care system hinder the scaling up of PrEP to reach at-risk populations (Cáceres et al., 2016).

Little is known about PrEP awareness and acceptability among individuals who are currently or have recently been incarcerated. However, structural-, social-, and individual-level barriers to PrEP are likely to be similar to those of HIV treatment for this population. Incarcerated participants in the Bangkok Tenofovir Study demonstrated high levels of PrEP adherence under directly observed therapy, but outside of the clinical trial setting, efficacy and optimal use in those with recent incarceration has not been studied (Colby et al., 2015). The high prevalence of HIV and other compounding risk factors in incarcerated populations suggests that correctional facilities may be an ideal setting to promote PrEP awareness, education, and provision for at-risk individuals. We screened currently incarcerated men in order to assess lifetime HIV risk behavior and understand their knowledge about and willingness to take PrEP.

Method

For a 6-week period between July and September 2017, we screened men during medical intake (<48 hours after arrest) at the Rhode Island Department of Corrections (RIDOC). The RIDOC is a unified prison and jail system located in Cranston, RI, that houses all pretrial detainees and sentenced prisoners. In 2015, approximately 15,000 men were incarcerated at the RIDOC, of which about 3% were HIV positive (Maruschak & Bronson, 2017). Data were collected via paper surveys that individuals filled out on their own in a private setting. Questions gauged the following: lifetime HIV risk, lifetime HIV testing history, and PrEP knowledge and interest. HIV risk questions asked about ever engaging in condomless sex with a man and injection drug use. Individuals were also asked whether they had ever received an HIV test and whether they were interested in receiving one during incarceration. We assessed individuals' knowledge of PrEP by asking whether they had ever previously heard of it. We then gave a short definition of PrEP and asked whether they would be (1) interested in learning more about PrEP and (2) willing to take daily medications to prevent HIV. Descriptive analyses including frequencies and cross-tabulations were conducted to identify the proportion of men at the RIDOC who had a lifetime risk of HIV, who had engaged in HIV testing previously, and who knew about PrEP and were interested in learning more. The data used for analyses did not include any identifying information that could be linked back to the individual.

Results

A total of 417 men were screened. The men were most likely to be White (47%), while 28% were Black and 23% were Hispanic/Latino. Twenty percent reported ever injecting drugs with a needle, of which the majority were White (70%). Four percent reported ever having sex with a man without a condom, of which 40% were White, 33% were Hispanic/Latino, and 30% were Black.

Table 1. PrEP Interest, Knowledge, and Willingness by Sociodemographic Characteristic.

Characteristic	Total Sample	Knew About PrEP	Interested in Learning More	Would Consider Taking
All respondents		12% ($n = 45$)	23% ($n = 88$)	25% ($n = 95$)
Race				
White	47% ($n = 193$)	16% ($n = 29$)	20% ($n = 37$)	23% ($n = 41$)
Black	28% ($n = 115$)	8% ($n = 8$)	27% ($n = 29$)	32% ($n = 34$)
Hispanic	23% ($n = 96$)	8% ($n = 7$)	25% ($n = 22$)	21% ($n = 18$)
HIV risk factor				
Men who have sex with men	4% ($n = 15$)	29% ($n = 4$)	50% ($n = 7$)	43% ($n = 6$)
Injection Drug Users	20% ($n = 77$)	22% ($n = 17$)	41% ($n = 31$)	41% ($n = 31$)
Perceived themselves at risk for HIV	7% ($n = 28$)	30% ($n = 8$)	74% ($n = 20$)	79% ($n = 22$)
Tested for HIV in past	61% ($n = 239$)	15% ($n = 34$)	30% ($n = 71$)	32% ($n = 73$)
Interested in being tested for HIV	33% ($n = 129$)	13% ($n = 17$)	56% ($n = 71$)	52% ($n = 64$)

Note. PrEP = pre-exposure prophylaxis.

Of those reporting ever having sex with a man without a condom, 40% also reported ever injecting drugs, of which 83% were Hispanic or Black. A majority had been tested for HIV in the past (61%) and 33% were interested in being tested for HIV while incarcerated. Seven percent thought they were currently at risk for HIV, and roughly the same proportion of Black, White, and Hispanic/Latino individuals considered themselves at risk (7% to 8% each). See Table 1 for a complete description.

A majority of the men who were incarcerated had never heard of PrEP (88%). A higher proportion of White men had heard of PrEP (16% vs. 8% of Blacks and 8% of Hispanics). Of men who reported ever having condomless sex with another man, only 29% had heard of PrEP; 22% of those who had ever injected drugs had prior knowledge of PrEP. Overall, 23% of the men were interested in learning more about PrEP. About 20% of White men indicated that they were interested, while 27% and 25% of Black and Hispanic men, respectively, were interested (see Table 1). Forty-one percent of those who reported ever injecting drugs and 50% ($n = 7$) of men who ever had condomless sex with a man were interested in learning more about PrEP.

Finally, when asked whether they were willing to take a daily medication to prevent HIV, 25% said yes. About 32% of Black men said they would be willing to take PrEP while about 20% of both White and Hispanic men would be. Of those who reported ever injecting drugs and having condomless sex with a man, 41% and 43%, respectively, would be willing to take a daily HIV prevention medication (Table 1).

Discussion

This study was among the first to evaluate PrEP knowledge, interest, and lifetime HIV risk in a jail and prison setting. Most participants had previously had an HIV test, which may be attributable to availability of routine testing in Rhode Island (Maruschak & Bronson, 2017). However, self-perception of HIV risk was low. A large portion of those who reported ever engaging in condomless sex with a man also reported ever injecting drugs and represent a segment of the incarcerated population at extreme risk of HIV acquisition. Knowledge of PrEP as a tool for HIV prevention was very low among the population, and PrEP awareness among White men was 2 times higher than that of Black or Hispanic men. Among all men, 23% and 25%, respectively, were interested in learning about PrEP or would be willing to take daily medications to prevent HIV. In addition, many of those who reported ever engaging in condomless sex with a man or injection drug use expressed

willingness to take PrEP each day. However, higher percentages of Black men were both interested in learning more about PrEP and would be willing to take PrEP to prevent HIV. These findings point to the need to target PrEP education programs to those at the intersection of multiple risk factors and to men of color who may have less awareness of PrEP.

While interest and willingness were high, barriers present during community reentry may prohibit the ability to adhere to the daily regimen and may alter the effectiveness of PrEP in this population (Arnold et al., 2017). Reluctance to take a daily oral prophylactic may stem from stigma and confidentiality concerns over being prescribed a medication relating to HIV. High recidivism and rates of turnover in jails and prisons may also affect continuity of care for PrEP implementation in correctional facilities (Brinkley-Rubinstein et al., 2018). Furthermore, in addition to provision of the medication, PrEP care requires routine screening for HIV and sexually transmitted diseases, as well as monitoring for side effects of the drug, which can make the cost of PrEP programs prohibitive. The Ryan White HIV/AIDS Program can provide access to free or low-cost medical treatment to most HIV-infected individuals during community reentry but does not cover the cost of PrEP, which complicates providing coverage to low-income or uninsured individuals.

Despite their elevated lifetime risk for HIV acquisition, few incarcerated men in this study considered themselves to be at risk for HIV. Increasing knowledge about HIV transmission and individual risk factors would therefore be a preliminary step to implementing a PrEP education program in this population. Strategic PrEP implementation should organize access to PrEP care as feasible, whether that includes fluid access to PrEP throughout incarceration, PrEP provision as a part of discharge planning, or linkage to PrEP care postrelease, as HIV risk is elevated during community reentry. Proliferation of PrEP screening at intake into correctional facilities will help to better identify and deliver PrEP services to individuals at highest risk. However, based on individual and contextual needs, screening may be conducted at various times during incarceration beyond intake.

Limitations

Individuals screened in the first 48 hours in a correctional institution may still be under the influence of alcohol or other drug substances, which may affect their answers to PrEP screening questions. However, individuals completed the survey in isolation, limiting social desirability bias in their responses. In addition, institutional ability to provide PrEP was not measured as this study focused on knowledge and interest rather than logistics of implementation. Future studies should assess the best practices, barriers, and facilitators of PrEP program implementation in various correctional settings (e.g., jails, prisons, and community supervision). Finally, we acknowledge that (1) screening for lifetime risk is not the optimal way to assess PrEP clinical indication and (2) incarcerated individuals may not be willing to disclose their history of HIV risk behavior to correctional entities. Additionally, some participants may have correctly perceived their current risk of HIV infection because they were asked to state their lifetime behaviors rather than current behaviors. We decided to screen for lifetime risk of HIV because we thought individuals would be more willing to share lifetime risk behaviors rather than recent sexual or drug using history. However, qualitative work should be undertaken to assess the best way to assess recent and lifetime risk.

Conclusion

Incarcerated populations experience disproportionate HIV prevalence compared to the general population. PrEP may be an effective approach to prevent HIV among people with a history of incarceration. In the current study, we assessed 417 incarcerated men's lifetime HIV risk engagement and gauged their interest and willingness to take PrEP. Most had no previous knowledge of PrEP, but after being told about it, 23% of participants were interested in learning more and 25%

reported willingness to take it daily. More White men had previously heard of PrEP, but higher percentages of men of color were interested in learning more about PrEP and willing to take it to prevent HIV. In addition, many who reported ever having condomless sex with a man also reported prior injection drug use. Specifically, 40% of participants who reported ever having sex with a man without a condom also reported ever injecting drugs. Future interventions should focus on PrEP education and uptake among individuals with a history of incarceration focusing on those at the intersection of multiple risk factors.

Declaration of Conflicting Interests

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