

# Gender Differences In Sexual Risk Behaviors And Seropositivity Among Young Non-injection Heroin Users



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## Introduction

During the last decade in Puerto Rico and the United States heroin users have increasingly adopted non-injection routes of heroin administration (Cite). The increase in non-injection heroin users has important implications for controlling the spread of the human immunodeficiency virus (HIV) and other blood-borne pathogens such as hepatitis B (HBV) and hepatitis C (HCV). However, non-injection heroin use, particularly among young adults (as is the predominant case in Puerto Rico) may be precursors to an increase in injection drug use either through initiation of newcomers to the practice or among those who resume injecting. An increase in transitions toward injection amongst currently non-injecting heroin users could cause an increase in overall IDU figures and thus an increase in HIV, HBV, and HCV. This would hold particularly serious consequences in Puerto Rico where injection drug use is the main HIV transmission category.

In Puerto Rico, as in the US and other parts of the world, HIV contracted through heterosexual transmission has increased significantly, particularly among non-drug injecting women. In the US minority women of African American or Latino descent suffer the consequences of HIV and AIDS more commonly than White women or drug using men. Previous studies among Puerto Ricans in New York and Puerto Rico showed that non-injecting drug using women residing in PR were more likely to seroconvert to HIV than non-injecting drug using women in New York. In an effort to understand the role gender in HIV risk behaviors we decided to examine a group of 632 non-injecting drug users in Puerto Rico

## Methods

This study is part of an ongoing parent project aimed at investigating transitions to injection drug use among heroin and cocaine users in the San Juan metropolitan area in Puerto Rico. To be eligible to participate in the study respondents had to be 18 years or older and have used heroin through non-injection administration routes recently (within 30 days) prior to the baseline interview and have never injected drugs. A total of 632 subjects had been invited to participate during the 2004-2005 years, with twenty-six subjects refusing and 63 failing to meet the eligibility criteria. For this study, subjects not using heroin (n=131) were excluded from the analysis. After giving their informed consent to participate in the study, respondents were administered a personal interview at the project field center. Upon completion of the interview respondents who consented to have their blood tested from HIV and STDs were counseled about these diseases and has their blood drawn by venipuncture by a trained nurse. Respondents were paid a small amount of money for their participation in the study. Individuals who tested positive for any of the STDs, including HIV, were referred to the relevant infection specialist in their system of care.

## Data Analysis

Frequency distributions and descriptive statistics were used in the study sample. Bivariate analysis using chi-square tests of independence were used to examine the association between gender differences, socio-demographics, characteristics, and drug use and sex risk related factors. A multiple regression model was fitted to identify drug and sexual risk related variables after adjusting for socio-demographics. All the statistical analyses were performed using SPSS version 11.5 (2002)

**Table 1**  
 Sociodemographic and health related characteristics of polydrug user by gender

Sociodemographic variables	Males n = 297 (83.2%)	Females n = 60 (16.8%)	p value
Age: less 21 years	112 (37.7)	20 (33.3)	
21-22 years	89 (30.0)	14 (23.3)	
23-25 years	96 (32.3)	26 (43.3)	.248
Had high school education	78 (26.3)	13 (21.7)	.284
Living alone	26 (8.8)	14 (23.3)	.003
Living w/o adults	27 (9.1)	19 (31.7)	.001
Living with parents	177 (59.6)	19 (31.7)	.001
Employment-formal	78 (26.3)	4 (6.7)	.001
Employment: Informal	243 (81.8)	38 (63.3)	.003
Has someone who would be supportive	283 (95.3)	50 (83.3)	.002
Incarceration-history	155 (52.2)	22 (36.7)	.034
Physically attacked	206 (69.4)	33 (55.0)	.036
Sexually attacked	10 (3.4)	23 (38.3)	.001
<b>Health related variables</b>			
HIV positive	1 (0.3)	2 (3.5)	.072
Tested for STD-ever	149 (50.2)	51 (85.0)	.001
STD positive	10 (3.4)	16 (26.7)	.001
Chlamydia	3 (1.0)	11 (18.3)	.001
Gonorrhea	1 (0.3)	3 (5.0)	.016
Syphilis	2 (0.7)	4 (6.7)	.008
Anemia	5 (26.3)	15 (71.4)	.010

## Results

### Background variables

**Table 1:** Women were more likely to live alone or with other adults than live with their parents or have someone supportive in their lives. Moreover, they were less likely than men to be employed (formal or informal), or have been incarcerated and more likely to be sexually attacked. Women fare poorly in health status because they were more likely to be HIV positive and STD positive (Chlamydia, gonorrhoea, syphilis) and anemic than men.

**Table 2:** shows drug use and sex related variables of polydrug users and heroin sniffers by gender. This table shows that women were more likely to use crack and heroin and live with an IDU sex partner and engage in commercial sex than men. Men were more likely to smoke marijuana and combine heroin with marijuana.

A series of logistic regression analyses were performed to identify the variables independently associated with non-risky sexual behaviors or condom use. Gender, age, and education were used as control variables. History of sexually transmitted diseases, sexual attacks, and incidences of having had sex with an IDU were used as independent variables. No significant gender differences for condom use frequency were observed. However, having a high school education and a history of sexually transmitted diseases were noted as significant variable in all sets of logistics regression analyses. Those with a high school education were nearly three times more likely to always use a condom with any type of sexual partner (OR=2.8, CI=1.2-6.7; OR=2.9, CI=1.2=6.7). Those with a history of sexually transmitted diseases were three and a half times more likely to always use a condom with a primary partner (OR=3.6, CI=1.0-12.8) and were five times more likely to always use a condom when with multiple sexual partners (OR=5.0, CI1.4-17.4; OR=5.0, CI=1.4-17.5).

**Table 2**  
 Drug use and sex related variables of polydrug user by gender

Drug use variables	Males n = 297	Females n = 60	p value
<b>Drug use related variables</b>			
Someone at home injected drugs	9 (3.0)	9 (15.0)	.001
Met IDUS in Drug Tx	66 (22.2)	22 (36.7)	.022
Marihuana daily	209 (70.4)	33 (55.0)	.023
Crack daily	76 (25.6)	31 (51.7)	.001
Heroin w crack – 30 days	76 (25.6)	30 (50.0)	.001
Crack w heroin-30 days	57 (44.5)	26 (68.4)	.016
Heroin w marihuana-30 days	166 (55.9)	24 (40.0)	.033
<b>Sex related variables</b>			
Primary Sex Partner	180 (60.6)	26 (43.3)	.015
Commercial Sex Partner	8 (2.7)	12 (20.0)	.001
Commercial Sex –ever	16 (5.4)	13 (21.7)	.001
Had IDU sex partner	2 (0.7)	8 (13.3)	.001
Had IDU sex partner-ever	5 (1.7)	6 (10.0)	.004
Live w IDU sex partner	0 (0.0)	3 (5.0)	.005

## Conclusions

In this new aspect of the AIDS epidemic where heterosexual relations are the primary risk factor for contracting HIV Puerto Rican non-injecting drug using women are increasingly at risk of contracting HIV and other STDs through unsafe sex practices. Researchers need to conduct longitudinal intervention studies with larger samples of non-injection drug using women in order to provide Puerto Rico with the information needed to develop an intervention model particularly designed to help women do their part to reduce the island's self-sustaining AIDS epidemic.

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