



Association Between Public Injection and Syringe Sharing Frequency in a Cohort of People Who Inject Drugs in San Francisco and Los Angeles

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BACKGROUND

- People who inject drugs (PWID) in public have a higher risk of homelessness^{1,2}, HIV and hepatitis C¹, incarceration³, rushed injection^{2,4}, and overdose¹ than people who do not inject drugs in public.
- Sharing syringes is associated with increased transmission of HIV and hepatitis C.⁵
- There is a lack of research on the relationship between public injection and syringe sharing in the U.S.
- The objective of this study is to determine the association between frequency of public injection and syringe sharing among PWID in San Francisco (SF) and Los Angeles (LA).

METHODS

- Baseline survey of Change the Cycle (CTC: 2016-18): NIDA funded randomized controlled trial on injection initiation prevention intervention (n=979).
- PWID were recruited via targeted sampling in SF and LA from 2016-2018.
- We restricted the sample to those who reported greater than 0 injection events and any injecting with others present in the past 6 months (N = 879).
- We applied descriptive statistics to sociodemographic variables and the outcome at baseline.
- We conducted a multivariate analysis using a negative binomial regression model due to over-dispersed values of the outcome, syringe sharing.

Exposure (past 6 mos recall)

- Frequency of injecting in public: 3 category variable (never, occasionally/sometimes, usually/always)

Covariates

- Housing status: currently unhoused or currently housed
- Gender: 3 category variable (male, female, other)
- Age: continuous variable

Outcome (past 6 mos recall)

- Syringe sharing events: number of times used a syringe that had already been used by someone else (count)

RESULTS

- The majority of the sample occasionally/sometimes (41.4%) or usually/always (41.3%) injected in public.
- The sample was primarily male (75.5%) and currently unhoused (84.1%).
- The majority of PWID (71.9%) did not report sharing syringes in the past 6 months.
- Those who usually/always publicly injected had **5.439 (95% CI 2.204,12.774) times the number of syringe sharing events per injection**, compared to those who never publicly injected, adjusted for homelessness, gender, and age.

Table 1. Socio-demographics and substance use variables among N = 879 people who inject drugs in SF and LA

Variable	N (%)
Public injection	
Never publicly injected	152 (17.3%)
Occasionally/sometimes publicly injected	364 (41.4%)
Usually/always publicly injected	363 (41.3%)
Age in years (mean, SD)	41.76 (12.1)
Gender	
Male	664 (75.5%)
Female	202 (23.0%)
Other	13 (1.5%)
Housing status	
Unhoused	739 (84.1%)
Housed	140 (15.9%)
Number of times shared syringes	
0	630 (71.9%)
1 - 5	165 (18.8%)
6 - 50	62 (7.1%)
51+	19 (2.2%)

Table 2. Negative binomial multivariate model regressing syringe sharing events on public injection frequency

Variable	Rate ratio	95% CI
Intercept	0.147	0.027, 0.849
Occasionally/sometimes publicly injected vs never	2.240	0.923, 5.154
Usually/always publicly injected vs never	5.439	2.204,12.774
Currently unhoused vs currently housed	0.510	0.223, 1.048
Female vs male	0.853	0.421, 1.853
Other gender vs male	0.334	0.054, 9.280
Age (1 year increase)	0.981	0.950, 1.013

CONCLUSIONS

- This analysis provides further evidence that injecting in public is associated with a higher proportion of syringe sharing events per injection.
- As homelessness is closely linked to public injection, there is an urgent need to scale-up housing services for PWID.
- This finding also highlights the need for safer environment interventions, such as supervised consumption sites, which 85% of PWID in SF reported they would use.⁶

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