The Influence of Violence Victimization on Sexual Health Behaviors and Outcomes

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Abstract

This study examines the implications of a history of personal violence on health and health behaviors. A secondary analysis of cross-sectional data involving adults ($n = 214$) from a semirural area in southern Louisiana between October 2008 and December 2010 was conducted to ascertain the association between a personal history of violence victimization and indicators of sexual health behaviors and outcomes: communication with sexual partners about HIV status, consistent condom use, and sexually transmitted infection (STI). While violence victimization is widely accepted as a risk factor for high-risk sex behavior, the mechanisms underlying violence victimization's influence on sexual health outcomes remain unclear. Bivariate analyses demonstrated a significant positive association between experience of physical abuse and lifetime history of STI. Surprisingly, respondents reporting lifetime physical violence were more than two times more likely to ask sexual partners about HIV status [odds ratio (OR) for physical attack = 2.23, 95% confidence intervals (CI) = 1.00–4.97; OR for physical injury = 4.60, 95% CI = 1.79–11.85]. Consistent condom use was not significantly associated with violence exposure in adjusted models. There was no evidence that communication with sexual partners mediated the relationship between experiences of violence and condom use. The link between personal history of violence and condom use may be mediated through alternative pathways beyond communication.

Keywords: HIV, violence, sexual health

Introduction

PREVALENCE RATES OF PHYSICAL and sexual violence in the United States are staggering. Personal history of violence victimization is reported by almost 20% of the population, with victims of intimate partner violence significantly more likely to report repeated victimization.[1] Homicide remains the third leading cause of death for children aged 1–4 years, adolescents, individuals between the ages of 15–24, and adults aged 25–34 years.[2] These figures do not capture the scope of nonlife-threatening violence, including emotional violence, assault, and sexual violence. In 2013, the nonfatal injury due to assault rate was 533.22 per 100,000 people.[3] Sexual violence is also alarmingly prevalent, with almost one in five women (18.3%) reporting experiences of rape at least once in her lifetime and 13% of women and 6% of men re-

porting they experienced sexual coercion at some time in their lives.[4] By race/ethnicity, approximately one in five black (22.0%) and white (18.8%) non-Hispanic women and one in seven Hispanic women (14.6%) in the United States have experienced rape at some point in their lives.

Concurrently, our nation suffers from high-risk sexual behavior as evidenced by rates of sexually transmitted infections (STIs) and unintended pregnancies at a higher level than most developed countries.[5] National rates per 100,000 people for STIs include 446.6 for chlamydia and 106.1 for gonorrhea.[6] In 2014, an estimated 44,073 individuals were newly diagnosed with HIV.[7] There are higher rates of reported STIs among some racial or ethnic minority groups when compared with rates among whites. From 2005 to 2014, the number of new HIV diagnoses among African American women fell 42%, although it is still high compared with

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women of other races/ethnicities.[8] In 2014, an estimated 1350 Hispanic/Latino women and 1483 white women were diagnosed with HIV compared with 5128 African American women.[9] Social and economic conditions, such as high rates of poverty, income inequality, unemployment, low educational attainment, racism, and geographic isolation, can make it more difficult for individuals to protect their sexual health.[10] People who struggle financially are often experiencing life circumstances that increase their risk for STIs.[11–15] A wide body of literature links these two epidemiological conundrums of physical and sexual violence and risk for STIs.

The correlation between sexual violence victimization and sexual risk-related behaviors is well established.[16–21] The impact of other forms of violence, including physical victimization and other violence involving a dating partner, as well as the timing of violence exposure, has been associated with sexual risk behavior.[22–26] More so than isolated incidents of victimization, researchers emphasize the importance of cumulative exposure to violence over the lifetime in predicting overall unsafe sex.[27] Attention to the social context and its potential impact on sexual risk behavior is key to risk reduction.

Holistic framework of assessment

Recent discourse in the sexual risk behavior prevention literature criticizes the existing limited focus on individual-level predictors of behavior and resolutely calls for an expanded framework of assessment—specifically including the interpersonal, relational, contextual, and ecological factors that influence individual behavior and decision-making.[28–31] Central among these factors is sexual assertiveness, defined as personal control over one's body, sexuality, and sexual experience with regard to sexual initiation, refusal, and pregnancy/STI prevention.[32–34] Strengthening sexual assertiveness in interpersonal interactions is a key strategy in prevention of HIV and other STIs, and effective assertive communication has been identified as the most important predictor of condom use.[33–35]

These same studies identifying sexual assertiveness as a paramount predictor of safer sexual behavior reveal surprisingly low levels of sexual assertiveness among adolescent and adult women, with as many as 15–20% of women surveyed not feeling they have the confidence, skills, or even the right to be sexually assertive.[29,36] Risk factors for diminished sexual assertiveness are consistent with known correlates for high-risk sexual behavior, including but not limited to maturity level, increased number of lifetime sexual partners, present high-risk partnerships, alcohol, and drug use among individuals and partners, history of emotional trauma and depression, and history of physical, sexual, and emotional violence victimization.[28,33,37] Further, correlations between sexual assertiveness and violence victimization appear to exhibit inverse reciprocal relationships, with one as a risk factor for another in cyclical patterns.[28]

Exposure to violence may exacerbate masculine–feminine power imbalances in sexual relationships and thus exacerbate behavioral risk factors such as self-efficacy with risk reduction techniques, assertive communication skills, and perceived control in the relationship.[31] We found in our own work that interventions that improved partner communication and negotiation also decreased the incidence of victimization among women.[38]

The overall goal of this analysis is to broaden our understanding of how experiences of violence influence sexual risk behavior. We hypothesize that a history of personal exposure to physical or sexual violence will be associated with sexual risk indicators and behaviors, including communication with sex partners about HIV, STI status, and consistency of condom use. We additionally hypothesize that sexual assertiveness as measured by communication with partners about HIV may be an important mechanistic step on the pathway between violence exposure and consistency of condom use. We provide an empirical test for mediation to contribute to quantitative evidence of the mechanisms underlying the ways in which violent experiences influence sexual behavior. We explore these hypotheses in a highly marginalized, underserved, and difficult reach population in semirural southern Louisiana.

Methods

Study design and participants

This cross-sectional secondary analysis included 244 adults recruited between October 2008 and October 2010 as part of baseline sampling for a community-level popular opinion leader (POL) intervention.[39] The intervention targeted high-HIV risk social networks in a southern Louisiana city with a population size of ~20,000 (54.1% female, 45.2% African American) and average household income of $37,429.[40] This study was approved by the Louisiana State University Health Sciences Center Institutional Review Board.

Participants were recruited using street outreach techniques, including ethnographic mapping and targeted sampling.[41] Target communities for recruitment were identified using the community identification (CID) process, a method for mapping data (e.g., from emergency rooms, drug treatment, and social and health service providers) and recording epidemiological indicators of the prevalence and incidence of selected health conditions and risk behavior, such as HIV/AIDS and drug and alcohol abuse.[42] POL interventions target social networks as part of a defined community, and our intervention targeted alcohol-using social networks and was venue based (primarily in bars and clubs). Venues were chosen in the community based on CID and clear identification of opinion leaders within social networks in these venues.

Eligible participants were 18 years or older, resided in the study community, and proficient in English. Informed consent was verbally confirmed. Anonymous face-to-face interviews took place in a private and quiet location (typically outside). Settings included alcohol consumption (i.e., bars and clubs) and purchase venues, a multi-practice health center, and an addictive disorders clinic. Trained field staff administered a breathalyzer before interviews. Individuals with levels above 0.80 were excluded. Interviews lasted ~20–30 min and were conducted at various times of the day (i.e., afternoon, evening, and late evening) and days of the week (i.e., weekdays and weekends). Participants received a $5 gift card incentive. The overall response rate across venues was 40% and varied by venue likely due to venue size, which included not only both large clubs and bars but also small liquor stores where networks congregated. Age and sex of respondents did not differ from nonrespondents, and participants were similar across venues except for age, where

younger respondents were more likely to be recruited from larger venues. Responses were recorded by trained interviewers using handheld computers equipped with handheld assisted personal interview software (Nova Research, Bethesda, MD). Data were encrypted and inaccessible until they were uploaded into the warehouse manager program. For the purposes of this analysis, we limited data to subjects who self-identified as single and either male or female ($n = 214$).

Exposures

The baseline quantitative survey assessed demographics, sexual risk behaviors and perception of this risk, HIV knowledge, and personal history of violence, among other factors. Primary exposures were selected to reflect personal history of violence. Violence history was defined by measures of lifetime experiences of physical and sexual abuse. Participants provided a dichotomous yes/no response to a history of (1) violent physical attack; (2) physical injury from abuse; or (3) attempted or forced sexual abuse. Responses were evaluated separately and also categorized by a cumulative violence exposure score, with low exposure to violence defined as exposure to one or less of the above types of violence, medium exposure as exposure to two types of violence, and high exposure as exposure to all three types of violence.

Outcomes and mediator

Outcomes of interest included (1) communication with partner about HIV (responding yes to the question, ''Did you ask your most recent steady [or casual] partner about his/her HIV status?''), (2) lifetime history of any STI (yes vs. no), and (3) sexual risk behavior as indicated by consistent condom use with vaginal sex partners (yes vs. no)—a direct indicator of successful condom negotiation. Interviewers asked respondents about partners for vaginal, anal, and oral sex and then ''How often do you and your partner use a condom?'' Response categories were organized on a 5-point scale from never to always. Consistent condom users were those who reported always or almost always using condoms.

We additionally explored communication with partner about HIV as a potential mediator through which history of personal violence victimization acts to influence likelihood of consistent condom use with sexual partners.

Covariates

Potentially confounding sociodemographic and behavioral information collected during the interview included age (18–25, 26–33, ≥34), gender identity (male, female), race/ethnicity (black, Hispanic, white), monthly income (dichotomized as less than or greater than $2000), educational attainment (dichotomized as less than a high school education/high school graduate or higher), and number of sexual partners in the last year (0–5, 6–10, 11–20, 20 or more). Covariates that were at least marginally associated ($p < 0.20$) with one of the outcomes were retained in adjusted models.

Statistical analyses

Bivariate analyses, including chi-square tests, compared the distribution of violence exposures and all other covariates across the three outcomes. Logistic regression models addi-

tionally provided crude estimates of odds ratio (OR) and 95% confidence intervals (95% CI) for associations between violence exposures and communication with partners, lifetime history of STI, and consistent condom use.

Multivariate logistic regression models assessed the relationship between experiences of violence and outcomes independent of difference in respondent sociodemographic characteristics and behaviors. Given the potentially differential impact of violence experiences on sexual behavior between genders,[34,35] we tested for effect modification by gender by including an interaction term in models for each violence type. Finally, to explore a potential indirect pathway between experiences of violence and sexual risk behavior, we applied a counterfactual approach to estimate the natural direct effect and natural indirect effect of violence on consistent condom use mediated through communication. Utilizing the SAS MEDIATE macro,[43] we estimated the natural direct and indirect effects (OR_{NDE}, OR_{NIE}) and total marginal effect (OR_{TE}) for associations between violence exposure, partner communication, and condom use. All analyses were conducted in SAS v9.4.

Results

Of the 214 participants included in this analysis, most (51.4%) were between age 18 and 25, and the majority were females (57.5%; Table 1). Almost all respondents (90.7%) reported black race/ethnicity (90.7%), 6.7% were Hispanic, and the remaining 2.6% were white. Approximately two-thirds (64.0%) reported having attained a high school education or more, and 70% of respondents reported earning less than $2000 in the previous month. Prevalence of violence victimization was high among respondents. Almost one in three (31.1%) reported physical attack or sexual abuse, and 26% had been injured by physical abuse. Distribution of violence and demographic variables across the outcomes of interest are shown in Table 1.

Communication with sexual partner

Individuals who reported communicating with their casual and steady sexual partners about HIV status were significantly more likely to be women (64.1%), to have experienced violence at some point in their life, and to have a high number of sex partners (20+) in the past year (Table 1). Nearly 40% of those who reported communicating with partners about HIV status had experienced a physical attack, 35.5% had been physically injured, and 38.7% had been sexually abused compared with 18.1%, 9.7%, and 18.1%, respectively, among those who did not communicate with partners about HIV status (all $p < 0.05$). Sixteen percent of individuals who communicated with partners had experienced all three types of violence compared with 2.8% of individuals who did not communicate ($p < 0.05$). There was no difference in the distribution of age, race, education, or income between individuals who communicated and those that did not.

Sexual health

About half of respondents (47.2%) reported having contracted an STI at least once in their lifetime (Table 1). Income was lower among the respondents reporting history of STI, but a greater proportion had attained at least a high school

TABLE 1. CHARACTERISTICS OF STUDY PARTICIPANTS OVERALL AND BY OUTCOME ($N = 214$)

	Total population (n=214) n (%)	Communication with partner		Lifetime history of STI		Consistent condom use	
		Yes (n=134, 62.6%) n (%)	No (n=80, 37.4%) n (%)	Yes (n=101, 47.2%) n (%)	No (n=113, 52.8%) n (%)	Yes (n=66, 30.8%) n (%)	No (n=148, 69.2%) n (%)
Age, years							
18–25	110 (51.4)	64 (47.8)	46 (57.5)	46 (45.5)	64 (56.6)	38 (57.6)	72 (48.7)
26–33	79 (36.9)	54 (40.3)	25 (31.3)	38 (37.6)	41 (36.3)	22 (33.3)	57 (38.5)
34+	25 (11.7)	16 (11.9)	9 (11.3)	17 (16.8)	8 (7.1)	6 (9.1)	19 (12.8)
Gender							
Male	91 (42.5)	48 (35.8)	43 (53.8)	42 (41.6)	49 (43.4)	29 (43.9)	62 (41.9)
Female	123 (57.5)	86 (64.1)	37 (46.3)	59 (58.4)	64 (56.6)	37 (56.1)	86 (58.1)
Race/ethnicity							
Black	175 (90.7)	109 (90.1)	66 (91.7)	83 (89.3)	92 (92.0)	51 (99.4)	124 (89.2)
Hispanic	13 (6.7)	8 (6.6)	5 (6.9)	8 (8.6)	5 (5.0)	3 (1.6)	5 (3.6)
White	5 (2.6)	4 (3.3)	1 (1.4)	2 (2.2)	3 (3.0)	0 (0)	10 (7.2)
Education							
Less than high school	77 (36.0)	48 (35.8)	29 (36.3)	30 (26.6)	47 (46.5)	18 (27.3)	59 (39.9)
High school or more	137 (64.0)	86 (64.2)	51 (63.8)	83 (73.5)	54 (53.5)	48 (72.7)	89 (60.1)
Income							
<$2000	141 (69.8)	56 (71.8)	88 (68.6)	70 (76.9)	71 (63.9)	41 (65.1)	100 (71.9)
≥ $2000	61 (30.2)	22 (28.2)	39 (31.5)	21 (23.1)	40 (36.0)	22 (34.9)	39 (28.1)
Lifetime history of							
Physical attack							
Yes	62 (31.6)	49 (39.5)	13 (18.1)	41 (42.7)	21 (21.0)	15 (27.3)	47 (33.3)
No	134 (68.4)	75 (60.5)	59 (81.9)	55 (57.3)	79 (79.0)	40 (72.7)	94 (66.7)
Physical injury							
Yes	51 (26.0)	44 (35.5)	7 (9.7)	34 (35.4)	17 (17.0)	9 (16.4)	42 (29.8)
No	145 (74.0)	80 (64.5)	65 (90.3)	62 (64.6)	83 (83.0)	46 (83.6)	99 (70.2)
Sexual abuse							
Yes	61 (31.1)	48 (38.7)	13 (18.1)	34 (35.4)	27 (27.0)	17 (30.9)	44 (31.2)
No	135 (68.9)	76 (61.3)	59 (81.9)	62 (64.6)	73 (73.0)	38 (69.1)	97 (68.8)
Cumulative violence exposure							
Low	149 (76.0)	85 (68.6)	64 (88.9)	64 (66.7)	85 (85.0)	44 (80.0)	105 (74.5)
Medium	25 (12.8)	19 (15.3)	6 (8.3)	18 (18.8)	7 (7.0)	6 (10.9)	19 (13.5)
High	22 (11.2)	20 (16.1)	2 (2.8)	14 (14.6)	8 (8.0)	5 (9.1)	17 (12.1)
Number of sex partners in the past year							
0–5	84 (39.4)	44 (33.1)	40 (50.0)	29 (29.0)	55 (48.7)	31 (47.0)	53 (36.1)
6–10	45 (21.1)	31 (23.3)	14 (17.5)	19 (19.0)	26 (23.0)	9 (13.6)	36 (24.5)
11–20	42 (19.7)	25 (18.8)	17 (21.3)	19 (19.0)	23 (20.4)	15 (22.7)	27 (18.4)
20+	42 (19.7)	33 (24.8)	9 (11.3)	33 (33.0)	9 (8.0)	11 (16.7)	31 (21.1)

STI, sexually transmitted infection.

education (both $p < 0.05$). A greater proportion of individuals with a lifetime history of STI infection had also experienced a physical attack or injury and had higher cumulative violence exposure ($p < 0.05$).

Consistent condom use

About a third of respondents were consistent condom users. A greater proportion of consistent condom users had a high school education or more compared with inconsistent users, but the distribution was not significantly different ($p = 0.07$). Approximately 16% of consistent condom users had experienced physical injury violence compared with almost 30% of inconsistent users ($p = 0.05$). There was no difference in distribution of individuals by age, gender, race, income, cumulative violence exposure, or number of sex partners across consistent and inconsistent condom users in this group of respondents.

Regression modeling

Table 2 contains unadjusted and adjusted estimates of association between the three types of violence, cumulative violence exposure, and communication with partner about HIV status, lifetime history of STI, and consistent condom use.

In unadjusted models, all three types of violence (physical attack, physical injury, and sexual assault) and a high level of cumulative violence exposure were associated with a more than twofold increase in likelihood of communicating with sex partners about HIV status. With the exception of sexual abuse, these associations were slightly attenuated in magnitude, but remained significant in fully adjusted models that

TABLE 2. CRUDE AND ADJUSTED[a] ODDS RATIOS AND 95% CONFIDENCE INTERVALS FOR ASSOCIATIONS BETWEEN LIFETIME VIOLENCE EXPOSURE AND SEX PARTNER COMMUNICATION, SEXUALLY TRANSMITTED INFECTION STATUS, AND CONSISTENT CONDOM USE

	Communication with partner		Lifetime history of STI		Consistent condom use	
	Crude OR (95% CI)	Adjusted OR (95% CI)	Crude OR (95% CI)	Adjusted OR (95% CI)	Crude OR (95% CI)	Adjusted OR (95% CI)
Lifetime history of						
Physical attack						
No	Reference		Reference		Reference	
Yes	2.97 (1.47–5.97)	2.23 (1.00–4.97)	2.80 (1.50–5.26)	1.84 (0.85–3.97)	0.75 (0.38–1.50)	0.71 (0.32–1.60)
Physical injury						
No	Reference		Reference		Reference	
Yes	5.11 (2.16–12.1)	4.60 (1.79–11.85)	2.68 (1.37–5.23)	3.54 (1.54–8.11)	0.46 (0.21–1.03)	0.51 (0.21–1.23)
Sexual abuse						
No	Reference		Reference		Reference	
Yes	2.87 (1.42–5.78)	1.98 (0.89–4.41)	1.48 (0.81–2.72)	0.98 (0.45–2.13)	0.99 (0.50–1.94)	1.21 (0.54–2.69)
Cumulative violence						
Low	Reference		Reference		Reference	
Medium	2.38 (0.90–6.31)	1.38 (0.47–4.07)	3.41 (1.35–8.67)	2.74 (0.87–8.57)	0.75 (0.02–2.01)	0.38 (0.10–1.42)
High	7.53 (1.70–33.39)	5.10 (1.07–24.14)	2.32 (0.92–5.88)	1.71 (0.57–5.10)	0.70 (0.24–2.02)	0.84 (0.26–2.69)

[a]Models adjusted for gender, age, income, education, and number of sexual partners in the past year.
CI, confidence intervals; OR, odds ratio.

controlled for differences in gender, age, income, education, and number of sexual partners in the last year. Individuals who experienced a physical attack were 2.23 times more likely to report communicating with their sex partner about HIV status (OR = 2.23, 95% CI = 1.00–4.97), and those that experienced physical injury were 4.6 times more likely to report communicating (OR = 4.60, 95% CI = 1.79–11.85). Compared with respondents with a low level of cumulative violence, those with a high level were more than five times more likely to ask their partner about HIV status (OR = 5.10, 95% CI = 1.07–24.14).

Lifetime history of STI infection was crudely associated with physical attack and physical injury and a medium level of cumulative violence, but of these, the positive associations only for physical injury remained significant in adjusted models. Individuals who had experienced physical injury violence were 3.54 times more likely to report ever having an STI (OR = 3.54, 95% CI = 1.35–8.67) after controlling for gender, age, income, education, and number of sexual partners in the last year.

Before adjustments, consistent condom use was marginally associated with physical injury violence such that respondents with a history of physical injury violence were 54% less likely to use condoms consistently. However, the association was attenuated in the adjusted model (OR = 0.51, 95% CI = 0.21–1.23). None of the other forms of violence were associated with consistent condom use.

Effect modification and mediation

There was no evidence of heterogeneity of the above associations by gender in this group of respondents (all gender by violence interaction terms $p > 0.10$). Further, there was no evidence to suggest that the impact of violence exposure on likelihood of consistent condom use acts through increasing partner communication about HIV (Table 3). Direct and indirect effects were not significant as expected given the relatively weak associations between violence (exposure) and consistence condom use (outcome) and between partner communication (mediator) and consistent condom use (outcome) in these data. Individuals who reported asking partners about their HIV status were 1.22 times more likely to consistently use condoms, but the association was not statistically significant (crude OR = 1.22, 95% CI = 0.63–2.39).

Discussion

The negative health consequences borne by victims of physical and or sexual abuse can be severe and far-reaching. In this analysis of data provided by residents of rural and semirural southern Louisiana with a mostly African American sample of women living below the poverty line, we found that the prevalence of physical and sexual abuse exceeds national averages. Moreover, we found that those who reported experiencing abuse—particularly physical abuse—were considerably more likely to also report having had an

TABLE 3. ESTIMATES OF THE NATURAL DIRECT, NATURAL INDIRECT, AND MARGINAL TOTAL EFFECT OF ASSOCIATIONS BETWEEN VIOLENCE EXPOSURE AND CONSISTENT CONDOM USE MEDIATED THROUGH PARTNER COMMUNICATION

	OR_{NDE} (95% CI)	OR_{NIE} (95% CI)	OR_{TE} (95% CI)
Physical attack	0.63 (0.28–1.42)	1.06 (0.93–1.20)	0.66 (0.30–1.48)
Physical injury	0.48 (0.20–1.16)	1.11 (0.92–1.34)	0.53 (0.23–1.26)
Sexual abuse	1.09 (0.49–2.42)	1.04 (0.93–1.15)	1.13 (0.51–2.50)

Models adjusted for gender, age, income, education, and number of sexual partners in the past year.

STI infection, a finding in line with a growing body of evidence of the impact of abuse on sexual health.[25]

We identified estimates of association between all three types of violence as well as cumulative toll suggesting that greater exposure reduced likelihood of condom use, but estimates were not significant. The analysis may have been underpowered, particularly given the small overall sample size and low prevalence of consistent condom use, evidenced by the widely ranging confidence intervals.

Our exploration of the impact of violence exposure on sexual assertiveness as defined by the likelihood of communicating with sexual partners about HIV status revealed unexpected results. We found that across all types of violence, individuals with a history of exposure were more likely to communicate with their partners about HIV than nonvictims. The associations were stronger and more consistent for victims of physical abuse than sexual abuse. This pattern was similar for cumulative violence exposure, with individuals exposed to all three types of violence more than five times more likely to communicate with their partner about HIV status compared with individuals who experienced no or one form of violence.

This study addresses a significant gap in the literature by examining an interpersonal factor—communication with sexual partners—both in relationship to violence exposure and as a potential mediating pathway through which violence exposure may influence sexual health behavior (consistent condom use). Given previous evidence suggesting associations between history of abuse and diminished sexual assertiveness,[28,44,45] we hypothesized that individuals who had experienced violence would be less likely to communicate with their partners about HIV and as a result less likely to practice consistent condom use. This was not the case among these respondents, however, as violence exposure was associated with greater sexual assertiveness (increased communication with partners), which was not in turn associated with condom use. Morokoff et al.[45] found that sexual abuse by an intimate partner was indirectly linked with greater likelihood of unprotected sex through a negative association with sexual assertiveness specifically for condom use. Our measure of partner communication, while a proxy for potential condom negotiation, may not have been specific enough to capture assertiveness for condom use directly. Sales et al.[46] found that young African American women with a history of sexual violence had poorer communication skills with sexual partners as measured by scales capturing fear of consequences of condom negotiation and sexual communication self-efficacy. Again, both measures more directly captured communication specific to condom use, suggesting that our results may have differed due to our measure of communication regarding HIV status.

However, we had no information on previous assertive skill training/program experience that participants may have gone through so that regardless of the experience of violence, participants may have learned conflict resolution skills, heightening their confidence in communicating about HIV or negotiating condom use. In previous intervention work, we observed that women felt empowered by negotiation when previous violence experiences leave one feeling out of control. We also had no information on whether participants were on any pre-exposure prophylaxis that may also impact risk and the level of communication.

In addition to sample size, relevant limitations of this study include the potential for self-report and social desirability bias present in the interview structure. Many of these topics rely on respondents' memories in compromised states (i.e., during alcohol and drug use) or deal with risk behaviors subject to significant stigma. The study design itself was subject to a limitation of specificity—without primary data, the survey variables could not function as strongly as valid measures of the constructs presented in the research question.

Despite its limitations, the strengths of this study should not be discounted. Although it was a secondary analysis by nature, the broad range of potential variables of interest was likely produced by the community-driven sampling methods employed. Community-driven sampling may limit generalizability of results to broader settings, but motivates many more relevant measures and data for the population of interest.

This study implicates the role of violence victimization in both behavioral factors and outcomes related to sexual health. The ways in which experiences of violence influence sexual health behaviors require further clarification. Patterns of associations found in this study suggest that communication with partners about HIV status may not be sufficient assertiveness for the protection of sexual health among victims of physical violence. Successfully intervening at the intersection of violence and HIV risk may require interventions that move beyond behavioral and interpersonal dynamics to include integrated biomedical and structural components.[47]

Author Disclosure Statement

No competing financial interests exist.

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