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Recent and Past Intimate Partner Abuse and HIV Risk Among Young Women

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Abstract

Objective—To examine the associations between past intimate partner abuse experienced during adolescence (verbal and physical), recent intimate partner abuse (verbal, physical, and sexual), and HIV risk (as indicated by lack of condom use) for sexually active young adult women in relationships with male partners.

Design—Secondary data analysis of waves II and III of the National Longitudinal Study of Adolescent Health (Add Health).

Setting—The Add Health Study is a longitudinal, in-home survey of a nationally representative sample of adolescents.

Sample—Analyses involved 2,058 sexually active young adult women.

Main Outcome Measures—HIV risk was measured by consistent condom use over the past 12 months.

Results—Physical and verbal abuse experienced in adolescence were associated with physical/verbal abuse experienced in young adulthood. Young, sexually active women experiencing no abuse in their relationships were more likely to consistently use condoms in the past 12 months than were their abused counterparts.

Conclusion—A causal pathway may exist between prior abuse, current abuse, and HIV risk.

Keywords

HIV; adolescent; risk taking; intimate partner violence; dating violence; sexually transmitted diseases

HIV infection continues to be a problem for adolescent and young women in the United States (Centers for Disease Control and Prevention [CDC], 2007). Heterosexual sex is the primary method of HIV transmission for this group, and male condom use is currently the

most effective method for preventing HIV and other sexually transmitted infections (STIs) for this population (CDC, 2006).

Since cooperation from their male sexual partners is essential to effective condom use (Rickert, Sanghvi, & Wiemann, 2002), it is important to consider relationship dynamics in order to more fully understand sexual risk negotiations for young women (Mizuno et al., 2007). A growing body of evidence indicates that partner abuse inhibits a woman's ability to successfully negotiate with her partner for condom use (Boccanera, 2007; Wingood et al., 2006). Partner abuse experienced as an adolescent can have lingering negative effects, such as depression or substance use (Glass et al., 2003), which may lead to a pattern of sexual risk-taking behaviors (Maman, Campbell, Sweat, & Gielen, 2000). Prior partner abuse might make an adolescent girl even more reticent to negotiate future condom use, for fear of being abused again. On the other hand, prior abuse might also foster resiliency to future abuse if adolescents receive appropriate support, services, or education, or all.

To date, there is no evidence discerning the differential impact of prior partner abuse experienced as an adolescent versus recent partner abuse on condom use among young adult women. In order for nurses to provide appropriate education, counseling, and referrals for young women to reduce HIV/STI risk, it is important for them to understand the impact of past partner abuse experienced in adolescence and recent partner abuse on young women's ability to carry out safe sex behaviors. The current study examined the relationships among prior partner abuse, current partner abuse, and current HIV risk among young women to shed light on this important social problem.

Background and Significance

Abuse, Power Imbalance, and Condom Use

Intimate partner abuse includes verbal, physical, and sexual aggression. Approximately 30% or more of adolescent girls report experiencing partner abuse (Glass et al., 2003), and the per capita rate of such abuse is highest in adolescent girls and young women, with 19.6 abuse survivors per 1,000 females aged 16 to 24 years (Rennison & Welchans, 2000).

Partner abuse typically begins to occur among teenagers at around 15 years of age, when dating becomes more common (Wekerle & Wolfe, 1999); however, such abuse has been identified among students as young as 12 (Fredland et al., 2005). Although both males and females use aggressive or violent behavior against intimate partners, girls and women suffer the most severe physical, psychological, and social consequences from abuse (Molidor & Tolman, 2000). In heterosexual relationships, women and girls are also more likely than men and boys to be frightened by violence and threats of violence from partners (O'Keefe, 1997).

Partner abuse is associated with lack of or inconsistent condom use among adolescent girls (Howard & Wang, 2003; Kreiter et al., 1999; Silverman, Raj, & Clements, 2004; Silverman, Raj, Mucci, & Hathway, 2001; Teitelman, Dichter, Cederbaum, & Campbell, in press; Wingood, DiClemente, McCree, Harrington, & Davies, 2001) as well as among adult women (El-Bassel, Gilbert, Rajah, Foleno, & Frye, 2000; Maman et al., 2000). Adolescent girls who are survivors of partner abuse are also significantly more likely than nonabused girls to have been diagnosed with a sexually transmitted disease, including HIV (Decker, Silverman, & Raj, 2005; Wingood et al., 2001).

Partner abuse is also associated with other sexual risk factors, including greater number of sexual partners (Coker, Smith, McKeown, & King, 2000; Howard & Wang, 2003; Kreiter et

al., 1999; Valois, Oeltmann, Waller, & Hussey, 1999) and substance use before sex (Howard & Wang; Silverman et al., 2001).

Qualitative studies have explored the link between current abuse and sexual risk. In a study of condom use behaviors and attitudes among adolescents (Bauman, Karasz, & Hamilton, 2007), some boys acknowledged that they insisted on sex without a condom as a way to establish power over their female partners. Girls noted that coercion through fear of violence could serve as an impediment to their using condoms during sex. Due to their fear of being hurt by a partner, girls and young women may be coerced into unwanted behavior, such as high-risk sexual activity (Champion, Shain, & Piper, 2004). Women who were physically abused were also more likely to be coerced or forced into sex (Beadnell, Baker, Morrison, & Knox, 2000).

Power imbalances in relationships, which can be exacerbated by abuse or make one more vulnerable to abuse, are also associated with inconsistent condom use. For example, adolescent girls with sexual partners older than themselves by 2 or more years (an indicator of power imbalance) are more likely than girls whose partners are of their same age or younger to have sex without condoms and to fear negative consequences of attempting to negotiate for condom use (DiClemente et al., 2002; Manlove, Terry-Humen, & Ikramullah, 2006). Pulerwitz, Amaro, DeJong, Gortmaker, and Rudd (2002) found that perceived sexual relationship power was strongly associated with consistent condom use and, therefore, concluded that lack of power can inhibit a woman's ability to use condoms for sexual risk reduction.

Impact of Past Abuse on Current Condom Use

The link between partner abuse and not using condoms is not fully understood and may differ depending on whether a young woman has also experienced abuse in a recent or in a past relationship. Some researchers have suggested that women and girls who have experienced prior partner abuse are vulnerable to engaging in sex without condoms in future relationships (whether or not those relationships include abuse) because their ability to negotiate for safer sex is compromised by the fear of retaliation for disagreeing with their partners (Champion et al., 2004). Abuse can also lead to long-term depression, alcohol and drug use, and low self-esteem that can all reduce self-efficacy in condom use (Ackard, Neumark-Sztainer, & Hannan, 2003; Beadnell et al., 2000). Women and girls who have experienced abuse in the past may internalize a lack of power or control that persists in future relationships (Amaro & Raj, 2000).

Using cross-sectional data from wave II of the National Longitudinal Study of Adolescent Health (Add Health), Roberts, Auinger, and Klein (2005) found that current verbal abuse was associated with not using condoms, but neither current physical abuse nor past verbal or physical abuse was linked to condom use. For the current study, we used longitudinal data from waves II and III of the Add Health Study, which allowed us to more accurately evaluate the effect of past abuse without relying on adolescents' recall of past abuse, by assessing the impact of both abuse reported as recent at the time of wave II and abuse reported as recent at wave III on condom use practices among young adult women, which served as measure of HIV/STI risk. Specifically, this study was designed to (a) examine the impact of recent partner abuse on young women's HIV/STI risk, (b) examine the impact of prior partner abuse experienced during adolescence on young women's HIV/STI risk, and (c) explore differences in the impact of recent and prior abuse on HIV/STI risk.

Method

Data Source

The National Longitudinal Study of Adolescent Health (Add Health) was mandated by Congress to measure the impact of social environment on adolescent health. This nationally representative study initially sampled students, in the United States, who were in grades 7 to 12 at baseline data collection (wave I), in April to December 1995 (Udry, 2003), and followed them over time. All interviews were conducted in person.

We used data from the weighted in-home samples collected at wave II (adolescents aged 11-21 years in 1996) and wave III (young adults aged 18-26 years in 2001-2002). The public use data set (Sociometrics Corporation, 2006) contains responses from 6,504 adolescents who completed waves I and II and 4,882 of these same adolescents at wave III (Udry, 2003). We limited our initial sample to female participants who completed the wave III interview ($N = 2,629$).

Measures

Sociodemographic Characteristics—Age was measured in years at wave III. Race/ethnicity data were based on self-reports at wave III (non-Hispanic White, non-Hispanic Black, Hispanic, and other). Family income was grouped into five categories and was based on median family income from 1989 census tract data.

Baseline HIV Risk—At wave II, sexually active adolescent females were asked how often condoms were used during vaginal intercourse episodes since the wave I interview. Response categories were the following: some of the time, half of the time, most of the time, all the time. Those who used condoms all the time were coded as having low baseline HIV risk.

Past Intimate Partner Abuse—At wave II, participants could designate up to three special romantic relationships, with a male or a female, within the past 18 months. They could also designate up to three nonromantic sexual relationships, with a male or a female, since wave I, for a maximum of six partners. However, some participants were limited to selecting only three romantic partners due to a computer error in the data collection process. We limited our analysis to relationships young women had with male partners.

For each designated relationship, questions based on the Conflict Tactics Scales (Straus, 1979) were asked about experiencing intimate partner abuse. We analyzed data from four questions, asking participants (yes/no) if a partner ever (a) called you names, insulted you, or treated you disrespectfully in front of others or (b) threatened you with violence (which we classified as verbal abuse) and (c) pushed or shoved you or (d) threw something at you that could hurt you (which we classified as physical abuse). Past abuse was coded in two ways: (a) if they had ever experienced that type of abuse in any relationship and (b) the proportion of relationships in which they had experienced that type of abuse.

Recent Intimate Partner Abuse—At wave III in 2001 to 2002, participants were asked to list initials for any romantic relationships and sexual relationships, with males or females, at any time since the summer 1995. If they had been involved with the same person more than once, they were to think of this as one relationship rather than as two or three relationships, and to list the person only once. They were also asked to be especially careful to list recent relationships, even those that may have been very short term. Participants could designate up to 50 relationships. Only relationships with male partners were included in this analysis.

For each relationship, questions were asked about experiencing intimate partner abuse, using items from the revised Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Respondents were asked how often in the past year that person had (a) threatened them with violence, pushed or shoved them, or thrown something that could hurt; (b) slapped, hit, or kicked them; (c) insisted on or made them have sexual relations when they did not want to; and (d) how often they had an injury, such as a sprain, bruise, or cut because of a fight with their partner. The third question was classified as sexual abuse, and the other three questions were grouped into a combined measure of physical/verbal abuse. Recent abuse was classified in two ways: (a) if they had experienced that type of abuse in any relationship within the past year and (b) the proportion of recent relationships (i.e., in the prior year) in which they had experienced that type of abuse.

HIV Risk Outcomes—At wave III, sexually active young women were asked how often condoms were used during vaginal intercourse in the past year (none, some, half, most, all). Responses were coded as low HIV risk if condoms were used all the time. Participants were also asked if they had used condoms during their most recent vaginal intercourse (yes/no). Young women were considered to have a recent STI if they reported being told by a doctor or a nurse that they had chlamydia, gonorrhea, syphilis, genital herpes, genital warts, human papillomavirus, HIV, or pelvic inflammatory disease.

Data Analysis Strategy

Chi-square, Fisher's exact, or Mann-Whitney U tests were first used to investigate the relationships among the demographic, waves II and III abuse variables, and the wave III HIV risk outcomes. Logistic regression determined the relative importance of the waves II and III variables, adjusting for demographic characteristics. Wave II variables were first entered into the model and refined using backward deletion procedures, before wave III variables were included. All analyses were performed using SAS 9.1.

Results

Of the 2,629 females in the public use data set who completed the wave III in-home survey, 2,058 reported at least one relationship with a male partner in the past year and were previously or currently sexually active (defined as vaginal intercourse) with any male partner(s). There were no significant demographic differences (age, race/ethnicity, family income) between the sexually active group and the sexually inactive group. All subsequent analyses were performed on the 2,058 female participants who reported a history of vaginal intercourse and who had a male partner in the past 12 months at wave III.

The analysis sample was predominantly non-Hispanic White, with a median age of 22 years, and more than half had low (39%) or unknown (30%) median family income (Table 1). At wave II, approximately half of the participants had had vaginal intercourse and 13% had had anal sex (Table 2). Only 30% of girls answered the condom use in the past 12 months question at wave II, and 46% of these had low baseline HIV risk at wave II. Seven percent had experienced some form of abuse at wave II, and at wave III, 31% had experienced abuse (Table 3). Across both waves II and III, 62% of the sample had no past or recent abuse.

HIV Risk

Low HIV risk at wave III was defined as using condoms all the time in the past 12 months. Eighteen percent of the sample was at low HIV risk. Young Black women were twice as likely as their White counterparts to use condoms consistently (odds ratio [OR] = 2.27, 95% confidence interval [CI] = 1.76-2.93), and younger girls were also more likely to be at low risk ($p < .001$). Adolescents who had not been sexually active at wave II (OR = 1.80, 95%

CI = 1.39-2.34) and those who had been at low HIV risk (OR = 1.81, 95% CI = 1.14-2.86) were more likely to have low HIV risk at wave III. Due to the relationship between sexual activity and condom use at wave II, condom use at wave II was omitted from the logistic regression models. At wave III, low HIV risk participants had significantly fewer relationships with male partners ($p = .045$) and fewer vaginal intercourse partners ($p = .003$) and had had vaginal intercourse less often ($p < .001$; Table 2).

Partner Abuse and HIV Risk

Based on Fisher's exact tests, no form of past abuse (wave II) was found to be associated with HIV risk at wave III (Table 3), but recent abuse, except forced sex, was found to be associated with HIV risk at wave III. Young women who were not experiencing any recent physical/verbal relationship abuse were 66% more likely to practice consistent condom use (95% CI = 1.26-2.20). Consequently, experiencing no abuse was also related to low HIV risk (OR = 1.64, 95% CI = 1.26-2.14).

Due to collinearity issues, only the individual types of abuse (physical/verbal or sexual, both) were included in the adjusted models. After adjusting for demographic characteristics and wave II sexual activity, recent physical/verbal relationship abuse was associated with lack of consistent condom use in the past 12 months among young women aged 18 to 26 years (adjusted OR = 1.59, 95% CI = 1.16-2.18).

While abuse at wave II was not directly related to HIV risk at wave III, it was associated with current abuse. Young women who had experienced prior physical or verbal abuse were twice as likely to experience current abuse (physical: OR = 1.85, 95% CI = 1.23-2.77; verbal: OR = 1.87, 95% CI = 1.32-2.65).

Discussion

The association between recent physical/verbal abuse and inconsistent or no condom use in the past year among young women is consistent with other studies examining abuse and sexual risk outcomes among women (El-Bassel et al., 2000; Wingood & DiClemente, 1997). Women who have experienced partner abuse have been found to have lower self-efficacy to negotiate condom use (Beadnell et al., 2000). They may not even try to negotiate for safer sex because they fear abuse or feel powerless to change their partners' behavior (Koenig & Moore, 2000).

Women with physically abusive partners are more likely to report being threatened with physical abuse or abandonment if they ask their partners to use condoms, compared to women whose partners are not abusive (Wingood & DiClemente, 1997). Male partners may interpret a female's request for condom use as an indication that she is accusing him of being unfaithful or that she has not been monogamous or is promiscuous. A female's request for condom use may threaten a male's sense of entitlement to sexual decision making. He may then attempt to reassert his power through violence or threats of violence (El-Bassel et al., 2000).

The association between prior partner abuse and later intimate partner abuse is also consistent with studies examining risk factors among young women (Smith, White, & Holland, 2003). Adolescents who experience partner abuse may not recognize certain partner behaviors as abusive, or prior abuse may reduce self-confidence in addressing future abusive situations (Vézina & Hébert, 2007). Thus, a causal pathway may exist between prior abuse, current abuse, and HIV risk. Our results suggest that there may be an indirect link, such that earlier experiences of physical or verbal abuse in adolescent relationships

predispose young women to partner abuse, which in turn increases their HIV/STI risk through inconsistent condom use.

We did not find a significant direct association between prior physical or verbal abuse experienced during adolescence and inconsistent condom use in young adulthood. Roberts et al. (2005) examined past and recent abuse during adolescence (using wave II data of the Add Health Study) and also found no association between a history of abuse and condom use at last sex. However, they did find an association between a history of partner physical abuse and pregnancy during adolescence, which suggests that a link is plausible.

The time lag of 5 to 6 years between waves II and III interviews may have diminished the effect of prior abuse, as seen in another longitudinal study of partner abuse (Smith et al., 2003). While some adolescents may have experienced negative sequelae of prior abuse that could increase their subsequent risk for HIV/STIs, others may have received support and developed resiliency to these types of experiences. If both types of responses are represented in this cohort of young women, then no overall effect would be detected. Furthermore, the reported prevalence of adolescent partner abuse in this sample compared with other studies was low, which could weaken the likelihood of finding an association. The wave II questions used in this study described only a limited range of possible abusive behaviors and may have missed cases that involved other abusive behaviors.

Of the adolescent sexual risk variables, only a history of sexual activity at wave II was associated with not using condoms consistently in young adulthood. Prior research has demonstrated that early age at initiation of sexual activity is associated with sexual risk behaviors, including inconsistent condom use (e.g., Kahn, Rosenthal, Succop, Ho, & Burk, 2002; Rosenthal et al., 2001). Females who begin sex at a younger age may be more likely, therefore, to take sexual risks in young adulthood including not using condoms during intercourse.

In this secondary analysis, we were not able to distinguish the impact of recent abuse versus current abuse in partner relationships. We did not know if recent sex, for example, was with an abusive or nonabusive partner. Therefore, we did not know if nonuse or inconsistent use of condoms in the past year was potentially related to abuse from the same sexual partner or from a different or previous relationship. Sexually active individuals use condoms for protection against HIV/STIs as well as for protection against pregnancy, and also use other forms of contraception for protection against pregnancy. We also do not know if the young women in this study deliberately chose not to use condoms because they were seeking to become pregnant. Although not using condoms still presents a risk for HIV/STI transmission, individuals may be using other means of preventing HIV/STIs, such as mutual testing or monogamy, if they are seeking to conceive.

The data also presented other important limitations. The questions regarding abuse were not consistent across waves. At wave II, respondents were not asked specifically about sexual abuse. The wave III questions did ask about sexual abuse but did not separate out physical abuse from verbal abuse, so we were not able to make these distinctions consistently over time.

Nursing Practice Implications

Nurses need to assess for partner abuse among both adolescents and young women seeking reproductive health services (The Family Violence Prevention Fund, 2004) and provide appropriate supportive services, to address both the sequelae of prior partner abuse and the risk for current partner abuse and HIV/STIs. Young women with recurrent STIs or repeated HIV testing may be having trouble maintaining safer sex practices due to intimate partner

abuse. Those with a history of depression or substance abuse may also have a history of partner abuse that needs to be attended to in order to reduce further possible negative psychological and physical consequences.

When seeing young women in clinical practice, recognition of previous partner abuse should prompt an assessment of associated reproductive and mental health consequences that may interfere with current safer sex practices. It is important to assess for recent partner abuse exposure and provide safety planning, reproductive health counseling, and referral to hotline and community agencies that specialize in partner abuse intervention and prevention. These responses could have both an immediate and a long-term positive impact on young women's ability to enact HIV/STI risk reduction behaviors.

It is also important that partner abuse prevention and intervention resources be available in clinical settings as an essential component of women's health services. Young women are unlikely to seek help from abused women's services (Ashley & Foshee, 2005); this may be particularly true if abuse occurred in a past relationship. Therefore, such information should be available in general health care settings. Health care practitioners report that lack of access to resources and information about abuse inhibits their ability to ask patients about it (Rodriguez, Bauer, McLoughlin, & Grumbach, 1999). Therefore, health care practitioners should be knowledgeable about screening for, identifying, and appropriately responding to partner abuse (Nursing Network on Violence Against Women International, 2007) and should be aware of resources and referrals to effectively help patients deal with the ramifications of such experiences (The Family Violence Prevention Fund, 2004).

Nurses are in an ideal position to establish relationships with young women that are conducive to the disclosure of abuse and identification and treatment of the mental health sequelae of partner abuse, such as depression or substance abuse. As nurses understand the impact of such abuse, they are more able to empower women to protect their own physical and psychological health. As we examine the interventions that have both an immediate and a long-term positive impact on the well-being of adolescents and young women, we have much to offer to the health care community.

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This study examined the relationships among prior partner abuse, current partner abuse, and current HIV risk among young women.

Recent physical/verbal relationship abuse was associated with lack of consistent condom use in the past 12 months among young women aged 18 to 26 years.

Young women with recurrent sexually transmitted infections or repeated HIV testing may be having trouble maintaining safer sex practices due to intimate partner abuse.

Table 1

Demographic Characteristics Associated With HIV Risk at Wave III

Variable	Sample (n = 2,058) Age at wave III (years), median (range)	HIV Risk at Wave III			p Value ^a
		High (n = 1,680)	Low (n = 368)	Odds of Low Risk	
Race, n (%)	22 (18-26)	22 (18-26)	21 (18-25)	0.87	<.001
Non-Hispanic White	1,211 (58.9)	1,036 (61.7)	172 (46.7)	Ref	<.001
Non-Hispanic Black	505 (24.6)	363 (21.6)	137 (37.2)	2.27	.548
Hispanic	171 (8.3)	142 (8.5)	27 (7.3)	1.15	.109
Other	169 (8.2)	137 (8.2)	32 (8.7)	1.41	.066
Median family income (\$), n (%)					
24,999	368 (17.9)	285 (17.0)	79 (21.5)	Ref	.013
25,000-34,999	439 (21.3)	372 (22.1)	65 (17.7)	0.63	.460
35,000-49,999	464 (22.6)	373 (22.2)	91 (24.7)	0.88	.608
50,000	173 (8.4)	138 (8.2)	34 (9.2)	0.89	.032
Unknown	614 (29.8)	512 (30.5)	99 (26.9)	0.70	

Note. Ref = reference group used for group comparisons.

^aComparison using Mann-Whitney U, chi-square, or Fisher's exact tests.

Table 2

Relationship Variables Associated With HIV Risk at Wave III

Variable	Sample (<i>n</i> = 2,058)	HIV Risk at Wave III		Odds of Low Risk	<i>p</i> Value ^d
		High (<i>n</i> = 1,680)	Low (<i>n</i> = 368)		
Wave II baseline variables					
Number of relationships with male partners (up to six possible), <i>n</i> (%)					
0	869 (42.2)	694 (41.3)	172 (46.7)	Ref	.144
1	777 (37.8)	641 (38.2)	131 (35.6)	0.82	
2+	412 (20.0)	345 (20.5)	65 (17.7)	0.76	
Ever had vaginal intercourse?, <i>n</i> (%)					
No	847 (52.9)	649 (50.3)	195 (64.6)	1.80	<.001
Yes	755 (47.1)	642 (49.7)	107 (35.4)	Ref	
Ever had anal sex?, <i>n</i> (%)					
No	809 (87.4)	673 (86.8)	133 (91.1)	1.55	.173
Yes	117 (12.6)	102 (13.2)	13 (8.9)	Ref	
HIV risk, <i>n</i> (%)					
Low	289 (46.1)	235 (43.9)	51 (58.6)	1.81	.015
High	338 (53.9)	300 (56.1)	36 (41.4)	Ref	
Wave III baseline variables					
Number of relationships with male partners, median (range)					
	3 (1-25)	3 (1-25)	3 (1-24)		.045
Number of vaginal intercourse partners in past 12 months, median (range)					
	2 (0-23)	2 (0-23)	2 (0-19)		.003
Number of times had vaginal intercourse in past 12 months, median (range)					
	40 (0-900)	50 (0-900)	12 (0-500)		<.001
Any STIs, <i>n</i> (%)					
No	1,749 (85.0)	1,477 (88.2)	344 (93.7)	1.99	.002
Yes	308 (15.0)	197 (11.8)	23 (6.3)	Ref	

Note. Percentages are based on the number known responders in each group; unknowns are not shown, except for income. STIs = sexually transmitted infections. Ref = reference group used for group comparisons.

^aComparison using Mann-Whitney U, chi-square, or Fisher's exact tests.

Table 3
Unadjusted Effects of Prior (Wave II) and Recent (Wave III) Partner Abuse on HIV Risk at Wave III

Variable	Sample (n = 2,058), n (%)	HIV Risk at Wave III		Odds of Low Risk	p Value ^d
		High (n = 1,680), n (%)	Low (n = 368), n (%)		
Prior abuse at wave II					
Any physical abuse					
No	1,910 (92.8)	1,551 (92.3)	349 (94.8)	1.53	
Yes	148 (7.2)	129 (7.7)	19 (5.2)	Ref	
Any verbal abuse					
No	1,838 (89.3)	1,492 (88.8)	338 (91.8)	1.42	
Yes	220 (10.7)	188 (11.2)	30 (8.2)	Ref	
Both physical and verbal abuse					
No	1,956 (95.0)	1,590 (94.6)	356 (96.7)	1.68	
Yes	102 (5.0)	90 (5.4)	12 (3.3)	Ref	
Any abuse in any relationship					
No	1,910 (92.8)	1,453 (86.5)	330 (89.9)	1.39	
Yes	148 (7.2)	227 (13.5)	37 (10.1)	Ref	
Recent abuse at wave III					
Any physical/verbal abuse					
No	1,499 (72.8)	1,196 (71.2)	296 (80.4)	1.66	
Yes	559 (27.2)	484 (28.8)	72 (19.6)	Ref	
Ever forced to have sex					
No	1,577 (88.2)	1,285 (87.5)	286 (91.4)	1.52	
Yes	211 (11.8)	184 (12.5)	27 (8.6)	Ref	
Both physical/verbal abuse and forced sex					
No	1,931 (93.8)	1,567 (93.3)	354 (96.2)	1.82	
Yes	127 (6.2)	113 (6.7)	14 (3.8)	Ref	
Any abuse in any relationship					
No	1,415 (68.8)	1,125 (67.0)	283 (76.9)	1.64	
					<.001

Variable	HIV Risk at Wave III			Odds of Low Risk	p Value ^a
	Sample (n = 2,058), n (%)	High (n = 1,680), n (%)	Low (n = 368), n (%)		
Yes	643 (31.2)	555 (33.0)	85 (23.1)	Ref	
Combined prior and recent abuse					
None	1,270 (61.7)	1,004 (59.8)	259 (70.6)	Ref	
Wave II only	145 (7.1)	121 (7.2)	24 (6.5)	0.77	.262
Wave III only	521 (25.3)	449 (26.7)	71 (19.4)	0.61	.001
Waves II and III	121 (5.9)	106 (6.3)	13 (3.5)	0.48	.014

Note. Percentages are based on the number of known responders in each group; unknowns are not shown. Ref = reference group used for group comparisons.

^aComparison using Mann-Whitney U, chi-square, or Fisher's exact tests.