Gender-Specific Factors Related to HIV Risks Among People Who Inject Drugs in India

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Background

- India is home to 168,000-1.1 million people who inject drugs (PWID), with high risk for HIV infection and transmission[1].
- Females who inject drugs are disproportionately affected by HIV.
- A recent study among 14,481 people who inject drugs, the odds of HIV-infection were over 3 fold higher in women than men.[2]
- Factors that increase HIV risk among men who inject drugs may differ from factors that increase HIV risks among females who inject drugs.
- Gender-informed HIV prevention approaches among people who inject drugs require understanding of the factors that are differentially associated with HIV risks in males and females who inject drugs.

Purpose

- Using a socio-ecological framework, this study identified factors at individual, relationship, and community levels that were differentially or similarly associated with HIV risk behaviors in males and females who injected drugs in India.

Methods

- A secondary analysis of cross-sectional, baseline data collected from people who inject drugs (PWID; N=6449) in 7 cities in North-east India
- The cities in the North-East were Aizawl, Churachandpur, Dimapur, Gangtok, Imphal, Lungleii and Mureh.
- Participants were recruited using a respondent-driven sampling methodology.
- Eligibility Criteria: 18 years or older and self-report injection drug use in prior 24 months.
- Participants completed an interviewer-administered survey and point-of-care HIV testing.

- Multi-level logistic regression models were used that included random intercepts for each site (to account for site to site variability) and scaled RDS-II weights.
- Separate univariate and multivariate models were constructed for each HIV risk outcome to test the independent associations of social ecological variables with two outcomes: sexual and drug related HIV risk behaviors.
- The sexual HIV risk behavior included multiple recent sex partners (i.e., two or more sex partners in the past 6 months).
- The drug related HIV risk behavior included sharing of needles/syringes in the past 6 months.

- Socio-ecological variables with p<=0.10 in univariate models were selected for inclusion in gender-stratified multivariate models.
- In separate models, we tested for gender interactions .constructing separate models for each outcome.

Results

Table 1: Sample Characteristics

	Men % (N)	Women % (N)	p
Total (%)	84.1 (5653)	15.9 (796)	
INDIVIDUAL			
Age, years (Mean M)	29.7	30.5	0.22
Age of First Injection Drug Use (M)	21.0	22.5	0.13
Education (%)			
Primary School or Less	24.7 (1062)	29.8(243)	0.18
Secondary School	53.1 (3023)	56.6 (439)	
High School or Beyond	22.1 (1568)	13.5 (113)	
Employment (%)			
Employed	**72.0 (4102)**	**52.0 (520)**	<0.001
Unemployed	**27.9 (1551)**	**47.9 (276)**	
Frequency of Financial Stress (%)			
Less than monthly	37.4 (2149)	31.7 (260)	0.27
Monthly or more frequently	62.5 (3166)	68.2 (481)	
Psychological (%)			
Depressed	38.2 (1853)	38.3 (306)	0.95
HIV Status(%)			
HIV negative	**81.6 (4521)**	**47.0 (427)**	
HIV-positive	**18.4 (1132)**	**53.0 (368)**	<0.01
RELATIONSHIP/INTERPERSONAL			
Relationship Status (%)			
Not currently in relationship	50.6 (2970)	44.5 (413)	
Currently in relationship	49.3 (2682)	55.4 (383)	0.07
COMMUNITY AND INSTITUTIONAL			
Social Support (Mean)	3.43	3.29	0.37
Stigma (Mean)			
Enacted Stigma	0.36	0.25	0.13
HIV RISK BEHAVIORS			
Multiple recent sex partners TOTAL	12.8 (748)	7.6 (113)	0.30
HIV negative	13.3 (649)	8.6 (63)	0.19
HIV-positive	10.7 (99)	6.7 (50)	0.45
Recent Needle Sharing TOTAL	24.9 (2131)	18.9 (272)	0.16
HIV negative	25.5 (1794)	26.3 (169)	0.83
HIV-positive	22.3 (337)	12.4 (103)	0.12

Table 2. Multivariate Logistic Regression Model

Independent Variables	Multiple recent sex partners AOR (CI)		Recent Needle/Syringes Sharing AOR (CI)	
	Women	Men	Women	Men
Age (per 5 years)	0.83 (0.57-1.20)	0.91 (0.77-1.07)	**0.78 (0.65-0.94)****	0.89 (0.77-1.01)
Age of first injection drug use	-	0.91 (0.76-1.09)	-	0.89 (0.75-1.06)
Education				
Secondary School	-	0.91 (0.77-1.08)	-	**0.68 (0.48-0.96)***
High School/Beyond		0.72 (0.46-1.12)		**0.49 (0.28-0.88)***
Primary School/Less (Ref)				
Employment (%)				
Employed	-	**1.35 (1.06-1.72)***	-	
Unemployed (Ref)				
HIV Status		-		
HIV positive	-		-	0.79 (0.56-1.11)
HIV-negative (ref)				
Depression	2.19 (0.97-4.90)	1.46 (0.99-2.16)	0.98 (0.71-1.34)	**1.42 (1.14-1.75)****
Relationship Status				
In relationship	**0.33 (0.18-0.62)****	1.09 (0.76-1.59)	-	**0.68 (0.51-0.91)****
Not in relationship (Ref)				
Stigma				
Enacted Stigma	**1.16 (1.08-1.48)*****	-	**1.07 (1.02-1.12)****	

Results and Implications

- Socio-ecological correlates of HIV risk factors may differ in men and women.
- Among individual-level factors:
  - Younger age was associated with increased needle sharing among women.
  - Among men, low education and depressive symptoms were associated with greater likelihood of needle-sharing.
- Among relationship factors:
  - Women in current relationship were less likely to report multiple recent sex partners compared to those who were not in relationships.
  - Men currently in relationships were significantly less likely to report recent needle-sharing than those who were not in relationships.
- . Among community-level factors:
  - Experiences of enacted stigma were significantly associated with multiple sex partners and needle sharing among women, but not among men.
- For multiple sex partners, we found significant interaction between gender and stigma, and gender and relationship status. (*p*<0.05)
- For recent needle sharing, we found significant interaction between gender and education (*p*<0.05)
- HIV prevention and intervention services should consider factors at individual, relationship- and community-levels that uniquely impact HIV risks among women and men PWID in India.
- There is need for contextually-integrated and gender-specific prevention and intervention efforts among PWID in India.

Acknowledgments

References

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