Intimate Partner Violence and Anal Intercourse In Young Adult Heterosexual Relationships

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CONTEXT: *Although intimate partner violence and anal intercourse are common in young adult relationships, few studies have examined whether these behaviors are associated with each other.*

METHODS: *Data from 6,280 women aged 18–28 who took part in Wave 3 of the National Longitudinal Study of Adolescent Health were used to examine the association between physical and sexual intimate partner violence and anal intercourse in 10,462 relationships. Multivariate hierarchical random effects models were used to adjust for the clustered survey design and for the multiple relationships reported per participant.*

RESULTS: *Physical violence occurred in 29% of relationships, sexual violence in 11% and anal intercourse in 14%. The odds that a couple had had anal intercourse were greater among relationships that included physical violence perpetrated by both partners or only by the woman than among nonviolent relationships (odds ratios, 1.7 and 1.9, respectively). The odds of anal intercourse were also elevated among sexually abusive relationships, although only if the woman was the sole victim or the sole perpetrator (1.3 and 2.0, respectively). In relationships that included anal intercourse, the odds of condom use were lower if the woman was a victim of physical violence than if no violence occurred (0.2). Sexual violence was not associated with condom use.*

CONCLUSION: *Women in physically violent relationships may be at increased risk for STDs because of their elevated exposure to unprotected anal intercourse. More information on the context surrounding anal intercourse and intimate partner violence is needed to understand the nuances of this association.*

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Intimate partner violence, which encompasses not only physical abuse but also sexual and psychological abuse, is common in relationships between young heterosexual adults. In Wave 3 of the National Longitudinal Study of Adolescent Health (Add Health), which was conducted when respondents were aged 18–28, 29% of women and 25% of men reported having been victims of physical intimate partner violence, while 36% of women and 17% of men reported having perpetrated such violence.[1] In addition to the potential for immediate injury, physical intimate partner violence can have negative long-term effects on sexual and reproductive health.[2,3] Victims of any type of intimate partner violence may suffer a loss of power and control in their life, which can impede their ability to make informed decisions about sexual behavior, such as when to have sex and whether to use contraceptives.[2] Abused women are more likely than other women to use condoms inconsistently, to have not used a condom the first or last time they had vaginal sex, to have a nonmonogamous partner and to have a history of STDs.[2]

A potentially risky sexual behavior that has been increasingly reported in recent years is heterosexual anal intercourse.[4,5] In a national survey conducted in 2009, the past-year prevalence of anal intercourse among women aged 20–24 was 23%, and the lifetime prevalence was 40%.[6] These findings are cause for concern because anal intercourse is often unprotected[7–9] and has been linked to a number of high-risk behaviors and unhealthy outcomes, including exchanging sex for money, drugs or other services;[10–12] having a high lifetime number of partners;[10,13] having sex with a partner whom one has just met;[10] having concurrent partnerships;[10] having a partner who has concurrent partnerships;[10] using alcohol and illegal substances;[7,12,14] and testing positive for an STD.[12]

Female victims of physical or sexual intimate partner violence may be more likely than other women to have had anal intercourse.[13,15–19] In a study of New York City women at risk for HIV, unprotected anal intercourse with a steady partner was associated with having been a victim of battering.[7] In another study, women undergoing methadone maintenance treatment for substance abuse had an elevated likelihood of reporting unprotected anal intercourse if they had been a victim of physical or sexual intimate partner violence in the previous six months.[17] However, in these studies, reported anal intercourse and intimate partner violence did not necessarily occur within the same relationship. Moreover, these studies considered only violence perpetrated by men against women, yet the prevalence of female-perpetrated violence and reciprocal violence (i.e., when both partners are perpetrators) is quite high.[1] About half of relationships reported as violent in Add Health were reciprocally violent, and the frequency

of violence and injury was higher in these relationships than in ones that were unidirectionally violent.[1]

Because the frequency of violence is higher in relationships with reciprocal rather than unidirectional violence, the associations of these patterns of abuse with anal intercourse may differ. We used data on heterosexual young adults who had participated in Wave 3 of Add Health to identify associations between anal intercourse and physical and sexual intimate partner violence in reciprocally abusive relationships and in relationships with unidirectional violence.

METHODS

The Add Health data set contains demographic and behavioral information on a sample of individuals who had been enrolled in grades 7–12 in the United States during the 1994–1995 academic year.[20] Wave 3 data were collected in 2001–2002, when participants were aged 18–28. Demographic and other nonsensitive data were obtained in face-to-face interviews, whereas information on potentially sensitive topics, including sexual behavior and intimate partner violence, was collected through computer-assisted self-interviews. During the latter, respondents were asked to list all of their sexual and romantic relationships from the previous five years. Respondents provided detailed data for each of their "important" relationships, which were defined using an algorithm that took into account the duration, commitment level and recency of the relationships.

Our analyses were restricted to data from women who had responded to the in-depth relationship questions. This resulted in a sample of 6,280 women, who reported on 10,462 relationships; in all, 2,165 women reported on one relationship, 4,049 reported on two relationships and 66 reported on three or more. Women in this subsample did not differ in age from the general population of female Wave 3 participants, but the subsample had slightly greater representation of white women and more highly educated women. With the exception of some descriptive statistics, our analyses used relationships, rather than women, as the unit of analysis.

Measures

•***Anal intercourse.*** Participants were asked whether they had ever had anal intercourse in each of their important relationships during the past five years. If they had, they were asked whether they had done so more than once in the relationship, whether they and their partner had ever used a condom during anal intercourse and whether they had liked having anal intercourse. Women answered the last question using a five-point Likert scale; we dichotomized their responses, comparing relationships in which women "somewhat" or "very much" disliked having anal intercourse with those in which they did not dislike it (i.e., they "somewhat" or "very much" liked the practice, or neither liked nor disliked it).

•***Intimate partner violence.*** Sexual and physical abuse were assessed using the Conflict Tactics Scales, a frequently used tool that asks respondents about specific acts and events.[21] The physical abuse behaviors assessed by the scales are threatening one's partner with violence; pushing, shoving, slapping, hitting or kicking the partner; throwing something at the partner that could hurt him or her; and injuring the partner. (Because a single scale item asks about pushing, shoving, throwing something and making violent threats, we could not separate the last behavior—which is a form of psychological abuse—from the remaining behaviors, which constitute physical abuse.) Respondents were asked whether they had been a perpetrator and whether they had been a victim of each behavior. If a woman answered affirmatively to any of the perpetration questions, we considered her a perpetrator of intimate partner violence within the relationship; similarly, if she answered affirmatively to any of the victimization questions, she was considered a victim. We then grouped relationships into four categories, according to whether intimate partner violence had been reciprocal, had been perpetrated only by the woman, had been perpetrated only by her partner or had not occurred at all.

Sexual intimate partner violence was assessed by asking participants if they had ever "insisted on or made [their] partner have sexual relations … when he didn't want to" and a victimization version of this question. We created a four-part sexual intimate partner violence variable, similar to the physical abuse variable, from responses to these two questions.

•***Demographic and relationship characteristics.*** We included several covariates in our analyses because of their associations with intimate partner violence and anal intercourse in previous studies. These covariates were the respondent's age, race and ethnicity; the level of commitment in each relationship (classified according to whether the couple had had sex but not dated, had casually dated, had exclusively dated, had ever lived together or had ever been married); whether the partners were age-discordant (i.e., the partner was five or more years older than the respondent); whether the woman believed her partner had had concurrent sex partners; and the duration of the relationship in months (estimated from reported start and end dates).

Analyses

Bivariate analyses examined the associations between the demographic, relationship and intimate partner violence measures and the anal intercourse outcomes (having had anal intercourse, having ever used a condom during anal intercourse, having disliked anal intercourse and having had anal intercourse more than once). The statistical significance of these categorical associations was assessed using a bivariate hierarchical random effects model. We then used multivariate hierarchical random effects models to identify associations between intimate partner violence and three of the anal intercourse outcomes (all but dislike of anal intercourse). The hierarchical random effects models controlled for the clustered survey design (high

TABLE 1. Percentage distribution of young adult women, and of their important heterosexual relationships during the past five years, by selected characteristics, Wave 3, National Longitudinal Study of Adolescent Health

Characteristic	%
WOMEN	(N=6,280)
Race/ethnicity	
White	54.4
Black	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
ALL RELATIONSHIPS	(N=10,462)
Physical intimate partner violence	
Reciprocal	15.4
Victim-only	4.2
Perpetrator-only	9.9
None	70.6
Sexual intimate partner violence	
Reciprocal	2.5
Victim-only	7.6
Perpetrator-only	1.3
None	88.7
Involved anal intercourse	
Yes	14.2
No	85.8
RELATIONSHIPS INVOLVING ANAL INTERCOURSE	(N=1,484)
Anal intercouse occurred >1 time	
Yes	57.7
No	42.3
Condom ever used during anal intercourse	
Yes	22.5
No	77.5
Woman disliked anal intercourse	
Yes	46.4
No	53.6
Total	100.0

Notes: All women were aged 18–28 at the time of the survey (2001–2002). Percentages may not total 100.0 because of rounding.

school random effect); for repeated measures within subjects, because women could report on more than one relationship (subject random effect); for covariates, which were selected on the basis of bivariate results and a priori knowledge; and (in the model for having had anal intercourse more than once) for dislike of anal intercourse. To explore further the dynamics between sexual intimate partner violence victimization, dislike of anal intercourse and having had anal intercourse more than once in a relationship, we performed a subanalysis that stratified relationships according to whether the woman had disliked anal intercourse with her partner. In this subanalysis, sexual victimization status was dichotomized according to whether the woman had been a victim of sexual intimate partner violence, regardless of whether she had also been a perpetrator. All analyses were performed using Stata 11.0; bivariate and multivariate analyses were performed using the *xtmelogit* command.

RESULTS

Descriptive and Bivariate

Of the 6,280 women included in this analysis, 54% were white, 21% were black and 15% were Hispanic (Table 1). The median age of the sample was 22 years (not shown), and most respondents either had not continued their education after graduating from high school (34%) or had attended college but not completed a four-year degree (45%). Overall, physical abuse had occurred in 29% of women's important relationships: In 15%, physical violence was reciprocal; in 4%, the woman was the only victim; and in 10%, the woman was the only perpetrator. The overall prevalence of sexual intimate partner violence was 11%: In 3% of all relationships, abuse was reciprocal; in 8%, the woman was the only victim; and in 1%, the woman was the only perpetrator.

Women had had anal intercourse in 14% of their relationships; with more than half (58%) of these partners, they had had anal intercourse more than once. They reported having used condoms during anal intercourse in only 23% of relationships that included such sex, and reported disliking the practice in 46%.

The prevalence of anal intercourse was higher in physically and sexually violent relationships than in nonabusive relationships (Table 2). Women reported having had anal intercourse in 11% of relationships without physical violence, but in 17–26% of physically violent relationships. The prevalence of anal intercourse was 23–25% in sexually violent relationships, compared with 13% in relationships without sexual violence.

Condom use during anal intercourse was less prevalent in relationships in which physical violence was reciprocal (19%) or committed only by the male partner (11%) than in nonabusive relationships (25%); condom use did not differ by sexual intimate partner violence status.

The proportion of relationships in which women reported having disliked anal intercourse was greater in all three types of physically violent relationships (52–57%) than in nonviolent relationships (40%). In addition, it was higher in relationships in which the woman was the only victim of sexual abuse (69%) than in relationships without sexual violence (43%).

In relationships that included anal intercourse, the likelihood that it had occurred more than once did not differ by physical or sexual intimate partner violence status. However, the stratified analysis (not shown) revealed that among relationships involving women who disliked anal intercourse, the proportion in which the couple had had anal intercourse more than once was greater if the woman had been a victim of sexual abuse than if she had not (53% vs. 37%; p=0.01). Among relationships involving women who liked or were indifferent to anal intercourse, the proportion in which the couple had had anal intercourse more than once did not differ significantly by whether

TABLE 2. Percentage of young adult heterosexual relationships in which women reported various outcomes related to anal intercourse, by selected characteristics

Characteristic	% of all relationships that involved anal intercourse	Relationships involving anal intercourse		
		% in which condom was ever used during anal intercourse	% in which woman disliked anal intercourse	% in which anal intercourse occurred >1 time
Physical violence				
Reciprocal	26.3***	18.8*	54.3***	61.6
Victim-only	17.2***	10.8*	57.3**	54.1
Perpetrator-only	19.8***	25.6	52.2**	58.8
None (ref)	10.6	24.8	39.5	55.7
Sexual violence				
Reciprocal	24.6***	26.2	50.0	59.0
Victim-only	23.1***	22.2	69.2***	62.8
Perpetrator-only	24.4***	22.6	38.7	48.4
None (ref)	13.0	22.3	43.0	57.0
Race/ethnicity				
White (ref)	15.3	19.8	45.7	59.8
Black	9.4***	37.9***	48.7	51.3*
Hispanic	16.5	22.8	46.6	56.0
Other	14.6	18.1	47.3	56.0
Commitment level				
Had sex but did not date (ref)	11.5	42.6	47.1	31.9
Casually dated	4.5***	34.4	41.3	41.0
Exclusively dated	9.9	26.8*	47.6	55.9**
Lived together	23.2***	20.3**	45.7	58.4**
Married	22.6***	14.8***	46.5	65.5***
Partner ≥5 years older				
Yes	17.3***	17.3**	40.1**	61.5
No (ref)	13.5	24.1	48.3	56.6
Believed partner had concurrent relationship				
Yes	21.2***	27.9*	51.1*	55.2
No (ref)	14.3	20.9	44.6	58.6
Disliked anal intercourse				
Yes	na	23.9	na	40.6***
No (ref)	na	21.1	na	72.3

*p<.05.**p<.01.***p<.001. *Notes:* ref=reference group. na=not applicable.

the woman had been a victim of sexual intimate partner violence (72–78%).

Several other notable findings emerged. The prevalence of anal intercourse was lower in relationships involving black women than in those involving white women (9% vs. 15%—Table 2). Among relationships that included anal intercourse, the proportion in which the couple had had anal intercourse more than once also was lower if the woman was black rather than white (51% vs. 60%), though the reverse was true for the prevalence of condom use during anal intercourse (38% vs. 20%). The prevalence of anal intercourse was greater in the relationships of couples who had lived together or married (23% each) than in those of couples who had had sex but not dated (12%), in age-discrepant than non–age-discrepant relationships (17% vs. 14%) and in relationships in which the woman believed her partner had had other sexual partners than in other relationships (21% vs. 14%). Finally, commitment level was negatively associated with condom use during anal intercourse but positively associated with having had anal intercourse multiple times.

Multivariate

In multivariate models, physically or sexually violent relationships generally were more likely than nonviolent ones to include anal intercourse. Specifically, the odds of anal intercourse were elevated in relationships in which both partners or only the woman perpetrated physical violence (odds ratios, 1.7 and 1.9, respectively—Table 3, page 10), and in which one partner or the other perpetrated sexual violence (1.3–2.0).

In analyses restricted to relationships that included anal intercourse, the odds that condoms were ever used during anal intercourse were substantially lower if the woman had been the only victim of physical violence than if no violence was reported (odds ratio, 0.2). Finally, in models that adjusted not only for social and demographic characteristics but also for whether the woman disliked having anal intercourse, the odds that a couple had engaged in anal intercourse more than once were elevated if both partners had perpetrated physical intimate partner violence (1.5) and if the woman had been the only victim of sexual abuse (1.9).

TABLE 3. Adjusted odds ratios (and 95% confidence intervals) from logistic regression analyses examining associations between intimate partner violence and various outcomes related to anal intercourse

Measure	Couple ever had anal intercourse	Relationships involving anal intercourse	
		Condom was ever used during anal intercourse	Anal intercouse occurred >1 time
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)
Perpetrator-only	1.85 (1.48–2.30)*	0.95 (0.48–1.88)	1.37 (0.86–2.19)
None (ref)	1.00	1.00	1.00
Global test of significance	*p<.001*	*p<.05*	*ns*
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)*
Perpetrator-only	2.01 (1.17–3.46)*	1.15 (0.26–5.13)	0.53 (0.20–1.41)
None (ref)	1.00	1.00	1.00
Global test of significance	*p<.01*	*ns*	*p<.05*

*p<.05. *Notes:* All models control for age at time of interview, race and ethnicity, duration of relationship, level of commitment, age discrepancy between partners and beliefs regarding partner's concurrency; model for anal intercourse occurring more than once also controls for woman's dislike of anal intercourse. ns=not significant.

DISCUSSION

This study demonstrates that the prevalence of anal intercourse is elevated in some types of violent relationships. Previous research has shown that anal intercourse is associated with intimate partner violence against women;[17–19] however, to our knowledge, this study is the first to show a relationship with other patterns of intimate partner violence, and it provides a better understanding of the intersection between such violence and sexual risk behaviors.

More specifically, we found that anal intercourse was more common in relationships in which physical abuse was reciprocal or perpetrated only by the woman than in nonviolent relationships. In contrast, the likelihood of anal intercourse was not elevated in relationships in which the woman was the only victim of physical intimate partner violence. This is an unexpected finding, because previous research found that female victims of physical intimate partner violence were more likely than other women to report having had anal intercourse.[17–19] However, these studies did not differentiate between relationships in which women were solely victims of intimate partner violence and those in which they were both victims and perpetrators.

Interpreting the association between female perpetration of physical violence and anal intercourse is difficult without knowledge of 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.[22] Thus, one possibility for the association is that women engage in violence to retaliate for having felt compelled to participate in a sexual act that they did not desire (albeit one that fell short of being considered sexual abuse, given that our models controlled for such abuse). This explanation assumes, of course, that the anal intercourse preceded the violence. The order of events can also be reversed; for example, a woman might acquiesce to a sexual act to atone for her past violent behavior, as pleasing one's partner is one reason that women have anal intercourse.[23] Also, in an event-level analysis, adolescent females had an elevated likelihood of having anal intercourse when their mood was negative (i.e., they were unhappy, angry or irritable) or their partner was displaying high levels of negativity, which suggests that some women have anal intercourse in part to improve their and their partner's mood.[24]

Another possibility is that physical and sexual violence are not directly related to the act of anal intercourse. For example, the violence could be in retaliation for other behaviors that are also associated with anal intercourse, such as partner's drug use.[12] Alternatively, people who have a tendency to be violent may simply engage in anal intercourse more frequently than other individuals. A more detailed study, such as an event-level or qualitative analysis, is needed to shed light on the reason for the association between perpetration of physical violence and anal intercourse. If the two behaviors are, in fact, related only indirectly, the violence would nonetheless serve as a potential marker of sexual risk behaviors; if the relationship is direct and causal, then interventions to reduce violence within relationships might be effective in diminishing sexual risk.

Relationships in which women were victims of sexual violence were more likely than nonviolent relationships to involve anal intercourse; they were also more likely to involve multiple instances of anal intercourse, after we controlled for women's dislike of the behavior. As might be expected, couples were less likely to have had anal intercourse more than once if the woman disliked it. However, we also found that in relationships in which the woman disliked anal intercourse, the couple was more likely to have engaged in this activity more than once if the male partner had perpetrated sexual abuse than if no sexual violence had occurred. In contrast, no association was apparent in relationships in which the woman liked or was indifferent to anal intercourse. The link between sexual abuse and repeated anal intercourse in relationships involving women who did not like anal intercourse could reflect the disproportionate influence of male partners on the couple's sexual activity.[25]

In relationships that included anal intercourse, the odds that the couple had used a condom at least once during such sex were lower if the woman had been a victim of physical abuse than if the relationship had been nonviolent. This association could reflect that women have less control over contraceptive decisions in relationships in which they are victims of physical violence.[26] In contrast, the likelihood of condom use in sexually abusive relationships did not differ from that in relationships without sexual violence. This finding is surprising, and challenging to interpret. In our analysis, condom use had to have occurred only once for the relationship to be classified in the "yes" category; therefore, this result indicates only that

in relationships involving anal intercourse, condom use was as likely to have occurred at least once in sexually violent relationships as in nonviolent relationships. The prevalence of condom use, in any case, was low regardless of the presence or type of intimate partner violence.

Although our findings do not provide a complete understanding of the association between intimate partner violence and condom use during anal intercourse, they nonetheless offer insight into the risk of transmission and acquisition of STDs among women who are victims of physical or sexual intimate partner violence. The difference in condom use according to type of abuse suggests that physical abuse should be considered just as important as sexual abuse, and perhaps even more so, in determining the level of sexual risk to which a woman may be exposed, at least in relationships in which anal intercourse occurs. Given that STD rates are higher among women who have unprotected anal intercourse than among those who have only unprotected vaginal intercourse,[27] our findings suggest that physically victimized women may have an elevated risk of STDs.

This study has several limitations. One is the possibility of social desirability bias: Participants may have underreported sensitive behaviors. However, the use of computer-assisted self-interviews to assess sensitive information may have helped to limit this bias. Another potential reporting bias may have occurred if women who were honest about the violence in their relationship were more likely than other women to report honestly on anal intercourse. Additionally, participants were asked to recall events from the previous five years, which could have resulted in recall bias if women in abusive relationships recalled events more or less accurately than did women in nonabusive relationships. Moreover, the questions regarding sensitive behaviors lacked important contextual information, such as which partner typically initiated abuse and whether anal intercourse was consensual, which limits our ability to evaluate the dynamics of the relationships. In addition, the data provided the perspective only of the women in these relationships; more information could have been obtained if male partners also had been interviewed. Finally, we cannot determine whether the association between intimate partner violence and anal intercourse is causal, and our analysis may have omitted key confounders, such as drug abuse by the woman or her partner.

Despite these limitations, this study provides valuable information on the prevalence within young adult relationships of heterosexual anal intercourse and sexual and physical intimate partner violence, as well as on the associations between these events. A strength of this study is that participants were asked about both perpetration and victimization of violence within their relationships, which allowed us to categorize the violence as reciprocal or unidirectional, and to explore the association between female-perpetrated intimate partner violence and anal intercourse. Event-level and qualitative studies would help paint a more complete picture of the motivations for anal intercourse and the context in which it occurs. Understanding whether violence plays a direct role in the decision to have anal intercourse and to use a condom could have implications for sexual risk reduction interventions.

REFERENCES

1. Whitaker DJ et al., Differences in frequency of violence and reported injury between relationships with reciprocal and nonreciprocal intimate partner violence, *American Journal of Public Health,* 2007, 97(5):941–947.

2. Coker AL, Does physical intimate partner violence affect sexual health? A systematic review, *Trauma, Violence & Abuse,* 2007, 8(2):149–177.

3. John R et al., Domestic violence: prevalence and association with gynaecological symptoms, *BJOG,* 2004, 111(10):1128–1132.

4. Aral SO et al., Temporal trends in sexual behaviors and sexually transmitted disease history among 18- to 39-year-old Seattle, Washington, residents: results of random digit-dial surveys, *Sexually Transmitted Diseases,* 2005, 32(11):710–717.

5. Satterwhite CL et al., Changes in sexual behavior and STD prevalence among heterosexual STD clinic attendees: 1993–1995 versus 1999–2000, *Sexually Transmitted Diseases,* 2007, 34(10):815–819.

6. Herbenick D et al., Sexual behavior in the United States: results from a national probability sample of men and women ages 14–94, *Journal of Sexual Medicine,* 2010, 7(Suppl. 5):255–265.

7. Koblin BA et al., Correlates of anal intercourse vary by partner type among substance-using women: baseline data from the UNITY study, *AIDS and Behavior,* 2010, 14(1):132–140.

8. Tian LH et al., Heterosexual anal sex activity in the year after an STD clinic visit, *Sexually Transmitted Diseases,* 2008, 35(11):905–909.

9. Erickson PI et al., Prevalence of anal sex among heterosexuals in California and its relationship to other AIDS risk behaviors, *AIDS Education and Prevention,* 1995, 7(6):477–493.

10. Gorbach PM et al., Anal intercourse among young heterosexuals in three sexually transmitted disease clinics in the United States, *Sexually Transmitted Diseases,* 2009, 36(4):193–198.

11. Misegades L et al., Anal intercourse among young low-income women in California: an overlooked risk factor for HIV? *AIDS,* 2001, 15(4):534–535.

12. Javanbakht M et al., Prevalence and correlates of heterosexual anal intercourse among clients attending public sexually transmitted disease clinics in Los Angeles County, *Sexually Transmitted Diseases,* 2010, 37(6):369–376.

13. Lescano CM et al., Correlates of heterosexual anal intercourse among at-risk adolescents and young adults, *American Journal of Public Health,* 2009, 99(6):1131–1136.

14. Reynolds GL et al., Heterosexual anal sex reported by women receiving HIV prevention services in Los Angeles County, *Women's Health Issues,* 2010, 20(6):414–419.

15. Raj A et al., Perpetration of intimate partner violence associated with sexual risk behaviors among young adult men, *American Journal of Public Health,* 2006, 96(10):1873–1878.

16. Champion JD et al., Sexual abuse and sexual risk behaviors of minority women with sexually transmitted diseases, *Western Journal of Nursing Research,* 2001, 23(3):241–254.

17. El-Bassel N et al., HIV and intimate partner violence among methadone-maintained women in New York City, *Social Science & Medicine,* 2005, 61(1):171–183.

18. He H et al., Violence and HIV sexual risk behaviors among female sex partners of male drug users, *Women & Health,* 1998, 27(1–2):161–175.

19. Roye CF, Krauss BJ and Silverman PL, Prevalence and correlates of heterosexual anal intercourse among black and Latina female adolescents, *Journal of the Association of Nurses in AIDS Care,* 2010, 21(4):291–301.

20. Harris KM et al., The National Longitudinal Study of Adolescent Health: research design, 2009, <http://www.cpc.unc.edu/projects/addhealth/design>, accessed Aug. 11, 2009.

21. Straus MA et al., The revised Conflict Tactics Scales (CTS2): development and preliminary psychometric data, *Journal of Family Issues,* 1996, 17(3):283–316.

22. Swan SC et al., A review of research on women's use of violence with male intimate partners, *Violence and Victims,* 2008, 23(3):301–314.

23. Maynard E et al., Women's experiences with anal sex: motivations and implications for STD prevention, *Perspectives on Sexual and Reproductive Health,* 2009, 41(3):142–149.

24. Hensel DJ, Fortenberry JD and Orr DP, Factors associated with event level anal sex and condom use during anal sex among adolescent women, *Journal of Adolescent Health,* 2010, 46(3): 232–237.

25. Wingood GM et al., Dating violence and the sexual health of black adolescent females, *Pediatrics,* 2001, 107(5):e72, <http://pediatrics.aappublications.org/content/107/5/e72.long>, accessed Apr. 5, 2009.

26. Fanslow J et al., Contraceptive use and associations with intimate partner violence among a population-based sample of New Zealand women, *Australian and New Zealand Journal of Obstetrics and Gynaecology,* 2008, 48(1):83–89.

27. Jenness SM et al., Unprotected anal intercourse and sexually transmitted diseases in high-risk heterosexual women, *American Journal of Public Health,* 2011, 101(4):745–750.

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