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Risk behaviour and access to HIV/AIDS prevention services among formerly homeless young adults living in housing programs

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Abstract

Young adults who experience homelessness have high rates of sexually transmitted infections (STIs) including HIV. Homelessness services programs that provide housing to young adults have the capacity to reduce STI risk profiles. This study analysed data from 140 formerly homeless adults who moved into a housing program in Los Angeles County between the ages of 18 and 25 years to investigate risk behaviour and access to HIV/AIDS prevention services. More than three quarters of participants reported sexual activity (vaginal or anal sex) in the prior 3 months, with 63% reporting any unprotected vaginal or anal sex, 29% reporting unprotected sex with a nonserious partner, 40% reporting multiple partners, and 11% reporting exchange sex. About three quarters reported a past-year HIV test. About half of the sample had never heard of pre-exposure prophylaxis (PrEP), 12% had heard of it but didn't know what it was, 25% reported knowing a little bit, and 15% said they knew a lot about PrEP. Slightly more than 4% of the overall sample reported being HIV positive. These findings suggest that housing programs may be a prime location to implement HIV prevention services.

Keywords

homelessness; transition-aged youth; risk environment; PrEP

Introduction

Young adults between the ages of 18 and 25 years old (Arnett, 2000) who experience homelessness have high rates of sexually transmitted infections (STIs) including HIV (DeMatteo et al., 1999; Noell et al., 2001; Pfeifer & Oliver, 1997; Rew, Fouladi, & Yockey, 2002). For example, Noell and colleagues (2001) found the incidence of STIs in a population of homeless adolescents that included young adults to be as high as 17% and the prevalence and incidence of certain STIs to be 10 to 12 times higher than those found in the same age group in the general population. Estimates of increased HIV prevalence among young adults who experience homelessness range between 2% and 8% (DeMatteo et al.,

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1999; Pfeifer & Oliver, 1997; Rew et al., 2002). Homelessness services programs that provide housing to young adults have the capacity to reduce STI risk profiles through increased access to health care and prevention services in addition to the potential protective factor of housing (Henwood et al., 2018). However, existing research on older adults experiencing homelessness has shown that HIV risk behaviour does not necessarily decrease after entry into housing among either HIV seronegative (Wenzel et al., 2019) or seropositive residents (Wolitski et al., 2010). This suggests that prevention programming and access to biomedical interventions, such as pre-exposure prophylaxis (PrEP) medication and antiretroviral (ARV) for those with HIV, may be of particular importance to prevent HIV acquisition and transmission when young adults who have experienced homelessness move into housing. To our knowledge, this study is the first to investigate risk behaviour and access to HIV/AIDS prevention services among formerly homeless young adults living in supportive housing programs.

Methods

This study, part of a larger, multiyear project to assess how context and psychosocial factors influence health risk behaviours of emerging adults who currently or recently experienced homelessness [blinded for review], analysed baseline data collected from 140 formerly homeless adults who moved into a housing program in Los Angeles County between the ages of 18 and 25 years; participants were up to age 29 at the time of data collection. Housing residents were recruited via flyers and information sessions held at agencies that run housing programs for young adults who have experienced homelessness. Participants used an online survey platform to complete a self-administered questionnaire assessing health and housing characteristics, including HIV testing, HIV prevention education experiences, HIV risk behaviour, HIV status, PrEP or ARV prescription and adherence, and perceptions about PrEP. Respondents received \$20 for completing the questionnaire. Study protocols were approved by the affiliated university's institutional review board.

Measures

Demographic questions assessed age, gender, race and ethnicity, sexual orientation, and education. Participants were also asked about housing history, age at first homelessness, and length of time in current housing program.

Participants indicated whether they'd had vaginal or anal sex in the past 3 months, the number of vaginal or anal sex partners in this time period, and whether their partner in each instance was a "*serious partner (husband, wife, life partner, girlfriend, boyfriend)*," "*casual partner (someone I'm seeing, hooking up with, dating)*," or "*someone I just met, like a one-time hook-up*." A single item adopted from prior research (Barman-Adhikari, Hsu, Begun, Portillo, & Rice, 2017) queried whether barrier protection methods were used for anal or vaginal sex. An author-created item assessed whether participants had "*vaginal or anal sex without a condom without first having a conversation about you and your partners' HIV status*" at any point in the past 3 months. Participants reported whether they engaged in exchange sex during the past 3 months (i.e., "*traded sex for money, drugs, a place to stay, food or meals, or anything else*"), using an item adapted from the Homeless Youth Risk and

Resiliency Survey (Maria et al., 2018). Lifetime illicit injection drug use was assessed using a single item adapted from the CDC Youth Risk Behavior Surveillance System survey (Centers for Disease Control and Prevention, 2016).

Questions about HIV status, testing, and treatment were adapted from prior studies (Maria et al., 2018; Rice, Barman-Adhikari, Milburn, & Monro, 2012; Wenzel et al., 2017).

Participants self-reported if they had ever tested positive for HIV, how long it had been since their last HIV test, whether they received their result (if HIV-negative), and if they received any posttest counselling (“*talking about your results, getting information on how to reduce risks associated with HIV, guide in developing a support system, etc.*”; informed by the Society for Adolescent Medicine’s HIV Counseling and Testing Questionnaire; Hein, 1993). Participants who had tested positive for HIV were also asked if they were currently “*seeing a doctor or going to a clinic*” to help manage their HIV, and whether they were “*currently taking medications*” to manage their HIV (items informed by the RAND Corporation’s HIV Cost and Services Utilization Study; Bozzette et al., 1998). Participants reported the last time they were tested for other STIs and whether they ever tested positive for chlamydia, gonorrhoea, syphilis, herpes, genital warts or HPV, hepatitis B, or another STI.

Participants were asked how much they know about PrEP. If they had ever heard of PrEP, they were asked where they learned about, if they know anybody currently taking it, whether they’d ever been prescribed PrEP, and if they were currently taking PrEP. Participants who were not currently taking PrEP indicated their level of interest in PrEP on a 5-point scale ranging from “*not interested*” to “*very interested*,” and for reasons why they were not sure about taking PrEP (one response option about stigma was added after data collection had started, so the reported sample size is slightly lower than the other options). PrEP items related to knowledge of and interest in PrEP were adapted from the Homeless Youth Risk and Resiliency Survey (Maria et al., 2018) and the item asking about reasons for not wanting to take PrEP was informed by Mitchell and Selmes (2007).

Data Analysis

All analyses are descriptive and were conducted in Stata Version 14.2 (StataCorp, College Station, TX).

Results

Sample

Participants demographics are shown in Table 1. Participants averaged nearly 23 years old, about half were male, one third were Black and one quarter were multiracial, and most had at least a high school degree. About half the participants had moved into their housing program in the past year.

HIV Risk Behaviour

More than three quarters of participants reported sexual activity (vaginal or anal sex) in the prior 3 months, with 63% reporting any unprotected vaginal or anal sex, 29% reporting unprotected sex with a nonserious partner, 24% unprotected sex without discussing HIV

status, 30% sex under the influence of drugs or alcohol half the time or more, 40% reporting multiple partners, and 11% reporting exchange sex. Injection drug use was uncommon.

HIV Testing

About three quarters reported a past-year HIV test, and less than half had been tested in the past 3 months; these rates were slightly higher in the sexually active sample. Fewer than half of those with lifetime HIV tests reported receiving any posttest counselling (e.g., information about ways to reduce HIV risk) the last time they were tested. Nearly 7% reported they didn't receive their last HIV test result (6% among sexually active).

HIV Seropositivity and Other STIs

Slightly more than 4% of the overall sample reported that they were HIV positive (3% among sexually active), and only half of those respondents reported current care by a physician or use of ARV medications; this rate was even lower (33%) in the sexually active HIV-positive sample. Around 40% reported past-3-month STI testing, and the most common lifetime diagnoses were chlamydia (22% overall; 24% among sexually active), gonorrhoea (13%), and syphilis (7%).

PrEP

About half of the sample (49%, 53% of sexually active) had never heard of PrEP, 12% (10% among sexually active) had heard of it but didn't know what it was, 25% (22% of sexually active) reported knowing a little bit, and 14% to 15% said they knew a lot about PrEP. Among those who had heard of PrEP, they had most commonly heard of it through a physician, followed by a counsellor or case worker, research study, or advertisement. Overall, 6% of respondents had been prescribed PrEP, and two thirds of those were currently taking it. Among those not currently taking PrEP, 42% said they had any interest in taking it. When asked about perceived barriers to taking PrEP (among those not currently taking it), participants most commonly endorsed not being at risk of HIV, concern about side effects, not knowing enough about it, feeling it would be too expensive, and not believing it was necessary because they use other protection methods.

Discussion

Most young adults in this study were sexually active, and the majority reported having unprotected sex in the prior 3 months, including nearly one third who reported unprotected sex with casual partners. These findings suggest that housing programs may be a prime location to implement interventions to promote healthy sexual activity, including widespread availability of condoms and other barrier methods and frequent opportunities for sexual health education. Rates of past-year HIV testing were relatively high in this population, but the fact that fewer than half of those ever tested for HIV reported that they received posttest counselling suggests missed opportunities for providing HIV prevention information and reinforcing risk reduction behaviours.

Although the samples are small and results should be interpreted with caution, findings that only half of youth with HIV overall—and only one third of the sexually active HIV-positive

youth—were receiving medical care for HIV suggests significant gaps in medical care for this population, and therefore gaps in the ability to reduce HIV transmission via the treatment-as-prevention model (Cohen et al., 2012). Further, although our sample seemed to have more knowledge of PrEP than previous reports of young adults who are currently experiencing homelessness (49% vs. 71%, respectively; Maria et al., 2018), half of the sample had never heard of PrEP despite high rates of sexual activity, and only a handful were currently using PrEP. This suggests a need for increased educational awareness campaigns targeted toward youth in housing and other interventions to improve knowledge and uptake of PrEP among those at risk of HIV. Crucial to such interventions is addressing primary perceived barriers to PrEP uptake reported in this sample, including perceived lack of risk and concerns about side effects and cost.

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Table 1.

Demographic Characteristics, HIV Testing and Seropositivity, STI Testing, HIV Risk Behaviour, and PrEP Behaviour and Understanding.

	Full Sample (<i>n</i> = 140) <i>n</i> (%) or <i>M</i> (<i>SD</i>)	Sexually Active (<i>n</i> = 110) <i>n</i> (%) or <i>M</i> (<i>SD</i>)
Demographics		
Age (<i>n</i> = 139, <i>n</i> = 110)	22.76 (2.45)	22.79 (2.43)
Gender		
Male	67 (47.9)	46 (41.8)
Female	58 (41.4)	51 (46.4)
Other gender identity	21 (15)	18 (16.4)
Race and ethnicity		
Black	41 (29.3)	36 (32.7)
Biracial, multiracial, biethnic, or multiethnic	37 (26.4)	25 (22.7)
Hispanic or Latinx only	33 (23.6)	28 (25.5)
White	11 (7.9)	7 (6.4)
Other race and ethnicity	18 (12.9)	14 (12.7)
Sexual orientation		
Heterosexual	78 (55.7)	60 (54.6)
Gay or lesbian	24 (17.1)	19 (17.3)
Bisexual or pansexual	23 (16.4)	21 (19.1)
Other sexual orientation	15 (10.7)	10 (9.1)
Education		
Less than high school	33 (23.6)	26 (23.6)
High school or GED	69 (49.3)	56 (50.9)
More than high school	38 (27.1)	28 (25.5)
Age at first homeless experience (<i>n</i> = 139, <i>n</i> = 109)	17.13 (4.19)	17.1 (4.38)
Housing tenure (<i>n</i> = 135, <i>n</i> = 106)		
3 months or less	27 (20.0)	22 (20.8)
4–12 months	39 (28.9)	29 (27.4)
1–2 years	51 (37.8)	41 (38.7)
3 or more years	18 (13.3)	14 (13.2)
HIV risk behaviour		
Sexually active in past 3 months (<i>n</i> = 139)	110 (79.1)	--
Types of sexual activity (past 3 months)		
Unprotected vaginal or anal sex (<i>n</i> = 106)	--	67 (63.2)
Unprotected vaginal or anal sex with non-serious partner (<i>n</i> = 106)	--	31 (29.3)
Unprotected vaginal or anal sex with no HIV status talk before (<i>n</i> = 106)	--	25 (23.6)
Sex under the influence half the time or more (<i>n</i> = 100)	--	30 (30.0)
More than one partner in past 3 months (<i>n</i> = 99)	--	40 (40.4)
Exchange sex (<i>n</i> = 105)	--	11 (10.5)
Injection drug use ever (<i>n</i> = 125, <i>n</i> = 100)	3 (2.4)	3 (3.0)

	Full Sample (<i>n</i> = 140) <i>n</i> (%) or <i>M</i> (<i>SD</i>)	Sexually Active (<i>n</i> = 110) <i>n</i> (%) or <i>M</i> (<i>SD</i>)
Injection drug use (past 30 days)	1 (0.8)	1 (1.0)
HIV testing (if never tested positive)		
Last HIV test (<i>n</i> = 133, <i>n</i> = 107)		
Past 3 months	57 (42.9)	50 (46.7)
Past year	104 (78.2)	85 (79.4)
Received posttest counselling at last test (<i>n</i> = 122, <i>n</i> = 100)	52 (42.6)	43 (43.0)
Never received results of last HIV test	8 (6.6)	6 (6.0)
HIV seropositivity and treatment		
Self-reported HIV seropositivity (<i>n</i> = 139)	6 (4.3)	3 (2.7)
Engagement in treatment (HIV+ sample only; <i>n</i> = 6)		
Currently seeing a doctor for HIV care	3 (50.0)	1 (33.3)
Currently taking ARV medication	3 (50.0)	1 (33.3)
STI testing		
Tested in the past 3 months (<i>n</i> = 139, <i>n</i> = 109)	55 (39.6)	45 (41.3)
Positive test (ever, among those tested; <i>n</i> = 115, <i>n</i> = 92)		
Chlamydia	25 (21.7)	22 (23.9)
Gonorrhoea	15 (13.0)	12 (13.0)
Herpes	6 (5.2)	5 (5.4)
Genital warts or HPV	2 (1.7)	1 (1.1)
Syphilis	8 (7.0)	6 (6.5)
Pre-exposure prophylaxis (PrEP)		
PrEP knowledge (<i>n</i> = 139, <i>n</i> = 109)		
Never heard of it	68 (48.9)	58 (53.2)
Heard of it, but don't know what it is	16 (11.5)	11 (10.1)
Know a little bit	35 (25.2)	24 (22.0)
Know a lot	20 (14.4)	16 (14.7)
Source of PrEP knowledge (<i>n</i> = 140, <i>n</i> = 101)		
Doctor	30 (42.3)	25 (49.0)
Counsellor or case worker	27 (38.0)	21 (41.2)
Research study or intervention	21 (29.6)	15 (29.4)
Advertisement	19 (26.8)	13 (25.5)
Internet	16 (22.5)	11 (21.6)
Friend	15 (21.1)	12 (23.5)
Family member	7 (9.9)	5 (9.8)
Sexual or romantic partner	7 (9.9)	5 (9.8)
Other	5 (7.0)	1 (2.0)
Been prescribed PrEP	9 (6.4)	6 (5.5)
Currently taking PrEP (of those prescribed; <i>n</i> = 9, <i>n</i> = 6)	6 (66.7)	4 (66.7)
Interest in taking PrEP (<i>n</i> = 115, <i>n</i> = 90)	48 (41.7)	38 (42.2)
Perceived barriers to taking PrEP (<i>n</i> = 90, <i>n</i> = 68)		
Not at risk of HIV	52 (57.8)	39 (57.4)

	Full Sample (<i>n</i> = 140) <i>n</i> (%) or <i>M</i> (<i>SD</i>)	Sexually Active (<i>n</i> = 110) <i>n</i> (%) or <i>M</i> (<i>SD</i>)
Concern about side effects	22 (24.4)	16 (23.5)
Don't know enough about it	19 (21.1)	12 (17.7)
Too expensive	12 (13.3)	7 (10.3)
Use other protection methods	11 (12.2)	10 (14.7)
Don't like taking any type of medication	9 (10.0)	5 (7.4)
Too difficult to go to the doctor	6 (6.7)	2 (2.9)
Too much effort to take daily pill	6 (6.7)	4 (5.9)
Wouldn't want anyone to know, stigma (<i>n</i> = 84, <i>n</i> = 63)	4 (4.8)	3 (4.8)

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