

Baseline Prevalence and Correlates of HCV/HIV Infection among People Who Inject Drugs Accessing a Syringe Services Program; Miami, FL

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IDEA Exchange



Introduction

People who inject drugs (PWID) are at high risk for contracting blood-borne infections, including human immunodeficiency virus (HIV) and hepatitis C virus (HCV). However, prevalence rates differ greatly between HIV and HCV infection among this population. In addition, risk factors associated with HIV and HCV infection in the literature are: years of injecting, syringe and drug paraphernalia sharing, and history of incarceration. With the implementation of the IDEA Exchange in 2016, the first legal syringe service program in Florida, this provided a unique opportunity to assess:

1. The HIV and HCV prevalence among participants accessing syringe services
2. Examine risk factors associated with HIV and HCV infection among first-time SSP clients.

Methods

Participants were a convenience sample who enrolled into the SSP at the fixed location. Participants are defined as people who voluntarily signed up to receive the SSP services. Participant eligibility for the program included: (1) 18 years of age or older; (2) ability to complete the baseline assessment in English or Spanish; and (3) consent to receiving or self-reporting HIV and HCV status. Program participants did not receive any monetary or other type of compensation for enrolling in the SSP or providing their information. Data were analyzed on 837 participants who completed an enrollment assessment at the SSP between December 2016 and January 2019. Variables used in the analysis were socio-demographics, drug use, injection-related behaviors (such as frequency of injection and sharing works). HIV and HCV status were self-report or results of a same day rapid antibody test. Bivariate and multivariable regression models were used to assess significant correlates of HIV and HCV infection, independently.

Results

The overall HCV antibody prevalence among participants was **44.4%** (95% CI: 41.0-48.0) at baseline. The overall HIV antibody prevalence among participants was **10.2%** (95% CI: 8.2-12.4).

In the multivariable analysis for HCV infection, **age** (AOR=1.01, 95% CI: 1.00-1.01), **lower education level** (AOR=1.13, 95% CI: 1.06-1.21), **currently homeless** (AOR=1.16, 95% CI: 1.08-1.24), **injecting more than seven times a day in the last 30 days** (AOR=1.14, 95% CI: 1.04-1.24), **reusing syringes in the last 30 days** (AOR=1.18, 95% CI: 1.05-1.32), and **sharing injection equipment in the last 30 days** (AOR=1.13, 95% CI: 1.05-1.21) were significantly associated with a higher odds of HCV infection.

In the multivariable analysis for HIV infection, **age** (AOR=1.00, 95% CI: 1.00-1.01), **Non-Hispanic Black ethnicity** (AOR=1.28, 95% CI: 1.13-1.45), **Hispanic ethnicity** (AOR=1.12, 95% CI: 1.02-1.24), **gay or bisexual orientation** (AOR=1.22, 95% CI: 1.16-1.29), and **methamphetamine injection in the last 30 days** (AOR=1.22, 95% CI: 1.15-1.29) were significantly associated with higher odds of HIV infection. In addition to these results, **heroin injection in the last 30 days** (AOR=0.92, 95% CI: 0.87-0.97) was significantly associated with a lower odds of HIV infection.

Table 1. Bivariate and multivariable regression associations between socio-demographics, drug use, and injection risk with HIV infection

Variable	Bivariate Associations			Full Model Associations		
	OR	95% CI	P-value	AOR	95% CI	P-value
Age	1.00	1.00-1.01	<0.001*	1.00	1.00-1.01	<0.001*
Race/Ethnicity						
Non-Hispanic Black	1.24	1.13-1.36	<0.001*	1.28	1.13-1.45	<0.001*
Hispanic	1.06	1.01-1.10	0.013*	1.12	1.02-1.24	0.024*
Non-Hispanic White	ref	---	---	ref	---	---
Biological Sex						
Male	1.01	0.96-1.06	0.742	0.98	0.94-1.02	0.315
Female	ref	---	---	ref	---	---
Sexual Orientation						
Gay/Bisexual	1.39	1.32-1.46	<0.001*	1.22	1.16-1.29	<0.001*
Straight	ref	---	---	ref	---	---
Education						
<High School/GED	0.97	0.93-1.01	0.151	1.01	0.97-1.05	0.565
>High School/GED	ref	---	---	ref	---	---
Income						
\$0-\$14,999	1.00	0.95-1.04	0.820	1.00	0.96-1.04	0.846
>\$15,000	ref	---	---	ref	---	---
Currently Homeless	1.00	0.96-1.05	0.866	1.02	0.97-1.06	0.482
Heroin Injection	0.80	0.76-0.84	<0.001*	0.92	0.87-0.97	0.001*
Cocaine Injection	0.96	0.91-1.01	0.075	0.98	0.94-1.02	0.422
Methamphetamine Injection	1.38	1.31-1.46	<0.001*	1.22	1.15-1.29	<0.001*
Crack Injection	0.95	0.88-1.02	0.165	0.96	0.89-1.02	0.178
injections per day						
Greater than 7	0.95	0.90-1.01	0.087	0.98	0.93-1.03	0.438
Less than 7	ref	---	---	ref	---	---
Reusing syringes						
Any reusing	0.84	0.78-0.90	0.001*	0.97	0.91-1.04	0.384
No reusing	ref	---	---	ref	---	---
Sharing works						
Shared any works	0.97	0.93-1.01	0.127	0.99	0.95-1.03	0.516
Shared no works	ref	---	---	ref	---	---
HCV-positive	0.96	0.92-0.99	0.035	1.00	0.96-1.04	0.894

Table 2. Bivariate and multivariable regression associations between socio-demographics, drug use, and injection risk with HCV infection

Variable	Bivariate Associations			Full Model		
	OR	95% CI	P-value	AOR	95% CI	P-value
Age	1.01	1.00-1.01	<0.001*	1.01	1.00-1.01	<0.001*
Race/Ethnicity						
Non-Hispanic Black	0.88	0.75-1.02	0.094	0.89	0.71-1.10	0.281
Hispanic	1.03	0.96-1.11	0.342	1.09	0.91-1.31	0.335
Non-Hispanic White	ref	---	---	ref	---	---
Biological Sex						
Male	0.96	0.88-1.03	0.264	0.98	0.91-1.06	0.626
Female	ref	---	---	ref	---	---
Sexual Orientation						
Gay/Bisexual	0.89	0.81-0.98	<0.001*	0.94	0.35-2.50	0.211
Straight	ref	---	---	ref	---	---
Education						
<High School/GED	1.23	1.15-1.32	<0.001*	1.13	1.06-1.21	<0.001*
>High School/GED	ref	---	---	ref	---	---
Income						
\$0-\$14,999	1.19	1.11-1.28	<0.001*	1.05	0.98-1.13	0.159
>\$15,000	ref	---	---	ref	---	---
Currently Homeless	1.29	1.20-1.39	<0.001*	1.16	1.08-1.24	<0.001*
Heroin Injection	1.22	1.12-1.33	<0.001*	1.05	0.96-1.14	0.303
Cocaine Injection	1.09	1.01-1.18	0.023	1.02	0.95-1.10	0.571
Methamphetamine Injection	0.84	0.76-0.92	<0.001*	0.94	0.85-1.05	0.286
Crack Injection	1.26	1.12-1.42	<0.001*	1.12	0.99-1.26	0.068
injections per day						
Greater than 7	1.22	1.12-1.34	<0.001*	1.14	1.04-1.24	0.003*
Less than 7	ref	---	---	ref	---	---
Reusing syringes						
Any reusing	1.31	1.16-1.47	<0.001*	1.18	1.05-1.32	0.004*
No reusing	ref	---	---	ref	---	---
Sharing works						
Shared any works	1.24	1.16-1.33	<0.001*	1.13	1.05-1.21	0.001*
Shared no works	ref	---	---	ref	---	---
HIV-positive	0.88	0.79-0.99	0.035*	0.99	0.88-1.12	0.894

Conclusion:

Consistent with the literature, HCV and HIV prevalence rates differed greatly among SSP clients. In addition, there were differing significant correlates for each infection at baseline enrollment. Understanding the unique correlates of HIV and HCV infection among the IDEA Exchange clients may provide important targets for potential intervention among PWID accessing the SSP.

References

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