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Recent partner violence and sexual and drug-related STI/HIV risk among adolescent and young adult women attending family planning clinics

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Abstract

Background/Objectives—Adolescent and young adult women are at high risk for both STI/HIV and intimate partner violence (IPV). We evaluate the prevalence of IPV in the past three months and its associations with STI/HIV risk, STI, and related care-seeking over the same time period.

Methods—Female family planning clinic patients ages 16–29 (n=3,504) participated in a cross-sectional survey in 2011–2012 as a baseline assessment for an intervention study. We examined associations of recent IPV with sexual and drug-related STI/HIV risk behavior, self-reported STI, and STI-related clinical care seeking via logistic regression.

Results—Recent physical or sexual IPV (prevalence 11%) was associated with recent sexual and drug-related STI/HIV risk, specifically unprotected vaginal sex (AOR 1.93, 95% CI 1.52, 2.44),

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unprotected anal sex (AOR 2.22, 95% CI 1.51, 3.27) and injection drug use, both their own (AOR 3.39, 95% CI 1.47, 7.79) and their partner's (AOR 3.85, 1.91, 7.75). IPV was also linked with coercive sexual risk: involuntary condom non-use (AOR 1.87, 95% CI 1.51, 2.33), and fears of requesting condoms (AOR 4.15, 95% CI 2.73, 6.30) and refusing sex (AOR 11.84, 95% CI 7.59, 18.45). STI-related care-seeking was also more common among those abused (AOR 2.49, 95% CI 1.87, 3.31).

Conclusions—Recent IPV is concurrent with sexual and drug-related STI/HIV risk, including coercive sexual risk, thus compromising women's agency in STI/HIV risk reduction. Clinical risk assessments should broaden to include unprotected heterosexual anal sex, coercive sexual risk, and IPV, and should promote safety and harm reduction.

Keywords

intimate partner violence; sexual risk; injection drug use; STI/HIV risk; adolescent

Introduction

Adolescents and young adults remain disproportionately burdened by STI/HIV, accounting for over half of new sexually transmitted infections (STI),¹ and over one in four new HIV infections.² Young women in particular are highly affected; those ages 15–24 demonstrate the highest rates of Chlamydia and gonorrhea,¹ with over 750,000 cases of Chlamydia reported for U.S. women ages 15–24 in 2011 alone.³ Young women also experience the highest rates of physical and sexual intimate partner violence (IPV),^{4–6} with recent national data confirming that over two thirds of those exposed to partner violence report that the first such incident occurred before the age of 24 years.⁴

IPV has emerged as a consistent STI/HIV risk factor for both adolescent and adult women;^{7–9} prospective research strongly indicates a causal linkage of IPV with incident STI/HIV infection.^{10–12} Associations of IPV with sexual risk behavior, including unprotected sex and multiple and concurrent partnering, are, in part, responsible for the links of violence with STI/HIV. For example, qualitative and quantitative data alike demonstrate that IPV and the threat of abuse can undermine women's ability to ensure successful condom use and refuse unwanted sex.^{8, 13–15} While relatively understudied as a correlate of violence, heterosexual anal intercourse has emerged as a prevalent HIV risk factor;¹⁶ its transmission efficiency¹⁷ affirms the need to similarly evaluate potential links with IPV. To date, gendered power imbalances, coercive and violent dynamics have been implicated in heterosexual anal intercourse.^{13, 14, 15, 18, 19} Violence is also closely associated with substance use, including injection drug use,^{20–23} which both directly causes HIV infection and increases risk through unsafe sex that is more likely in the context of substance use. Violence can be particularly influential for drug involved women, as abuse and the threat of violence undermine both sexual and drug-related HIV prevention.^{24, 25} So too, women may turn to substance use, including injection drug use, as a maladaptive coping mechanism in the face of violence.²⁵

Much of this past work has focused on the HIV-related risks imparted by a history of abuse, with evidence that violence can impart a *trajectory* of subsequent sexual risk-taking,^{8, 26, 27}

lower women's perceived control in sexual relationships, prompt fear of subsequent condom negotiation, and heighten vulnerability to coercive sexual risk.^{15, 28} Yet qualitative evidence also illustrates the potential for STI/HIV risk behavior and IPV to *co-occur* within relationships, with perpetrators using violence and threats of abuse to garner women's compliance with unwanted and unprotected sex.^{29–33} Clarifying the extent to which women's IPV experiences are concurrent with sexual and drug-related STI/HIV risk is critical to understanding the interwoven epidemics of IPV and STI/HIV. Such research is particularly important in health care settings most likely to encounter those affected. The high burden of IPV among patient populations that seek sexual and reproductive health services^{34–36} renders family planning clinics one such critical research and intervention setting. Sexual and reproductive health providers also stand to serve a crucial role in intervention, through patient risk assessment and risk reduction at the intersection of violence and sexual health.

To inform these gaps, we sought to evaluate the prevalence of IPV in the past 3 months and its associations with sexual and drug-related STI/HIV risk and related care-seeking over this same time period in a sample of adolescent and young adult female family planning patients. These data allow a new understanding of the concurrence of IPV with sexual and drug-related STI/HIV risk.

Methods

Data

A cross-sectional survey that served as baseline data for a prospective study was conducted among English- and Spanish-speaking females ages 16 to 29 years seeking care at one of 24 free-standing Title X family planning clinics in Western Pennsylvania. Data were collected between October 2011 and November 2012. Upon arrival, all women were screened for age eligibility by trained research staff. Eligible women interested in participating were escorted to a private area in the clinic for consent and survey administration. As participants were receiving confidential services, parental consent for participation was waived for minors.

Data were collected via Audio Computer Assisted Survey Instrument, a self-administered program that allows participants to complete surveys on a laptop computer with questions read aloud through headphones. Materials were in English or Spanish based on patient preference; materials were developed in English, professionally translated to Spanish, and back translated to English to check for accuracy. At the conclusion of the survey, participants were offered a resource sheet of local social services and received a \$15 prepaid debit card to thank them for their time. Further details have been described elsewhere.³⁷ All study procedures were reviewed and approved by Human Subjects Research Committees at the University of Pittsburgh. Data were protected with a federal Certificate of Confidentiality.

These procedures generated a total of 3,682 participants; for the current analyses the sample was further restricted, with women reporting never having sex (n=69) and women reporting primarily same-sex sexual partnerships (n=74) removed, as well as those providing incomplete data on IPV (n=35), resulting in a total analytic sample of 3,504.

Measures

All measures were self-reported. Single items assessed demographic characteristics, including age, race, education, and relationship status. Intimate relationship partners were defined as persons the respondent reported “dating or going out with.” All exposures and outcomes were assessed using a referent time period of the past 3 months. The primary exposure of interest, physical or sexual IPV was measured via three items modified from the Conflict Tactics Scale-2 (CTS-2) and the Sexual Experiences Survey,^{38, 39} specifically, “hit, pushed, slapped, choked or otherwise physically hurt”, “used force or threats to make you have sex (vaginal, oral, or anal sex) when you didn't want to?”, and “made you have sex (vaginal, oral, or anal sex) when you didn't want to, but didn't use force or threats?” Outcomes of interest were assessed via single items. Standard assessments were used for unprotected vaginal sex, anal sex, and unprotected anal sex, as well as self and partner use of injection drugs. Other sexual risk behaviors included condom non-use against her will (i.e. “how many times have you had sex without a condom when you wanted to use one?”), fear of condom request (i.e. “have you been afraid to ask your partner to use a condom?”), fear of refusing sex (i.e. have you been afraid to refuse sex with a sex partner?”). Participants were asked to self-report their history of STI over the past 3 months (“have you been told by a doctor or other health care professional that you had an STD such as Chlamydia, gonorrhea (also known as the clap), syphilis, herpes, genital warts, Hepatitis B, or crabs”). Participants also reported their primary reason for attending the clinic on the day of the survey; those indicating STI testing or treatment were classified as having sought STI-related care.

Analysis

Prevalence of recent IPV was calculated and differences across demographic characteristics were tested via Wald Log-Linear Chi Square tests for clustered survey data with significance set at $P < 0.05$. Estimates of the prevalence of recent sexual risk and drug injection behaviors are reported for the total sample, and by exposure to recent IPV. Logistic regression models for clustered survey data were specified to account for clinic-level clustering and statistically adjusted for demographic characteristics, including age, race, education, and relationship status. To preserve analytic power, small amounts of missing data on demographic characteristics (<2%) were recoded to the mean value; and the effective sample size was allowed to fluctuate in cases of missing data for outcomes of interest (<2%). All statistical analyses were conducted in SAS, Version 9.3.

Results

In this sample of family planning clinic patients, over one third were ages 16–20 (36.8%), 80.8% were white, and slightly more than half (54.4%) had at least some college education (Table 1). One third of the sample were single, while 59.6% reported being in a serious relationship. Recent IPV was reported by 11.0%, with significant demographic differences observed. This violence was most prevalent among those ages 16–20 (14.4%), and among multi-racial women (20.8%). Recent IPV prevalence was highest among women with less than a high school education (16.0%) and women who reported their relationship status as single or dating (13.2%).

More than two-thirds (68.2%) of the sample reported engaging in unprotected vaginal sex in the past 3 months (Table 2). One in ten (10.0%) women reported recent anal sex and 8.4% of women had recent unprotected anal sex, i.e., the majority of recent anal sex was unprotected. Women with histories of recent IPV were more likely than those who did not experience IPV in the past 3 months to engage in unprotected vaginal sex (AOR 1.93, 95% CI 1.52, 2.44), anal sex (AOR 2.17; 95% CI 1.49, 3.16), and unprotected anal sex (AOR 2.22, 95% CI 1.51, 3.27). Women with recent histories of abuse were also more likely to report being forced to have sex without a condom (AOR 1.87, 95% CI 1.51, 2.33), an outcome reported by one-fifth (21.9%) of the sample. Those in recent abusive relationships were more likely to report fear of condom requests (AOR 4.15, 95% CI 2.73, 6.30) and fear of refusing sex (AOR 11.84, 95% CI 7.59, 18.45). So too, significantly greater levels of recent injection drug use (AOR 3.39, 95% CI 1.47, 7.79) and having a partner who recently used injection drugs (AOR 3.85, 95% CI 1.91, 7.75) were identified based on recent IPV exposure.

Over a tenth (11.2%) of the sample reported coming to the clinic for STI testing or treatment, which was significantly more common for women with recent IPV (AOR 2.49; 95% CI 1.87, 3.31). Recent STI diagnosis was reported by 3.8%; difference in prevalence based on IPV exposure (6.4% vs. 3.5%) attenuated to a nonsignificant trend in the adjusted model (AOR 1.67, 95% CI 0.98, 2.87).

Discussion

Findings confirm high, recent, interrelated and concurrent burdens of IPV, STI/HIV risk, including coercive sexual and condom-related risk, among adolescent and young adult female family planning clinic patients. Recent IPV was significantly associated with sexual and drug-related risk, including unprotected vaginal and anal sex, coerced unprotected sex, as well as injection drug use. Likely as a result, IPV also related significantly to STI care-seeking. Findings build on prior reports,^{10, 15, 40–42} including prospective studies illustrating a longitudinal association of violence with STI/HIV risk²⁷, i.e., a *trajectory* pathway, by confirming an additional pathway of *concurrency* of IPV with sexual and drug-related risk. Specifically, adolescent and young adult women's experiences of IPV are not only related, but are often *simultaneous* with STI/HIV risk behavior. These data further affirm that mitigating the disproportionate burden of STI among young women¹ requires addressing the potential for physical harm as well as coercive sexual risk (e.g., fear of condom negotiation) in STI/HIV prevention and intervention efforts. Recent intervention evidence illustrates the value of clinical screening for violence and related reproductive coercion in the context of harm reduction and referral to violence support services;⁴³ current findings suggest the value of expanding this type of intervention approach to address STI/HIV risk and coercion that specifically inhibits STI/HIV risk reduction. That those exposed to IPV were more likely to present for STI-related clinical services further suggests the likely utility of such an intervention in family planning clinics as well other sexual health services. Referral to violence support services are critical components in the clinical response to IPV. While leaving an abusive relationship, even temporarily through shelter services, is often the desired outcome for patient safety, providers should maintain empathetic and hold realistic expectations in supporting patients to make the right decisions for themselves, as the

separation process is often lengthy with innumerable barriers⁴⁴ and heightened homicide risk⁴⁵

Current evidence of a two-fold increased risk for recent unprotected anal intercourse based on recent IPV is particularly relevant, and echoes past evidence linking lifetime IPV and sexual coercion with anal intercourse.^{15, 46} Growing awareness of the prevalence and STI/HIV transmission efficiency related to heterosexual anal intercourse^{16, 17} has prompted calls for routine assessment for anal intercourse.⁴⁷ These findings affirm the need to broaden sexual risk assessment and risk reduction counseling to include heterosexual anal intercourse, particularly in family planning clinics which have historically focused exclusively on sexual behavior that relates to pregnancy risk. These findings also suggest that, within such sexual risk assessment, it is critical to address the potential for violence and coercion in the context of unprotected anal intercourse.

Findings also illustrate the need to address young women's agency or control in sexual decision-making in abusive relationships in the context of STI/HIV risk reduction. One in five participants experienced condom non-use against their will in the past three months, with significantly elevated risk for this exposure among those in abusive relationships. Partner violence also elevated risk for women's reports of fearing both condom requests and refusing sex. These data highlight the challenges of STI/HIV risk reduction through condom promotion among young women; provision of condoms and condom promotion should be accompanied with an acknowledgement that condom use is not always within women's control, and probes for related patient concerns and for current partner abuse. As condom promotion alone may not be sufficient in reducing young women's STI/HIV risk, it is essential to ensure access and connection to STI/HIV testing and treatment across multiple care settings, including non-clinical services for abused women, to fully support the health needs of women in abusive relationships. Where possible, harm reduction strategies such as supporting women to negotiate lower-risk sexual activity may be valuable.

Providers working with abused women in crisis-based and long-term counseling should be aware of the heightened STI/HIV risk among their clients, including unprotected anal intercourse, coercive sexual risk and condom practices, and injection drug use of both abused women and their partners. Given these data, it is essential to support strong referral networks among STI/HIV clinics, needle exchange services, family planning clinics, and violence-related crisis/counseling programs to create a system of care that is responsive to STI/HIV risk, and the counseling and support needs that stem from IPV.

Finally we note that the impact of the elevated STI/HIV risk identified among those in abusive relationships is likely amplified by the STI/HIV risk behaviors enacted by their partners; prior reports illustrate that abusive men engage in greater sexual risk behavior and are more likely to be STI/HIV infected.⁴⁸⁻⁵¹ Current findings illustrating elevated STI/HIV risk to women in abusive relationships are best considered in the context of the broader literature, including evidence that violence can undermine safe and successful STI/HIV partner notification,^{52, 53} and that violence and other life stressors can compromise treatment uptake and adherence, and advance disease progression.⁵⁴⁻⁵⁷ Taken together, these data argue for a fuller consideration of the impact of IPV across the HIV treatment cascade.

Findings should be considered in light of several limitations. All data were self-reported; despite the use of self-administered computerized data collection, responses may be subject to social desirability biases, recall biases and other sources of inaccuracy. While our use of a clinical sample may enhance the accuracy of self-reported STI data in that participants are receiving routine medical care, reliance on self-reported STI is a particular limitation. The extent to which the anal sex reported herein was subject to force or coercion is unclear. Further research is needed to clarify elements of force, pressure and coercion in anal sex assessments. Findings illustrate the need to extend and modify standard violence assessment tools, such as the Conflict Tactics Scale-2,³⁹ to clarify the nature of unwanted or forced sexual activity (i.e., vaginal vs. anal intercourse) and, in turn, the likely STI/HIV risk introduced.

Together, findings demonstrate a high burden of recent IPV in a large, clinic-based sample of adolescent and young adult women, with significant and co-occurring sexual and drug-related STI/HIV risk. Mitigating the burden of STI/HIV among the youth most affected requires addressing IPV and the gendered power imbalances that impart risk. It is critical to engage sexual and reproductive health clinics in addressing violence and related sexual and drug-related STI/HIV risk among patients.

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Key messages

- Recent (past three month) physical or sexual violence from intimate partners was common (11%) among adolescent and young adult female patients of family planning clinics
- Intimate partner violence was significantly associated with both sexual and drug-related STI/HIV risk during this same time period
- Findings affirm the concurrence of IPV with sexual and drug-related risk behaviors, and highlight the need for safety promotion and harm reduction for such patients.

Table 1

Sample Characteristics and Prevalence of Recent Physical or Sexual Partner Violence (n=3504)

| | Total % (n) | %[‡] (n) past 3 months IPV |
|----------------------------------|------------------------|--|
| Total Sample | | 11.0% (390) |
| Age | | |
| 16–20 | 36.8% (1291) | 14.4% (186) |
| 21–24 | 35.7% (1251) | 9.8% (122) |
| 25–29 | 27.5% (962) | 8.5% (82) |
| P value[^] | | 0.003 |
| Race | | |
| White | 80.8% (2832) | 10.4% (294) |
| Black/African American | 13.1% (460) | 13.0% (60) |
| Hispanic/Latina | 1.6% (56) | 7.1% (4) |
| Multi-racial | 2.9% (101) | 20.8% (21) |
| Asian/Other | 1.6% (55) | 20.0% (11) |
| P value[^] | | 0.002 |
| Education | | |
| Less than 12 th grade | 18.6% (650) | 16.0% (104) |
| Finished high school | 27.0% (946) | 11.8% (112) |
| Some college | 33.9% (1189) | 11.2% (133) |
| Finished college or grad school | 20.5% (719) | 5.7% (41) |
| P value[^] | | <0.0001 |
| Relationship Status | | |
| Single / Dating | 33.0% (1156) | 13.2% (153) |
| In a serious relationship | 59.6% (2088) | 10.6% (222) |
| Married | 7.4% (260) | 5.8% (15) |
| P value[^] | | 0.002 |

[‡] Row percentages[^] P values from cluster survey adjusted (Wald log-linear) chi-square tests for association, to account for clustering effects arising from within-clinic residual correlation

Table 2

Associations of recent physical or sexual partner violence with recent sexual risk, sexually transmitted infection, and injection drug use (n=3504)

| | % | % Among Recent IPV Yes n=390 | % Among Recent IPV No n=3114 | aOR (95% CI) |
|--|-------|------------------------------------|------------------------------------|---------------------|
| Recent sexual risk (p3m) | | | | |
| Unprotected vaginal sex | 68.2% | 78.8% | 68.4% | 1.93 (1.52, 2.44) |
| Anal sex | 10.0% | 17.6% | 9.3% | 2.17 (1.49, 3.16) |
| Unprotected anal sex | 8.4% | 15.0% | 7.7% | 2.22 (1.51, 3.27) |
| Condom non-use against her will | 21.9% | 35.5% | 20.6% | 1.87 (1.51, 2.33) |
| Afraid to ask partner to use a condom | 2.3% | 7.3% | 1.7% | 4.15 (2.73, 6.30) |
| Afraid to refuse sex | 2.7% | 13.6% | 1.3% | 11.84 (7.59, 18.45) |
| Recent injection drug use (p3m) | | | | |
| Self IDU | 1.0% | 2.8% | 0.7% | 3.39 (1.47, 7.79) |
| Partner IDU | 1.4% | 4.1% | 1.1% | 3.85 (1.91, 7.75) |
| Recent sexually transmitted infection (p3m) | | | | |
| | 3.8% | 6.4% | 3.5% | 1.67 (0.98, 2.87) |
| Visited clinic for STI testing or treatment | | | | |
| | 11.2% | 22.6% | 9.8% | 2.49 (1.87, 3.31) |

* Adjusted odds ratios from logistic regression models for clustered surveys, with clinics specified as clusters, and with independent variables included for recent IPV (Yes vs. No) and for age, race, education and relationship status, to adjust for demographic confounders. A separate model was fit for each of the outcome risks reported here