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Intimate Partner Violence and Anal Intercourse among Young Adult Heterosexual Relationships

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Abstract

Context—The prevalence of intimate partner violence and anal intercourse is high in young adult relationships, but few have looked the intersection of the two. This paper considers this association within multiple intimate partner violence contexts.

Methods—Using wave 3 of the National Longitudinal Study of Adolescent Health, an analysis was completed on the association of physical and sexual intimate partner violence and anal intercourse in relationships reported by young women. This wave was collected from 2001–2002 when the women were between 18 and 28 years old. A hierarchical random effects model was used to control for the clustered survey design and multiple relationships reported per participant. This analysis included 10,462 relationships reported by 6,280 women.

Results—In multivariate analysis, relationships where women perpetrated physical violence (AOR 1.9) and relationships that were reciprocally physically violent (AOR 1.7) were more likely to include anal intercourse than non-abusive relationships. Among those that included anal intercourse, relationships where the woman was a victim of physical violence (AOR 0.2) were less likely to have ever used a condom during anal intercourse. There was no association between sexual violence and condom use.

Conclusion—These analyses demonstrate that women in violent relationships may be at increased risk of sexually transmitted infections due to unprotected anal intercourse. More information on the context surrounding anal intercourse and intimate partner violence is needed in order to understand the nuances of this association.

Introduction

The prevalence of intimate partner violence, which can include physical abuse as well as sexual and psychological abuse, is fairly high among young-adult heterosexual relationships. In wave 3 of The National Longitudinal Study of Adolescent Health (Add Health), for participants aged 18–28 years, 29% of women and 25% of men reported ever being physically victimized by intimate partner violence while 36% of women and 17% of men reported ever perpetrating physical intimate partner violence.¹ Intimate partner violence not only results in potential immediate physical injury but also has negative effects on reproductive and sexual health.^{2,3} Intimate partner violence can include a loss of power and

control in an individual's life. This loss of power could result in an inability to make informed decisions about sexual behavior, such as when to have sex and whether contraception is used.² There has been several studies that have examined the association between intimate partner violence and sexual health. These studies have found evidence that abused women are at increased risk for inconsistent condom use, no condom use at last/first vaginal intercourse, partner non-monogamy, and history of STI.²

Another potentially risky sexual behavior that has been more frequently reported in recent years is heterosexual anal intercourse.^{4,5} In a national survey conducted in 2009, the past-year prevalence of anal intercourse in women 20–24 years old was 23.4%, with a lifetime prevalence of 40%.⁶ This relatively high prevalence of anal intercourse is of concern because anal intercourse is often unprotected^{7–9} and has been associated with a number of other high risk behaviors including exchanging sex for money, drugs, or other services,^{10–12} higher number of lifetime partners,^{10,13} having sex the same day as meeting your partner,¹⁰ you or your partner having concurrent partnerships,¹⁰ alcohol and substance use,^{7,12,14} and testing positive for an STI¹².

There is increasing evidence that anal intercourse is more common among female victims of physical and/or sexual intimate partner violence.^{13,15–19} In a study of women in New York City at risk for HIV, unprotected anal intercourse with a steady partner was associated with battering.⁷ In another study conducted among a sample of methadone-maintained women in New York City, unprotected anal intercourse was associated with reporting intimate partner violence (physical/sexual) victimization in the previous 6 months.¹⁷ However, these analyses are limited by the fact that reports of anal intercourse and intimate partner violence did not necessarily occur within the same relationship. Moreover, these studies considered only women as victims and men as perpetrators of intimate partner violence. The prevalence of female perpetrated violence and reciprocal violence, meaning both people in the relationship were perpetrating intimate partner violence, is quite high.¹ Among relationships reported as violent in Add Health about half were reciprocally violent. These reciprocally violent relationships were found to be associated with a higher frequency of violence and injury occurrence compared to relationships which were uni-directionally violent.¹

Because reciprocally violent relationships are associated with a higher frequency of violence, it is possible that the association between intimate partner violence and anal intercourse may differ depending on whether or not intimate partner violence is reciprocated. In order to characterize the relationship between intimate partner violence, reciprocal intimate partner violence, and anal intercourse within young-adult heterosexual relationships, we conducted an analysis of wave 3 of Add Health. Specifically, we examined the association between anal intercourse and physical and sexual intimate partner violence in reciprocally violent relationships and in relationships that were uni-directionally violent.

Methods

Source of data

This study was based on data from wave 3 of the National Longitudinal Study of Adolescent Health (Add Health). The Add Health dataset contains demographic and behavioral information from a sample of adolescents in grades 7–12 in the United States enrolled in the 1994–1995 academic year.²⁰ Wave 3 data was collected in 2001–2002 when participants were between the ages of 18 and 28 years of age and consisted of an in-home interview. The demographic data and other non-sensitive data were collected in a face-to-face interview whereas the sensitive variables (sexual behaviors and intimate partner violence) were answered privately by the respondent using computer assisted self-interview (CASI). During the CASI portion, respondents were asked to list all their sexual and romantic relationships

from the previous five years. Based on an algorithm that took into account factors such as duration, marital status, and recency, ‘important’ relationships were selected in order to gather more detailed information, including sexual behavior with that partner and intimate partner violence perpetration and victimization with that partner. This analysis was restricted to women who responded to the in-depth relationship questions including those addressing intimate partner violence and anal intercourse. This resulted in a sample size of 10,462 relationships reported by 6,280 women, with 2,165 women reporting on one relationship, 4,049 women reporting on two relationships, and 66 reporting on three or more relationships. This sub-sample did not differ in age compared to the wave 3 sample of women, but the sub-sample did have slightly larger representation of non-Hispanic white women and women who were more highly educated.

Measures

Anal Intercourse—In each of their reported relationships over the past five years, participants were asked whether they had ever had anal intercourse (yes/no). Participants who reported having anal intercourse were asked if it had only happened once in the relationship or if they had had anal intercourse more than one time, whether condoms were ever used during anal intercourse, and whether they liked having anal intercourse with their partner. Liked having anal intercourse was measured on a 5-point Likert scale, which we dichotomized into disliked or strongly disliked anal intercourse (disliked anal intercourse) with their partner versus people who liked or were indifferent to anal intercourse (did not dislike anal intercourse).

Sexual and Physical IPV—Physical and sexual intimate partner violence were assessed using the Conflict Tactics Scales, a tool used frequently to measure intimate partner violence that is based on asking about specific acts and events.²¹ The physical abuse behaviors included in the questions were: (1) threatening your partner with violence, pushing or shoving, or throwing something that could hurt, (2) slapping, hitting, or kicking, (3) injuring partner. This first question does encompass those people who perpetrated psychological abuse because of the inclusion of threatening your partner. For each behavior separate questions were asked about perpetrating that behavior and about being a victim of that behavior. If a woman answered in the affirmative to any of the perpetration questions she was considered to be a perpetrator of intimate partner violence within that relationship. Similarly, if a woman answered affirmatively to any of the victimization questions she was considered to be a victim of intimate partner violence within that relationship. The women were then grouped into four categories of intimate partner violence; reciprocal (i.e. women reported both perpetration and victimization), perpetrator-only, victim-only, and non-abusive relationships. Sexual intimate partner violence was assessed by asking participants ‘have you insisted on or made your partner have sexual relations with you when he didn’t want to?’, as well as the victimization version of this question. A 4-part sexual intimate partner violence variable similar to the physical abuse variable was created based on these two questions.

Demographic and relationship characteristics—Several covariates were considered for inclusion in the analyses based on previously published associations with intimate partner violence and anal intercourse. These included race/ethnicity of the respondent, age, level of commitment in the relationship (only sex, casual dating, exclusive dating, ever lived together, ever married), age discordance (partner 5 or more years older vs. same age or younger), believing your partner had concurrent sexual partners (yes/no), and duration of the relationship in months (based on reported start and end dates).

Statistical analysis

Bivariate analyses examined associations between intimate partner violence status, demographic and relationship characteristics and the anal intercourse outcomes. The significance of these categorical associations was assessed using a bivariate hierarchical random effect model. The associations were then assessed in multivariate hierarchical random effect models for each of the anal intercourse outcomes (anal intercourse, condom use during anal intercourse, and anal intercourse more than once). The hierarchical random effect model was used to control for the clustered survey design (high school random effect) and the repeated measures within subject because women could report on more than one relationship (subject random effect). The covariates in the multivariate analyses were selected based on *a priori* knowledge and bivariate results. To explore further the dynamics between intimate partner violence victimization, disliking anal intercourse, and having anal intercourse more than once in a relationship, a stratified analysis was performed in which women were stratified by whether or not they disliked anal intercourse. For this sub-analysis, sexual victimization status was dichotomized into whether or not the woman was a victim of sexual intimate partner violence regardless of sexual perpetration status. All analyses were performed using Stata 11.0 with the bivariate and multivariate analyses performed with the `xtmelogit` command.

Results

Of the 6,280 women included in this analysis, the majority were white non-Hispanic (54%), followed by black non-Hispanic (21%), and 15% were Hispanic (Table 1). The median age of the sample was 22 years and most had either graduated high school (34%) or attended some college (45%). Overall, 29% of relationships over the past 5 years were physically abusive; 15% of relationships were reciprocally physically abusive, in 4% of relationships the woman was the only victim of physical intimate partner violence, and in 10% of relationships the woman was the only perpetrator (Table 1). The overall prevalence of sexual violence in relationships was 11%; 3% of relationships were reciprocally sexually abusive, in 8% of relationships the woman was the only victim of sexual IPV, and in 1% of relationships the woman was the only perpetrator of sexual violence (Table 1).

The prevalence of anal intercourse over the past 5 years was 14% in this sample of relationships reported by young adult women (Table 1). Among those relationships that included anal intercourse, only 23% ever used a condom during anal intercourse, more than half (58%) included more than one act of anal intercourse, and in 46% of relationships the woman reported disliking anal intercourse. The occurrence of anal intercourse was higher in physically and sexually violent relationships. The prevalence of anal intercourse in reciprocal, victim-only, and perpetrator-only physically violent relationships was 26%, 17%, and 20%, respectively, whereas the prevalence in non-violent relationships was 11% (Table 2). The prevalence of anal intercourse in relationships that were sexually violent was approximately 25% compared to 13% of non-sexually violent relationships (Table 2). Furthermore, reciprocally physically violent relationships (19%) and relationships where the woman were the only victim of physical abuse (11%) had a lower prevalence of condom use during anal intercourse compared to non-abusive relationships (25%). There was no significant difference in condom use by sexual intimate partner violence status (Table 2).

There was a higher prevalence of disliking anal intercourse in physically violent relationships (54% reciprocal, 57% victim only, 52% perpetrator only) compared to non-violent relationships (40%). Relationships where the woman was the only victim of sexual abuse had a higher prevalence of disliking anal intercourse (69%) compared non-violent relationships (43%) (Table 2). There were no significant differences in whether a woman had anal intercourse more than once in a relationship by physical or sexual intimate partner

violence status. However, in stratified analysis, among women who disliked anal intercourse, sexual victimization was positively associated with having anal intercourse more than once (53% vs 37%, $p=0.01$). Among those who liked or were indifferent to anal intercourse, there was no association between sexual victimization and having anal intercourse more than once (78% vs 72%, $p=0.62$) (not shown).

Relationships where the woman was non-Hispanic black (9%) were significantly less likely to include anal intercourse than relationships where the woman was non-Hispanic white (15%) (Table 2). Among relationships that included anal intercourse, those where the woman was black were also less likely to have anal intercourse more than once, but were more likely to have ever used a condom. In addition, more committed relationships were more likely to include anal intercourse than those that were defined as “only sex”. Relationships where the partner was five or more years older than the woman and those where the woman believed her partner had other sexual partners were also more likely to include anal intercourse than relationships that did not have these characteristics (Table 2).

Multivariate Association between Intimate Partner Violence and Anal Intercourse

Women in physically and sexually violent relationships were more likely to report anal intercourse than women in non-violent relationships. Specifically, in multivariate models that controlled for the clustered survey design, repeated measures, and potential confounders (age, race, level of commitment, partner who is 5 or more years older, concurrent partner, duration of the relationship), relationships that were reciprocally physically violent (adjusted odds ratio (AOR) 1.7) and perpetrator-only relationships (AOR 1.9) were more likely to include anal intercourse than non-violent relationships (Table 3). Similarly, in multivariate models, relationships where the woman was the only victim of sexual intimate partner violence (AOR 1.3) and those where the woman was the only perpetrator (AOR 2.0) were more likely to report anal intercourse than sexually non-violent relationships.

In multivariate models of relationships where anal intercourse was reported, relationships where the women were victims of physical violence had much lower odds of using condoms during anal intercourse compared to non-violent relationships (AOR 0.2) and reciprocally physically violent relationships had somewhat lower odds of ever using a condom during anal intercourse (AOR 0.6) compared to non-violent relationships (Table 3). In other multivariate models, relationships where the woman was the only victim of sexual abuse were more likely to report having anal intercourse more than once (AOR 1.9) compared to non-abusive relationships, controlling for disliking anal intercourse in addition to other covariates (Table 3). Relationships that were reciprocally physically violent were also significantly more likely to have multiple acts of anal intercourse (AOR 1.5) compared to non-violent relationships.

Discussion

This study demonstrated that the prevalence of anal intercourse is high in violent relationships of various types; sexually, physically, unidirectionally, and reciprocally violent relationships. Past research has shown that anal intercourse is associated with intimate partner violence victimization among women,^{17–19} but, to our knowledge, this is the first to show it is also common in other violent contexts. This helps give us a better understanding of the intersection between violence and sexual risk behaviors.

More specifically, this study demonstrates that anal intercourse is more common in reciprocal physically abusive relationships and those where the woman is the only perpetrator of intimate partner violence compared to non-violent relationships. In contrast, anal intercourse was not more common among relationships in which the woman was the

only victim of physical intimate partner violence. This is an unexpected finding because past research has found that female victims of physical intimate partner violence are more likely to report anal intercourse.^{17–19} However, these previous studies did not consider physical violence perpetration by women.

Trying to identify a reason for this association between perpetration of physical violence by women and anal intercourse is difficult without knowing the context and timing of the violence and anal intercourse. Commonly cited motivations for female perpetration of physical violence include self-defense and retaliation for a perceived wrong-doing.²² Given these potential motivations for violence, one possibility for the association is that the woman could be retaliating to an undesired sexual act. Although in this case, the undesired act would need to fall short of being considered sexual violence, considering that sexual violence was controlled for in the model. This assumes that the anal intercourse preceded the violence perpetration. The order of events could also be reversed with the violence occurring before the anal intercourse. In this scenario, the woman could be acquiescing to a sexual act as a way to atone for her previous violence. Previous research has shown that a motivation for anal intercourse among women is to please their partner,²³ so potentially in some scenarios a woman would use this as a way to make up with her partner. In an event-level analysis among adolescent women, it was shown that anal intercourse was associated with negative mood and higher partner negativity, which could suggest that the decision to have anal intercourse was partly to improve the mood in the relationship.²⁴

Alternatively, the violence may not be directly related to the act of anal intercourse. For example, the violence could be in retaliation for other behaviors that also happen to be associated with anal intercourse, such as partner concurrency.^{10, 15} In addition, it could be that people who have a tendency to be violent also happen to engage in anal intercourse more frequently. In the case of the two behaviors being indirectly related, the violence could just serve as a potential marker of sexual risk behaviors. In order to better understand the reason for the association between perpetration of physical violence and anal intercourse a more detailed study is needed; such as an event-level or qualitative study. Knowing whether the violence is directly related to the anal intercourse or not could have an impact on the type of interventions that would be effective in reducing sexual risk.

Relationships where women were victims of sexual violence were also more likely to include anal intercourse, and, in addition, were more likely to have anal intercourse more than once after controlling for dislike of the behavior. As might be expected, those that disliked anal intercourse were less likely to have anal intercourse more than once. However, when the dynamic between disliking anal intercourse, having anal intercourse more than once, and sexual victimization was explored further it was found that among women who disliked anal intercourse, women who were victims of sexual abuse were more likely to report having anal intercourse more than once compared to women in sexually non-violent relationships. In contrast, among women who liked or were indifferent to anal intercourse, there was no relationship between being a victim of sexual abuse and increased frequency of anal intercourse. Increased frequency of anal intercourse among women who do not like anal intercourse and who are in sexually abusive relationships could be due to more male influence on sexual relations in these sexually abusive relationships.²⁵

Women who were victims of physical abuse were less likely to report ever using a condom during anal intercourse compared to women in non-violent relationships. This association could be the result of the women having less control over contraceptive decisions in relationships where they are victims of physical violence.²⁶ In contrast, women who were victims of sexual abuse were equally likely to report condom use compared to women in non-violent relationships. This finding is surprising and challenging to interpret. It is

important to remember that the outcome was *ever* using a condom during anal intercourse, so condom use only had to occur once to be classified in the ‘yes’ category. Therefore, this result only indicates that sexually violent relationships were just as likely to have used a condom at least once as non-violent relationships, and in all violence contexts condom use was low.

Despite the inability to fully understand the association between condom use and intimate partner violence, this finding still provides insight regarding the risk of transmission and acquisition of STIs among women who are victims of physical and sexual intimate partner violence. The difference in condom use during anal intercourse between women who are victims of sexual and physical abuse suggests that considering physical abuse may be just as, or even more, important than sexual abuse when determining the level of sexual risk a woman may be exposed to, at least in relationships with anal intercourse. Combined with the higher rate of STIs among women who have unprotected anal intercourse compared to those who only have unprotected vaginal intercourse,²⁷ this finding indicates that physically victimized women may be at a higher risk of STIs due to the association with lack of condom use during anal intercourse.

This study has several limitations, including the possibility of social desirability bias in which participants may under-report sensitive behaviors such as physical and sexual intimate partner violence and anal intercourse. However, the use of CASI to assess sensitive information may help to limit this bias. Another potential reporting bias could be present if women who chose to be honest about the violence in their relationship were also more likely to honestly report on anal intercourse. Moreover, participants were asked to recall events over the previous 5 years, which could result in recall bias if women in abusive relationships could recall events with more or less accuracy than women in non-abusive relationships. In addition, the minimal amount of contextual information limits our ability to evaluate the dynamics of these relationships such as who typically initiates the abuse and whether an anal intercourse event was consensual. In addition, we only have the perspective of the woman in these relationships. More information could be obtained if the male partners had also been interviewed. Finally, it is important to remember that the relationship between anal intercourse and intimate partner violence is not necessarily causal and there could be other key confounders that were not controlled for in this analysis, such as drug abuse by the woman or her partner.

Despite these limitations, this study provides valuable information on the prevalence and associations between heterosexual anal intercourse and sexual and physical intimate partner violence within young adult relationships. A strength of this study is the fact that each participant was asked about perpetration and victimization of intimate partner violence within each relationship. Therefore, it was possible to categorize people into reciprocally violent versus uni-directionally violent relationships. This allowed the association between female perpetrated intimate partner violence and anal intercourse to be explored. As noted previously, further research should include event-level and qualitative studies. This would help paint a more complete picture of the motivations for anal intercourse and the context in which it happens. Understanding whether or not violence plays a direct role in the decision to have anal intercourse and in condom use decisions would have implications for sexual risk reduction interventions.

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Table 1

Demographic characteristics of women and characteristics of relationships over the past 5 years reported by women in wave 3 of the National Longitudinal Study of Adolescent Health

	Women N = 6280
	%
Race	
White non-Hispanic	54.4
Black non-Hispanic	20.5
Hispanic	14.8
Other	10.3
Education	
< High School	7.8
High School	33.8
Some college	44.6
College graduate	13.8
Age (median [IQR])	22 [21–23]
	Relationships over the past 5 years N = 10462
Physical IPV	
Reciprocal IPV	15.4
Victim only	4.2
Perpetrator only	9.9
No abuse	70.6
Sexual IPV	
Reciprocal IPV	2.5
Victim only	7.6
Perpetrator only	1.3
No abuse	88.7
Anal Intercourse (AI)	14.2
<i>Among those reporting AI</i>	N = 1484
Ever used a condom during AI	22.5
AI >1 time	57.7
Dislike AI	46.4

Table 2

Bivariate associations of intimate partner violence, demographic and partnership characteristics with anal intercourse behaviors in relationships reported by women in wave 3 of the National Longitudinal Study of Adolescent Health

Characteristic	Anal Intercourse (ever in relationship)			Among those who reported anal intercourse		
	N	%	N	% ever used a condom during anal intercourse	% dislike anal intercourse	% had anal intercourse >1 time
Physical intimate partner violence						
Reciprocal	1614	26.3***	424	18.8*	54.3***	61.6
Victim-only	435	17.2***	75	10.8*	57.3**	54.1
Perpetrator-only	1030	19.8***	204	25.6	52.2**	58.8
Reference: No abuse	7383	10.6	781	24.8	39.5	55.7
Sexual intimate partner violence						
Reciprocal	256	24.6***	63	26.2	50.0	59.0
Victim-only	787	23.1***	182	22.2	69.2***	62.8
Perpetrator-only	131	24.4***	32	22.6	38.7	48.4
Reference: No abuse	9249	13.0	1202	22.3	43.0	57.0
Race/ethnicity						
Reference: Non-Hispanic white	5809	15.3	889	19.8	45.7	59.8
Non-Hispanic black	2137	9.4***	201	37.9***	48.7	51.3*
Hispanic	1453	16.5	240	22.8	46.6	56.0
Other	1057	14.6	154	18.1	47.3	56.0
Level of commitment						
Reference: Only sex	444	11.5	51	42.6	47.1	31.9
Casual dating	1478	4.5***	66	34.4	41.3	41.0
Exclusive dating	4406	9.9	436	26.8*	47.6	55.9**
Lived together	2539	23.2***	590	20.3**	45.7	58.4**
Married	1470	22.6***	332	14.8***	46.5	65.5***
Partner 5 yrs older						
Yes	1972	17.3***	341	17.3**	40.1**	61.5
Reference: No	8484	13.5	1142	24.1	48.3	56.6

Characteristic	Anal Intercourse (ever in relationship)		Among those who reported anal intercourse		
	N	%	N	% ever used a condom during anal intercourse	% dislike anal intercourse % had anal intercourse >1 time
Believe partner is concurrent					
Yes	1798	21.2***	381	27.9*	51.1* 55.2
Reference: No	7373	14.3	1052	20.9	44.6 58.6
Dislike anal intercourse					
Yes	---	---	680	23.9	--- 40.6***
Reference: No	---	---	786	21.1	--- 72.3

* p<0.05,
 ** p<0.01,
 *** p<0.001

Table 3

Adjusted odds ratios (AOR) of intimate partner violence for anal intercourse and anal intercourse characteristics

	Anal Intercourse (ever in relationship)	Among those who reported anal intercourse	
		Ever used a condom during anal intercourse	Had anal intercourse >1 time in relationship
	AOR (95% CI [^])	AOR (95% CI [^])	AOR (95% CI [^])
	N = 8905	N = 1386	N = 1378
Physical intimate partner violence			
Reciprocal	1.72 (1.37–2.15)	0.56 (0.30–1.03)	1.53 (1.03–2.27)
Victim only	1.14 (0.81–1.59)	0.18 (0.05–0.67)	0.98 (0.49–1.96)
Perpetration only	1.85 (1.48–2.30)	0.95 (0.48–1.88)	1.37 (0.86–2.19)
Ref: no abuse	p<0.001 ⁺	p=0.04 ⁺	p=0.16 ⁺
Sexual intimate partner violence			
Reciprocal	1.34 (0.90–2.00)	1.42 (0.45–4.44)	0.99 (0.46–2.12)
Victim only	1.32 (1.04–1.69)	1.72 (0.81–3.67)	1.91 (1.15–3.17)
Perpetration only	2.01 (1.17–3.46)	1.15 (0.26–5.13)	0.53 (0.20–1.41)
Ref: no abuse	p=0.006 ⁺	p=0.55 ⁺	p=0.04 ⁺
Dislike AI	--	--	0.14 (0.08–0.25)

controlled for age at time of interview, duration of relationship, race, level of commitment, believing your partner is concurrent, and having a partner 5 or more years older in all models in addition to all covariates in the table. Hierarchical random effects models were used to control for the clustered survey design and repeat measures.

Bold-faced entries indicate a significant finding at the p<0.05 level

⁺ p-value for global test of significance for multi-level categorical variables

[^] CI = confidence interval

-- = variable not included in analysis