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Syndemic Conditions Reinforcing Disparities in HIV and other STIs in an Urban sample of Behaviorally Bisexual Latino Men

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Abstract

Syndemics research has made great contributions to understanding sexual risk among Latino men who have sex with men. However, such work often combines data for behaviorally bisexual men with data for men with exclusively same-sex partners. Using cross-sectional data from 148 behaviorally bisexual Latino men, this study explored the impact of syndemic factors - polydrug use, childhood sexual abuse, and depression - on sexual risk behaviors and STI incidence. Approximately one-third of participants reported polydrug use, 22% reported childhood sexual abuse, and 26% screened for clinically significant depressive symptoms. An increase in syndemic factors was associated with increased odds of lifetime STI incidence and condomless receptive anal intercourse with men; however, the model did not predict condomless insertive anal intercourse with men or condomless vaginal intercourse. More efforts are needed to explore the varying mechanisms, including but not restricted to the combined impact of syndemic conditions, that influence sexual risk in this population.

Keywords

behaviorally bisexual Latino men; HIV sexual risk; STIs; syndemics

Latino men who have sex with men (MSM) face numerous health disparities, and have been identified as a priority population for targeted research and interventions. HIV risk constitutes a major problem. Latinos accounted for 23% of new HIV diagnoses in 2013, despite comprising only 18% of the United States population; 81% of those diagnoses were among MSM (1). Although prior research with this population has provided invaluable insights regarding sexual risk and opportunities for intervention, studies have consistently grouped behaviorally bisexual men (i.e., men who have sex with men and women) together with men who have exclusively same-sex partners. This is problematic, given that sexual risks vary between these subpopulations; for example, condomless vaginal intercourse is a concern for the former, but not the latter, and is very rarely incorporated as an outcome in studies of risk behavior among MSM (2).

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Syndemic theory has been productive for assessing sexual and other risk behaviors among MSM. This approach directs researchers to consider the combined influence of multiple psychosocial conditions (e.g., depression, exposure to violence), rather than the isolated impact of different factors (3–5). Indeed, multiple social, cultural, and environmental factors have been attributed to HIV risk and STI incidence among behaviorally bisexual Latino men (6–8). However, these have not been fully analyzed using a syndemic theoretical framework. This study contributes to the literature on sexual risk among Latino MSM through providing a syndemic analysis of STI incidence, condomless anal intercourse, and condomless vaginal intercourse that is specific to behaviorally bisexual Latino men.

Methods

Recruitment

Data were collected from August 2009–September 2011. Sampling occurred in four zones of predominantly Latino neighborhoods in New York City (The Bronx, Queens, Washington Heights and Inwood), and in New Jersey (Newark and Jersey City). Recruitment took place in a variety of venues including workers' organizations, religious communities, MSM-associated venues including bars and community internet sites, and clinical sites such as health clinics. Participants were eligible if they met the following criteria: age (18–60 years), sex (male), ethnicity (Latino descent), and recent sexual encounters with women and men (bisexually active in the last six months; it was not necessary to identify as "bisexual"). Data were collected for a larger investigation of risk and protective factors among HIV negative behaviorally bisexual Latino men; consequently, only HIV negative individuals were recruited.

Prospective participants had the option of calling, emailing the study recruiter, or visiting the study's internet recruitment page to begin the screening process. The recruitment website asked individuals to consent to participate in the confidential automated screening, after which they were directed to a 5-minute questionnaire to determine eligibility, available in Spanish and English. Those who met eligibility criteria were asked to schedule an in-person interview. Of 258 potential participants screened, 148 met inclusion criteria and completed interviews.

Survey measures

Demographic characteristics—Demographic characteristics included annual income and formal education (less than high school, high school or GED, some college, and bachelor's or higher). As indicated above, all participants were behaviorally bisexual Latino men, HIV negative, between 18–60 years old.

Sexual HIV risk behaviors

Participants reported the number of condomless insertive and receptive anal intercourse episodes in the past two months with their primary male partners, as well as the number of condomless vaginal intercourse episodes in the past two months with their primary female partners.

Lifetime sexually transmitted infection incidence

Participants reported whether they had ever tested positive for STIs (Hepatitis B, Hepatitis C, genital herpes, genital warts, syphilis, and other STIs).

Polydrug use

Polydrug use was defined as the use of 3 or more recreational drugs in the past 120 days (9). Substances included marijuana, ecstasy, ketamine, powdered cocaine, GHB, methamphetamine, LSD, PCP, mushrooms, crack cocaine, heroin, and steroids; and non-prescribed use of pain killers such as Vicodin, sedatives such as Valium, stimulants such as Ritalin, and erection pills such Viagra.

Childhood sexual abuse

Participants were asked whether they had experienced any sexual activity before the age of 13. Those who answered “yes” were then asked whether the other person was 4 or more years older. All participants who answered “yes” to this follow-up question were classified as having experienced childhood sexual abuse (CSA).

Depressive symptoms

Depressive symptoms were assessed via the depression subscale of the Brief Symptom Inventory, which consists of six items asking participants to report on various symptoms using a scale ranging from 0 (not at all) to 4 (extremely). We used a cutoff of .80. The BSI depression subscale is highly correlated with DSM-IV diagnostic criteria for Major Depressive Disorder (10).

Syndemic factors scale

Drawing on previous syndemics research, we produced a syndemics scale reflecting total reports of polydrug use, childhood sexual abuse, and depression (4, 5, 9). Scores ranged from 0 (no factors) to 3 (all factors). Due to sample size concerns, participants reporting 2 and 3 factors were collapsed into a single category.

Data Analysis

The syndemic factors scale was incorporated as the main independent variable, with condomless insertive anal intercourse with men, condomless receptive anal intercourse with men, condomless vaginal intercourse with women, and lifetime STI incidence as dependent variables. Bivariate logistic regressions initially explored associations between the syndemics scale and each outcome. Finally, multivariable logistic regression models were constructed controlling for income and education. As all participants shared the same sexual orientation (behaviorally bisexual), sex (male), ethnicity (Latino), and HIV status (negative), there was no need to control for these variables. A total of 143 participants, 97% of the original sample, provided data for all measures. Rather than impute missing values to accommodate such minor data loss, we retained only those participants with data for all measures for multivariable analysis.

Human subjects approval

This study was approved by the Columbia University Institutional Review Board (CUMC IRB AAAE0494) and the Temple University Institutional Review Board (IRB #20641).

Results

Table 1 provides sample characteristics. More than 40% of participants reported an annual income below $10,000, and only 25% reported $30,000 or more. One third of participants had not completed high school (n=45, 31%), and 17% had earned at least a bachelor's degree. Over half of the sample (56%) reported at least one act of condomless insertive or receptive anal intercourse with primary male partners or condomless vaginal intercourse with primary female partner in the past two months. One-fifth (20.95%) reported at least one STI diagnosis in their lifetime. Almost one-third reported polydrug use (31.08%), 22% reported childhood sexual abuse, and one-quarter screened for clinically significant depressive symptoms (n=38, 26%). Most participants reported at least one syndemic condition (56%), and 21% reported two or more.

Sexually transmitted infections

In bivariate analysis, relative to the participants reporting no syndemic conditions, participants who reported one factor were significantly more likely to report at least one prior STI diagnosis (OR=2.80, SE=1.38, $p<.05$), and participants who reported two or three factors were marginally more likely (OR=2.86, SE=1.57, $p<.10$). When controlling for income and education, this pattern reversed. Participants with one factor were marginally more likely to report an STI diagnosis (aOR=2.66, SE=1.33, $p<.10$), and those with two or more factors were significantly more likely to do so (aOR=3.18, SE=1.78, $p<.05$).

Condomless intercourse with primary partners

In bivariate and multivariable analyses, participants who reported two or three syndemic factors were significantly more likely to report receptive condomless anal intercourse with their primary male partners than those who reported none (OR=7.14, SE=4.60, $p<.01$; aOR=7.09, SE=4.67, $p<.01$). In multivariable models, participants reporting two or three factors were marginally more likely to report insertive condomless anal intercourse with primary male partners (aOR=2.37, SE=1.22, $p<.10$). No significant differences were found for condomless vaginal intercourse with primary female partners.

Discussion

Study findings confirm a high prevalence of psychosocial conditions among behaviorally bisexual Latino men. The syndemic approach used here facilitated an assessment of the combined effects of polydrug use, childhood sexual abuse, and clinically significant depressive symptoms on STI incidence and sexual risk behaviors. Notably, while this model was effective for predicting STI incidence and reports of condomless receptive anal intercourse, it was not effective for predicting condomless insertive anal intercourse or condomless vaginal intercourse. It may be that different psychosocial conditions would have accounted for more variation in sexual risk behaviors. Alternatively, it may be that different

models are needed to account for different types of sexual risk taking among behaviorally bisexual Latinos.

Our study has several limitations. First, findings must be taken as exploratory given the cross-sectional approach and sample size. Second, the sample was comprised of behaviorally bisexual Latino men in two major urban epicenters; therefore, we cannot generalize these findings to all bisexual Latino men. Third, as indicated above, it may be that different syndemic conditions would have been more effective in predicting sexual risk in this population. Fourth, due to data limitations (informed by the goals of the larger study concerning HIV risk and protective factors among HIV negative behaviorally bisexual Latinos), it was only possible to assess condomless intercourse in primary relationships. Subsequent studies should assess risk within and beyond such partnerships, particularly in regards to the relative utility of syndemic approaches for explaining variation in safer sex practices.

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Table 1

Descriptive Characteristics.

	M (SD) or N (%)
Annual Income	**$11,637 (16091)**
$0–4,999	35 (24%)
$5,000–9,999	25 (17%)
$10,000–14,999	17 (12%)
$15,000–19,000	18 (12%)
$20,000–29,000	15 (10%)
$30,000–39,000	21 (15%)
$40,000–49,000	8 (6%)
$50,000 or more	6 (4%)
Education (n=145)	
Less than High School	45 (31%)
High School or GED	39 (27%)
Some College	37 (26%)
Bachelor's or Higher	24 (17%)
Condomless Vaginal or Anal Intercourse with Primary Partners	83 (56%)
Condomless Anal Intercourse with Primary Male Partner	
Receptive (any in last 2 months)	20 (14%)
Receptive (frequency in last 2 months)	0.49 (1.85)
Insertive (any in last 2 months)	35 (24%)
Insertive (frequency in last 2 months)	0.98 (2.61)
Condomless Vaginal Intercourse with Primary Female Partner	
Any in last 2 months	70 (47%)
Frequency in last 2 months	3.26 (10.69)
Lifetime STI Incidence	31 (20.95%)
Ever Tested Positive for Hepatitis B	3 (2.03%)
Ever Tested Positive for Hepatitis C	5 (3.38%)
Ever Tested Positive for Genital Herpes	9 (6.08%)
Ever Tested Positive for Genital Warts	9 (6.08%)
Ever Tested Positive for Syphilis	9 (6.08%)
Ever Tested Positive for Other STI	14 (9.46%)
Illicit Substance Use in Past 4 Months	
Total Number of Substances	2.95 (4.57)
0 Illicit Substances	43 (29.05%)
1 Illicit Substance	39 (26.35%)
2 Illicit Substances	20 (13.51%)
Polydrug Use: 3+ Illicit Substances	46 (31.08%)
Childhood Sexual Abuse	33 (22%)
Depression (n=144)	38 (26%)
Syndemic Scale	

	M (SD) or N (%)
Annual Income	**$11,637 (16091)**
0 Factors	64 (44%)
1 Factor	49 (34%)
2 Factors	25 (17%)
3 Factors	6 (4%)

N=148, unless otherwise specified.

Syndemic factors include polydrug use, childhood sexual abuse, and depression.

Table 2

Logistic Regressions of STI Incidence and Condomless Intercourse

	Unadjusted		*Adjusted*	
	OR	**SE**	**OR**	**SE**
STI Incidence				
1 Factor	2.80*	1.38	2.66†	1.33
2 or 3 Factors	2.86†	1.57	3.18*	1.78
Condomless Anal Intercourse, Receptive				
1 Factor	2.09	1.41	2.08	1.42
2 or 3 Factors	7.14**	4.60	7.09**	4.67
Condomless Anal Intercourse, Insertive				
1 Factor	1.93	0.88	1.84	0.85
2 or 3 Factors	2.29	1.16	2.37†	1.22
Condomless Vaginal Intercourse				
1 Factor	0.92	0.35	0.89	0.35
2 or 3 Factors	1.57	0.69	1.81	0.82

N = 143. Adjusted models control for income and education.

* p<.05,

** p<.01,

† p<.10