

HIV SEROPOSITIVITY AND RISK BEHAVIORS AMONG DRUG USERS WHO OPERATE SHOOTING GALLERIES IN SAN JUAN, PUERTO RICO

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INTRODUCTION

Shooting galleries are places that provide the privacy and often the paraphernalia needed to inject drugs. Injecting in shooting galleries minimizes the time between drug acquisition and use, and users may receive support from drug injection peers. Shooting galleries are preferred places to inject drugs among Puerto Rican drug users residing on the island and the Northeast of the US (1). A street study of injection drug users in Puerto Rico showed that 80.9% reported the use of shooting galleries (2). However, HIV transmission seems to be facilitated by the shared use of injection equipment in shooting galleries (3-5).

Managers of shooting galleries may play a central role in the transmission of HIV because they enter in direct contact with a large number of IDUs, establish and enforce the rules of operations and behavior in the shooting galleries, and make available needles and syringes through lending, renting or selling. This study is an effort to elucidate under what conditions shooting galleries might be a contributing factor in the transmission of HIV. Specifically, the study seeks to assess the HIV seroprevalence and risk behaviors of drug injectors who manage shooting galleries.

Table 2. Drug Use and Injection Behaviors by Shooting Gallery Management Experience Among IDUs in Puerto Rico (N = 463)

	Shooting Gallery Managers				t-test p
	No		Yes		
	Mean	SD	Mean	SD	
Daily Crack Use	0.9	3.2	2.1	4.3	0.06
Years of Daily Drug Injection	9.8	9.5	13.2	9.0	0.01
Needle Risk (last 30 days)					
daily injections	7.5	6.8	12.1	8.1	<0.01
shared needles	15.9	70.9	40.2	115.9	0.12
shared cooker	29.6	100.3	80.1	184.4	0.05
lent used needles	11.9	59.9	29.6	109.1	0.23
gave money/taste to use needles	6.2	44.5	16.5	64.9	0.25
injection at shooting gallery	8.2	49.7	25.8	99.4	0.19
Protective Behaviors (last 30 days)					
use of new needles	46.9	73.0	88.4	138.2	0.03
cleansed needles with bleach*	7.6	40.0	12.3	27.6	0.47

* Excludes participants not reporting shared use of needles.

Table 2 compares the two groups in terms of drug use and injection risk behaviors. Mean frequency of daily crack use was higher among gallery managers. Mean years of daily drug injection was significantly higher among gallery managers (13.2 vs. 9.8). With regard to injection behavior variables, mean frequencies of drug injection and sharing cookers were significantly higher among gallery managers (12.1 vs. 7.5; 80.1 vs. 29.6, respectively). However, this group reported a higher mean frequency of use of new needles (88.4 vs. 46.9).

RESULTS

Of the total number of IDUs in this study (463), 12.5% were shooting gallery managers. On average, they had operated shooting galleries for 39.5 months (S.D. = 44.2). The majority of the galleries (89.7%) were located in private houses or apartments. (Please see Tables 1 through 3 for other results.)

DISCUSSION

Previous studies have shown that HIV transmission risks are increased in shooting gallery settings. Although our literature search detected reports of shooting galleries, we were unable to locate studies that examined the characteristics and behaviors of gallery managers.

Because gallery managers prescribe the rules and regulations of their business, they are in a key position to affect positively or negatively drug injection behavior. It is critical that we understand this position in the drug use social context.

This study shows that shooting gallery managers inject more frequently and share cookers more often, and are more likely to be HIV seropositive, anergic, and to report more suicide attempts and depression episodes than other IDUs.

The high prevalence of HIV in Puerto Rico, the relation of shooting gallery use with HIV seropositivity, and the findings of this study related to shooting gallery managers, point very clearly to the importance of helping shooting gallery managers utilize their position of power to promote safe injection behaviors.

Table 1. Sociodemographic Characteristics by Shooting Gallery Management Experience Among IDUs in Puerto Rico (N = 463)

	Shooting Gallery Managers		Chi-square p
	No n = 405 %	Yes n = 58 %	
Gender			
male	85.4	75.9	0.06
female	14.6	24.1	
Age			
less than 25 years	6.7	5.2	0.07
25 to 34 years	50.9	36.2	
35 or more years	42.5	58.6	
Education			
less than high school	64.4	61.4	0.66
high school	35.6	38.6	
Homeless	14.8	27.6	0.01
Incarceration History	71.1	82.8	0.06

Table 1 shows the sociodemographic characteristics. Although not statistically significant, the proportion of females is higher among gallery managers. Gallery managers reported significantly higher rates of homelessness when compared to IDUs who did not report gallery management (27.6% vs. 14.8%). Moreover, gallery managers reported a higher rate of incarceration history (82.8% vs. 71.1%).

METHODS

Sampling and Recruitment

The study catchment area comprised six core municipalities of the San Juan metropolitan area (San Juan, Carolina, Trujillo Alto, Guaynabo, Bayamón and Cataño). A cluster sample strategy was developed using copping areas as the primary sampling units. Copping areas were identified through the use of community outreach workers familiar with the targeted area and confirmed through on-site inspection by research staff. Copping areas within walking distance from each other were grouped into single units, resulting in 30 areas. Recruitment of participants within each copping area proceeded sequentially with two copping areas randomly selected in each month. In order to minimize selection biases due to time of day or day of the week, 34 one-hour blocks were randomly assigned to each area. On the designated time and day, outreach workers visited the selected area, estimated the number of drug buyers in the area, and randomly selected two users using standard Kish selection tables. Eligibility criteria included: 18 years of age or older, crack

or injection drug use in the previous 30 days, and not currently enrolled in drug treatment. All research procedures were approved by a local Institutional Review Board and informed consent was obtained prior to participation. Subjects agreeing to participate were compensated for the time spent in study interviews. The total sample recruited thus far consists of 463 IDUs and 253 crack users. In this report we have limited the study sample to the IDUs.

Measures - Study participants were administered two structural interview protocols: the Risk Behavior Assessment, developed jointly with other NIDA funded researchers, and a locally developed short instrument to assess utilization of shooting galleries and other risk factors potentially associated with Mycobacterium tuberculosis infection. The RBA ascertained information about risk/protective practices pertaining to the two broad risk categories of drug injection and sexual behavior. Risk behaviors related to drug injection included injection with needles used by someone else, shared use of needles in a shooting

gallery, shared use of cookers (utensils used to dissolve the drug in water by applying heat), lending used needles, and giving money or a taste in order to use needles. All questions regarding risk behaviors were asked of the thirty days prior to the interview and measured in terms of number of occasions (continuous measures). Participants were also asked if they had ever been in charge of operating a shooting gallery.

Recent drug use was confirmed through visual inspection of fresh track marks and urine toxicology tests (6). HIV serostatus was ascertained with the DuPont HTLV-III Elisa test (7). Specimens found to be reactive to two successive Elisa tests were submitted to a specific test using the Biotech/DuPont HIV Western Blot Kit (8). Moreover, drug users were also administered a PPD skin test and an anergy panel including three separate antigens (Mumps, Tetanus and Candida). All participants classified as Tuberculin reactors or anergic and HIV positives were referred to a TB control clinic for a complete evaluation.

Table 3 compares health status variables among the two groups. The HIV seropositivity rate was significantly higher among gallery managers than among other IDUs (58.2% vs. 41.2%). The anergy rate was also significantly higher among this group (39.7% vs. 26.9%). PPD reactive rate was slightly higher among gallery managers (24.2% vs. 17.5%). Although not statistically significant, gallery managers were more likely to report STDs and disability (15.3% vs. 20.7%; 13.8% vs. 20.7%, respectively). Gallery managers reported a significantly higher proportion of suicide attempts (31.0% vs. 16.8%) and a higher proportion of depression episodes lasting two weeks or more (36.2% vs. 24.5%).

Table 3. Health Status by Shooting Gallery Management Experience Among IDUs in Puerto Rico (N=463)

	Shooting Gallery Managers		Chi-Square p
	No n = 405 %	Yes n = 58 %	
Confirmed Laboratory Tests:			
HIV seropositive*	41.2	58.2	0.02
anergic	26.9	39.7	0.06
PPD reactive †	17.5	24.2	0.34
Self Reported:			
STD	15.3	20.7	0.30
disability	13.8	20.7	0.17
drug treatment experience	70.6	72.4	0.78
Mental Health			
suicide attempt	16.8	31.0	0.01
depression (2 weeks or more)	24.5	36.2	0.06

* Missing values = 20.

† Excludes anergics.

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