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Pediatrics 2005;116;272-276
DOI: 10.1542/peds.2005-0194

This information is current as of August 16, 2005

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http://www.pediatrics.org/cgi/content/full/116/2/e272

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Dating Violence and Sexually Transmitted Disease/HIV Testing and Diagnosis Among Adolescent Females

Michele R. Decker, MPH*; Jay G. Silverman, PhD*; and Anita Raj, PhD‡

ABSTRACT. *Objective.* **Previous studies demonstrate significant associations between dating-violence victimization and sexual risk behaviors among adolescent girls; however, a relationship between dating violence and actual sexually transmitted disease (STD)/HIV testing and diagnosis has yet to be investigated among a representative sample. The present study assesses associations between dating violence and STD/HIV testing and diagnosis among a representative sample of sexually active adolescent girls.**

Methods. **Data from 9th- to 12th-grade female students completing the 1999 and 2001 Massachusetts Youth Risk Behavior Surveys and reporting having ever had sexual intercourse (*N* = 1641) were examined. Odds ratios for STD/HIV testing and diagnosis that were based on experiences of dating violence and adjusted for STD/HIV risk behaviors and demographics were calculated.**

Results. **More than one third (38.8%) of adolescent girls tested for STD or HIV and more than half (51.6%) of girls diagnosed with STD/HIV reported experiencing dating violence. Compared with nonabused girls, girls who experienced both physical and sexual dating violence were 3.0 times more likely to have been tested for STD and HIV, and 2.6 times more likely to report an STD diagnosis.**

Conclusions. **After adjusting for STD/HIV risk behaviors, dating violence remains significantly associated with STD/HIV testing and diagnosis among sexually active adolescent girls.** ***Pediatrics*** **2005;116:e272–e276. URL: www.pediatrics.org/cgi/doi/10.1542/peds.2005-0194;** ***STD/HIV, dating violence, adolescent health, Youth Risk Behavior Survey.***

ABBREVIATIONS. STD, sexually transmitted disease; YRBS, Youth Risk Behavior Survey; CI, confidence interval; OR, odds ratio.

Despite reductions in rates of sexual activity and increases in sexual risk-reduction behaviors among adolescents in the past decade,[1] HIV/AIDS rates among 15- to 24-year-olds continue to rise,[2] and sexually transmitted disease (STD) rates remain higher for this age group than for any other.[3]

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Accepted for publication Feb 28, 2005.
doi:10.1542/peds.2005-0194
No conflict of interest declared.
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Dating violence is also a major public health concern for adolescents, affecting 1 in 5 high school girls and relating to increased risk for multiple serious health concerns in this population.[4] Several previous representative studies of adolescents have found associations between STD/HIV risk behaviors and physical and sexual dating violence,[4] severe dating violence,[5] and forced or coerced sex in this population.[6–8]

Studies among adult women demonstrate associations between intimate partner violence and STD/HIV risk behaviors,[9–14] as well as perceived risk of STD/HIV infection,[14–16] HIV testing,[10,17] and STD/HIV diagnosis. [10–12,16,18–21] However, despite the established links between dating violence and STD/HIV risk behaviors and violence and STD/HIV diagnosis among adult women, the relationship of dating violence to STD/HIV testing and diagnosis among adolescents remains unclear. One recent representative study identified a strong association between lifetime history of forced-sex victimization and history of STD diagnosis among adolescent girls.[22] However, these analyses could not specify relationship to perpetrator; the most proximal STD/HIV risk is embodied in adolescent sexual relationships, which could not be assessed. This distinction is also called for based on evidence of high levels of sexual risk behaviors among abusive male partners.[10–12,15,23–26] A community-based study of black female adolescents found that physical dating violence was linked with both increased perceived risk for STD (not including HIV) and increased likelihood of STD diagnosis[23]; however, given the higher rates of STD among this population,[27] the findings may not be generalizable to all adolescent females. Additionally, physical and sexual partner violence victimization have not been assessed for their distinct contributions to STD/HIV testing and diagnosis among a representative sample of either adolescents or adults; such analyses may clarify types of violent experiences associated with STD/HIV, thus allowing for improved ability to identify and provide support services and appropriate medical care for both violence and STD/HIV among those identified as abused. The present study utilizes a large, representative sample of female adolescents to assess associations between physical and sexual dating violence and STD/HIV testing and diagnosis.

MATERIALS AND METHODS

The Youth Risk Behavior Survey (YRBS) is conducted in a majority of states every 2 years to track the incidence and prevalence of leading causes of morbidity and mortality among high

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school students. The YRBS is a self-report, written instrument; in Massachusetts, a Spanish translation of the survey is available. Each state is charged with administering the core YRBS survey as designed by the Centers for Disease Control and Prevention. States also have the option of including additional questions to assess other adolescent health concerns. The Massachusetts YRBS was administered in 1999 and 2001 to 9th- through 12th-grade students in randomly selected classrooms within selected public high schools throughout the state. The probability of an individual school being selected was proportional to its enrollment. All students, including those assigned to special education and limited–English-proficiency classrooms, were eligible. In each participating school, 3 to 5 classes were randomly selected to participate. In both 1999 and 2001, 67 schools were selected and 64 elected to participate, resulting in a school participation rate of 96%. In 1999, a total of 4415 of the 5589 students in selected classrooms completed the survey, resulting in a 79% student-participation rate. In 2001, a total of 4204 students of the 5223 in selected classes completed the survey, yielding a participation rate of 80%. Although it is not possible to specify how many students, if any, completed the survey in both years included in the present analyses, the number of students counted twice is likely to be extremely low; a previous study that combined multiple recent Massachusetts YRBS survey years by attempting to calculate this potential overcount using weights supplied by the Centers for Disease Control and Prevention estimated that <2% of 9th- and 10th-grade respondents would have completed the survey 2 years later as 11th- and 12th-grade students.[28] Because these 2 years represent half of the potential respondents, we estimate that <1% of students may be represented more than once in the combined data set. The combined data set was used in these analyses to maximize analytic power for examinations of low-prevalence outcomes such as STD/HIV diagnosis. Scores from individual students were weighted based on demographics of all students attending Massachusetts public high schools to provide rates that accurately reflect this population. These procedures are described in detail elsewhere.[29] All results presented are based on analyses of weighted data.

Sample

Our study included sexually active female participants (those reporting ever having engaged in sexual intercourse; $N = 1641$), 42.0% of the original female sample ($N = 3905$) from both survey years. The majority of the present sample was white (75.0%), with smaller percentages of Latino (10.6%), black (8.4%), and Asian (3.0%) respondents. Age distribution is skewed upward, with fewer adolescents ≤14 years represented among sexually active females (4.9%) and a greater number of females ≥17 years represented among sexually active students (53.2%; data not shown).

Measures

All variables were assessed by single survey items. Because of the nature of the present analyses, all variables were dichotomized with the exception of age, which was categorized as seen in Table 1. Race/ethnicity was dichotomized as white or nonwhite because of the high percentage of white respondents compared with other racial/ethnic groups.

Dating violence victimization was measured by a single survey item that asked: "Have you ever been hurt physically or sexually by a date or someone you were going out with? This would include being hurt by being shoved, slapped, hit, or forced into any sexual activity." Response choices were: "I have never been on a date or gone out with anyone" (2001 only); "No, I have never been hurt by a date or someone I was going out with"; "Yes, I was hurt physically"; "Yes, I was hurt sexually"; and "Yes, I was hurt both physically and sexually." These responses were then recoded into exclusive dichotomous variables: physical dating violence only, sexual dating violence only, and both physical and sexual dating violence, with the referent group being those who indicated that they had never experienced dating violence or had never been on a date (2001 only). Construct validity has been demonstrated for this assessment.[4] STD/HIV testing was assessed by a single survey item that asked: "Have you ever been tested for HIV infection or other sexually transmitted diseases (STDs) such as genital herpes, chlamydia, syphilis, or genital warts?" Responses included: "No"; "Yes, I have been tested for HIV"; "Yes, I have been tested for other STDs"; and "Yes, I have been tested for both HIV and for other STDs." Diagnosis of STD/HIV was assessed by a single yes/no item that asked: "Have you ever been told by a doctor or other health care professional that you had HIV infection or any other sexually transmitted disease (STD)?" Testing and diagnosis were considered as separate outcomes based on the low correlation among these experiences ($r = 0.20$) and 23% of those diagnosed with an STD reporting not being tested. Single items were also used to assess sexual risk behaviors (use of a condom at last sex, multiple sex partners [≥2 in the past 3 months]). Responses to these items were dichotomized as "yes" or "no."

TABLE 1. Lifetime Prevalence of Violence From Dating Partners and STD/HIV Testing and Diagnosis Among Sexually Active Female Adolescents

	% (95% CI)		
	Experienced Any Form of Dating Violence	Tested for STD/HIV	Diagnosed With STD/HIV
Age, y			
≤14	30.0 (21.3–40.5)	14.4 (8.3–24.8)	1.9 (0.3–9.6)
15	32.5 (28.1–37.1)	26.9 (22.5–32.0)	3.4 (1.8–6.4)
16	36.4 (31.5–41.5)	26.8 (22.4–31.9)	5.4 (3.2–8.8)
17	28.0 (24.2–32.0)	36.3 (31.0–41.9)	4.8 (2.7–8.3)
≥18	30.2 (24.8–36.3)	43.5 (37.1–50.0)	5.4 (3.3–8.6)
P	.06	<.01	.42
Race			
White	33.1 (30.6–35.9)	30.9 (27.0–35.1)	3.9 (3.0–5.1)
Black	16.4 (7.4–32.4)	41.9 (34.2–50.2)	5.9 (2.2–14.9)
Latino	27.2 (20.0–35.5)	37.7 (30.1–45.7)	7.0 (3.7–13.1)
Asian	44.6 (30.1–60.2)	29.9 (15.3–49.5)	11.9 (4.6–27.4)
Other	37.6 (25.4–51.9)	38.5 (25.9–52.8)	6.9 (4.3–10.9)
P	.13	.08	.53
Total	31.5 (28.6–34.6)	32.9 (29.6–36.3)	4.7 (3.6–6.1)

Data Analyses

Lifetime prevalence rates for any physical or sexual dating violence, STD/HIV testing, and STD/HIV diagnosis and 95% confidence intervals (CIs) were calculated for the total sample and demographic groupings (Table 1). Differences in rates of dating violence, STD/HIV testing, and STD/HIV diagnosis based on demographics were assessed by using χ^2 analyses. Logistic-regression models were constructed to calculate odds ratios (ORs) and 95% CIs for STD/HIV testing and diagnosis outcomes based on experiences of physical or sexual dating violence, using respondents indicating no experiences of dating violence as a referent group; models were adjusted for demographics and sexual risk behaviors for STD/HIV (Table 2) to better estimate the contribution of experiences of dating violence to STD/HIV outcomes. Rates of dating violence among those reporting STD/HIV testing and STD/HIV diagnosis were also calculated. SUDAAN[30] was used to conduct all analyses to allow for correct adjustment based on weights for selection probabilities.

RESULTS

Descriptive Statistics on Dating Violence and STD/HIV Testing and Diagnosis and Associations With Demographics

Approximately 1 in 3 (31.5%) sexually active adolescent girls reported ever experiencing physical or sexual violence from dating partners (Table 1; physical dating violence only: 15.3%; sexual dating violence only: 6.7%; both physical and sexual dating violence: 9.5%; data not shown). A similar percentage (32.9%) reported ever being tested for STD or HIV (HIV test only: 4.3%; STD test only: 10.0%; both HIV and STD tests: 18.6%; data not shown). A much smaller percentage (4.7%) reported being diagnosed with an STD including HIV. Older sexually active female adolescents were more likely to be tested for

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TABLE 2. Adjusted ORs for Relationships Between Lifetime Experiences of Violence From Dating Partners and STD/HIV Testing and Diagnosis Among Sexually Active Female Adolescents

	OR (95% CI)			
	Tested for STD Only	Tested for HIV Only	Tested for Both STD and HIV	Diagnosed With STD or HIV
Sexual violence only	1.38 (0.58–3.29)	1.17 (0.31–4.38)	1.93 (1.02–3.63)	1.96 (0.77–4.97)
Physical violence only	1.63 (1.02–2.62)	1.14 (0.44–2.91)	1.11 (0.73–1.68)	2.18 (1.13–4.21)
Both sexual and physical violence	2.41 (1.38–4.22)	1.28 (0.43–3.76)	3.00 (1.93–4.66)	2.59 (1.05–6.35)

Data were adjusted for age, race (white versus nonwhite), condom use at last sex, and ≥2 sexual partners in last 3 months.

STD or HIV than their younger peers ($P < .01$). Neither age nor race/ethnicity was related to dating violence or STD/HIV diagnosis for this sample. Experiences of physical or sexual dating violence were reported by 38.8% of those tested for any STD or HIV and by 51.6% diagnosed with STD or HIV (data not shown).

Relationships Between Dating Violence and STD/HIV Testing

The odds of testing for STD (but not HIV) were significantly greater for girls reporting both physical and sexual dating violence (OR: 2.41; 95% CI: 1.38–4.22; Table 2) and for girls reporting physical dating violence only (OR: 1.63; 95% CI: 1.02–2.62) compared with girls reporting no dating violence. There was not a significant relationship between testing for STD (but not HIV) and sexual dating violence; there were also no significant associations between dating violence (physical, sexual, or combined) and testing for HIV (but not other STD). The odds of testing for both STD and HIV were significantly greater for girls reporting both physical and sexual dating violence (OR: 3.00; 95% CI: 1.93–4.66) and for girls reporting sexual dating violence (OR: 1.93; 95% CI: 1.02–3.63) compared with girls reporting no dating violence.

Relationships Between Dating Violence and STD/HIV Diagnosis

The odds of STD/HIV diagnosis were significantly greater for both girls reporting physical dating violence (OR: 2.18; 95% CI: 1.13–4.21) and those reporting both physical and sexual dating violence (OR: 2.59; 95% CI: 1.05–6.35) compared with girls with no such experiences. There was no significant relationship between sexual dating violence and STD/HIV diagnosis.

DISCUSSION

Girls reporting physical and sexual violence from dating partners were more likely to have been both tested for and diagnosed with STD/HIV than girls not experiencing dating violence, even after accounting for STD/HIV sexual risk behaviors. These results are consistent with previous research that demonstrated higher levels of HIV testing[10,17] and STD/HIV diagnosis[10–12,16,18–21] among adult women experiencing intimate partner violence. Findings from this representative adolescent sample also support results found among black female adolescents presenting at an urban health center, which linked physical dating violence with both increased perceived risk for STD and increased likelihood of STD diagnosis.[23]

New to this body of work, the present findings indicate unique patterns of STD/HIV testing and diagnosis among sexually active girls based on the forms of dating violence experienced. We interpret these results within the context of current knowledge regarding STD/HIV testing behaviors among adolescents. Because both national YRBS data and studies of physicians indicate that a large portion of at-risk girls are not being routinely screened or counseled regarding STD and HIV,[31,32] STD/HIV testing among many adolescents may be a result of self-referral based on perception of risk or symptoms of infection.[33] Girls in the present sample who reported sexual dating violence were more likely to be tested for both STD and HIV than girls not victimized through dating violence; however, they were not at increased risk for actual infection. One potential explanation for this pattern of results is that reports of sexual violence not involving physical violence may relate to singular incidents outside of relationships (eg, occurrences of "date rape"), which lead these individuals to either perceive STD/HIV risk and seek testing for both STD and HIV or to seek other services for sexual assault and thus be referred for testing for both STD and HIV from such programs, as is recommended.[34]

In contrast, girls reporting physical violence reported greater likelihood of STD testing only (but not HIV testing) than their nonabused peers and also reported higher rates of infection. We suggest that girls experiencing physical dating violence only may also be chronically exposed to coercive sex that may not involve a level of force labeled as abusive. Because physically abused girls may be less likely to enact safer sex practices[23] and the abusive male partners of these girls may be involved in higher STD/HIV risk behaviors, [10–12,15,23–26] seeking STD testing may be a result of their becoming symptomatic. Thus, these girls are more likely to be tested for STD only and not HIV and experience greater actual diagnosed infection.

Girls reporting both physical and sexual dating violence, however, may be experiencing both chronic coerced and forced sex and, therefore, perceive greater sexual risk than girls reporting physical violence only based on more clear experiences of sexual violence, leading them to test for both HIV and other STDs, as presently reported. Finally, greater contact with medical settings by girls experiencing both physical and sexual dating violence, perhaps because

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of increased severe physical violence[16] or their seeking nonbarrier methods of contraception because of fears of condom negotiation,[9,14] may result in higher levels of disclosure of abuse or STD/HIV risk behaviors, leading to greater testing and subsequent diagnoses.

Dating violence, in any form, was not associated with HIV testing in the absence of STD testing. This may be because testing for HIV only is the least common form of testing (4% vs 10% for testing for STD only and 19% for testing for both STD/HIV; data not shown); additionally, as discussed above, girls that perceive risk for sexually transmitted infections may seek testing for both HIV and other STDs.

The present findings are best viewed in light of several limitations. Cross-sectional analyses, as well as measurement time-frame discrepancies (eg, lifetime experience of dating violence and STD/HIV testing versus condom use at last intercourse) do not allow us to determine if there is a causal relationship between dating violence and STD/HIV testing and diagnosis. For example, there may be situations in which STD/HIV testing and diagnosis may increase adolescents' vulnerability to dating violence given evidence indicating a high level of HIV-related partner violence among adult women recently diagnosed with HIV.[35] Single-item measures for dating violence and STD/HIV testing and diagnosis preclude a more thorough understanding of dating-violence experiences and associated outcomes; however, disclosure of dating violence on a single-item measure is likely to be reduced relative to that for a multi-item inventory, thus biasing present results toward the null. Similarly, the measure of STD testing did not include gonorrhea in the list of examples of STDs, possibly leading those tested for this infection to respond negatively to this item and, again, biasing present results toward the null. The low correlation between testing and diagnosis is likely a result of inconsistencies in the testing and diagnosis sequence and potential confusion on the part of the adolescents. For example, symptomatic STD such as genital warts is often visually diagnosed without a formal test. Additionally, evidence indicates that many adolescents tested for STD/HIV may neither know[36,37] nor accurately report their STD status, particularly when they have tested positive.[38] Thus, STD/HIV testing behaviors and/or diagnoses may have been underreported, again minimizing the likelihood of detecting the associations described. However, STD/HIV infection estimates presently reported are consistent with those from a recent national sample of sexually active female adolescents in which 4.7% reported a diagnosis of at least 1 STD.[39] Finally, the Massachusetts YRBS was designed to be representative of public high school students in Massachusetts; it is not known how well these results will generalize to adolescents in other geographical areas. Furthermore, higher-risk adolescents such as those who have dropped out of school or those with low school attendance may not be represented in the present study. Again, however, lower representation of higher-risk individuals would likely result in a conservative biasing of present estimates.

The present findings clearly demonstrate a link between dating violence and STD/HIV testing behaviors and diagnosis among sexually active female adolescents; however, additional work is needed to elucidate the direction of and mechanisms responsible for these associations. For example, studies with nonrepresentative samples have indicated that condom nonuse related to fear of abusive consequences of negotiating such protection is common in the context of abusive relationships[14–16,23]; it is critical that these issues be explored among representative adolescent samples. Future studies should also include perpetrators of dating violence, as well as victims, to allow for a comprehensive assessment of how dating violence (both perpetration and victimization) relates to STD/HIV risk and resulting testing behaviors and infection. An improved understanding of such mechanisms would greatly contribute to development and implementation of both STD/HIV– and dating-violence–prevention programs to address these concerns.

Despite described limitations and the need for additional research, the current findings have implications for adolescent prevention-service providers and health care practitioners. Primary and secondary prevention programming for both dating violence and STD/HIV should be developed and supported to address the association between these 2 prevalent public health issues. Consideration of the relationship context may be essential to improving current adolescent sexual health promotion strategies. Discussion of relationship dynamics and screening for dating violence in clinical settings allows for more comprehensive sexual health promotion. Asking patients about barriers to their use of condoms or other contraceptives and their concerns regarding partner responses to STD/HIV testing or diagnosis may facilitate identification of dating violence. Finally, medical professionals should make information regarding dating-violence support services available to all patients regardless of abuse disclosure[21,35,40] in light of the heightened risk seen among this population.

ACKNOWLEDGMENTS

Creation of this article was supported through grant S3062-23-23 to J.G.S. from the Division of Reproductive Health of the Centers for Disease Control and Prevention.

We acknowledge the Massachusetts Department of Education for provision of the 1999 and 2001 Massachusetts Youth Risk Behavior Survey data, and Jessica Murray, MPH, of the Boston University School of Public Health Data Coordinating Center for analysis of data.

REFERENCES

1. Brener N, Lowry R, Kann L, et al. Trends in sexual risk behaviors among high school students—United States, 1991–2001. *MMWR Morb Mortal Wkly Rep.* 2002;51:856–859. Available at: www.cdc.gov/mmwr/PDF/wk/mm5138.pdf. Accessed June 24, 2004
2. Centers for Disease Control and Prevention. HIV/AIDS surveillance report. 2002. Available at: www.cdc.gov/hiv/stats/hasrlink.htm. Accessed June 24, 2004
3. Centers for Disease Control and Prevention. 2002 STD surveillance report. Available at: www.cdc.gov/std/stats02/default.htm. Accessed June 24, 2004
4. Silverman JG, Raj A, Mucci LA, Hathaway JE. Dating violence among adolescent girls and associated substance use, unhealthy weight control,

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sexual risk behavior, pregnancy, and suicidality. *JAMA.* 2001;286: 572–579
5. Coker AL, McKeown RE, Sanderson M, Davis KE, Valois RF, Huebner ES. Severe dating violence and quality of life among South Carolina high school students. *Am J Prev Med.* 2000;19:220–227
6. Raj A, Silverman JG, Amaro H. The relationship between sexual abuse and sexual risk among high school students: findings from the 1997 Massachusetts Youth Risk Behavior Survey. *Matern Child Health J.* 2000; 4:125–134
7. Shrier LA, Pierce JD, Emans SJ, DuRant RH. Gender differences in risk behaviors associated with forced or pressured sex. *Arch Pediatr Adolesc Med.* 1998;152:57–63
8. Brener ND, McMahon PM, Warren CW, Douglas KA. Forced sexual intercourse and associated health-risk behaviors among female college students in the United States. *J Consult Clin Psychol.* 1999;67:252–259
9. Kalichman SC, Williams EA, Cherry C, Belcher L, Nachimson D. Sexual coercion, domestic violence, and negotiating condom use among low-income African American women. *J Womens Health.* 1998;7:371–378
10. el-Bassel N, Gilbert L, Krishnan S, et al. Partner violence and sexual HIV-risk behaviors among women in an inner-city emergency department. *Violence Vict.* 1998;13:377–393
11. Wu E, el-Bassel N, Witte SS, Gilbert L, Chang M. Intimate partner violence and HIV risk among urban minority women in primary health care settings. *AIDS Behav.* 2003;7:291–301
12. Bauer HM, Gibson P, Hernandez M, Kent C, Klausner J, Bolan G. Intimate partner violence and high-risk sexual behaviors among female patients with sexually transmitted diseases. *Sex Transm Dis.* 2002;29: 411–416
13. Weinreb L, Goldberg R, Lessard D, Perloff J, Bassuk E. HIV-risk practices among homeless and low-income housed mothers. *J Fam Pract.* 1999;48:859–867
14. Wingood GM, DiClemente RJ. The effects of an abusive primary partner on the condom use and sexual negotiation practices of African-American women. *Am J Public Health.* 1997;87:1016–1018
15. Raj A, Silverman JG, Amaro H. Abused women report greater male partner risk and gender-based risk for HIV: findings from a community-based study with Hispanic women. *AIDS Care.* 2004;16:519–529
16. Wingood GM, DiClemente RJ, Raj A. Adverse consequences of intimate partner abuse among women in non-urban domestic violence shelters. *Am J Prev Med.* 2000;19:270–275
17. Hathaway JE, Mucci LA, Silverman JG, Brooks DR, Mathews R, Pavlos CA. Health status and health care use of Massachusetts women reporting partner abuse. *Am J Prev Med.* 2000;19:302–307
18. Martin SL, Matza LS, Kupper LL, Thomas JC, Daly M, Cloutier S. Domestic violence and sexually transmitted diseases: the experience of prenatal care patients. *Public Health Rep.* 1999;114:262–268
19. Johnson PJ, Hellerstedt WL. Current or past physical and sexual abuse as a risk marker for sexually transmitted disease in pregnant women. *Perspect Sex Reprod Health.* 2002;34:62–67
20. Wyatt GE, Hyers HF, Williams JK, et al. Does a history of trauma contribute to HIV risk for women of color? Implications for prevention and policy. *Am J Public Health.* 2002;92:660–665
21. Augenbraun M, Wilson TE, Allister L. Domestic violence reported by women attending a sexually transmitted disease clinic. *Sex Transm Dis.* 2001;28:143–147
22. Upchurch DM, Kusunoki Y. Associations between forced sex, sexual and protective practices, and sexually transmitted diseases among a national sample of adolescent girls. *Women's Health Issues.* 2004;14:75–84
23. Wingood GM, DiClemente RJ, McCree DH, Harrington K, Davies SL. Dating violence and the sexual health of black adolescent females. *Pediatrics.* 2001;107(5). Available at: www.pediatrics.org/cgi/content/full/107/5/e72
24. Cleveland HH, Herrera VM, Stuewig J. Abusive males and abused females in adolescent relationships: risk factor similarity and dissimilarity and the role of relationship seriousness. *J Fam Violence.* 2003;18: 325–339
25. Martin SL, Kilgallen B, Tsui AO, Maitra K, Singh KK, Kupper LL. Sexual behaviors and reproductive health outcomes: associations with wife abuse in India. *JAMA.* 1999;282:1967–1972
26. el-Bassel N, Fontdevila J, Gilbert L, Voisin D, Richman BL, Pitchell P. HIV risks of men in methadone maintenance treatment programs who abuse their intimate partners: a forgotten issue. *J Subst Abuse.* 2001;13: 29–43
27. Centers for Disease Control and Prevention. STDs in racial and ethnic minorities. Available at: www.cdc.gov/std/stats00/PDF/SFMinorities2000.pdf. Accessed June 24, 2004
28. Goodenow C, Netherland J, Szalacha L. AIDS-related risk among adolescent males who have sex with males, females, or both: evidence from a statewide survey. *Am J Public Health.* 2002;92:203–210
29. Kann L, Kinchen SA, Williams BI, et al. Youth Risk Behavior Surveillance–United States 1999. *MMWR Morb Mortal Wkly Rep.* 2000; 49(SS5):1–32. Available at: www.cdc.gov/mmwr/PDF/SS/SS4905.pdf. Accessed January 29, 2004
30. Shah BV, Barnwell BV, Bieler GS. *SUDAAN Users Manual and Software*. Release 7.0. Research Triangle Park, NC: Research Triangle Institute; 1996
31. Burstein GR, Lowry R, Klein JD, Santelli JS. Missed opportunities for sexually transmitted diseases, human immunodeficiency virus and pregnancy prevention services during adolescent health supervision visits. *Pediatrics.* 2003;111:996–1001
32. Millstein SG, Igra V, Gans J. Delivery of STD/HIV preventive services to adolescents by primary care physicians. *J Adolesc Health.* 1996;19: 249–257
33. Murphy DA, Mitchell R, Vermund SH, Futterman D; Adolescent Medicine HIV/AIDS Research Network. Factors associated with HIV testing among HIV-positive and HIV-negative high-risk adolescents: the REACH Study. *Pediatrics.* 2002;110(3). Available at: www.pediatrics.org/cgi/content/full/110/3/e36
34. US Department of Justice. *National Protocol for Sexual Assault Medical Forensic Examinations*. Washington, DC: US Department of Justice, Office of Violence Against Women; 2004. NCJ 206554
35. Zierler S, Cunningham WE, Andersen R, et al. Violence victimization after HIV infection in a US probability sample of adult patients in primary care [published correction appears in *Am J Public Health*. 2000; 90:447]. *Am J Public Health.* 2000;90:208–215
36. Hightow LB, Miller WC, Leone PA, Wohl D, Smurzynski M, Kaplan AH. Failure to return for HIV posttest counseling in an std clinic population. *AIDS Educ Prev.* 2003;15:282–290
37. Ilegbodu AE, Frank ML, Poindexter AN, Johnson D. Characteristics of teens tested for HIV in a metropolitan area. *J Adolesc Health.* 1994;15: 479–484
38. Harrington KF, DiClemente RJ, Wingood GM, et al. Validity of self-reported sexually transmitted diseases among African American female adolescents participating in an STD/HIV prevention intervention trial. *Sex Transm Dis.* 2002;28:468–471
39. Crosby R, Leichliter JS, Brakbill R. Longitudinal prediction of sexually transmitted diseases among adolescents: results from a national survey. *Am J Prev Med.* 2000;18:312–317
40. Chang JC, Decker MR, Moracco KE, Martin SL, Peteren R, Frasier PY. Asking about intimate partner violence: advice from female survivors to health care providers. *Patient Educ Couns.* 2005; In press

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Dating Violence and Sexually Transmitted Disease/HIV Testing and Diagnosis Among Adolescent Females

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Pediatrics 2005;116;272-276
DOI: 10.1542/peds.2005-0194

This information is current as of August 16, 2005

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