

AMERICAN ACADEMY OF PEDIATRICS

Committee on Adolescence

Care of the Adolescent Sexual Assault Victim

ABSTRACT. Sexual assault is a broad-based term that encompasses a wide range of sexual victimizations, including rape. Since the American Academy of Pediatrics published its last policy statement on this topic in 1994, additional information and data have emerged about sexual assault and rape in adolescents, the adolescent's perception of sexual assault, and the treatment and management of the adolescent who has been a victim of sexual assault. This new information mandates an updated knowledge base for pediatricians who care for adolescent patients. This statement provides that update, focusing on sexual assault and rape in the adolescent population.

ABBREVIATIONS. STDs, sexually transmitted diseases; HBV, hepatitis B virus; HIV, human immunodeficiency virus.

DEFINITIONS

Understanding the definitions of the terms sexual assault, rape, acquaintance rape, date rape, molestation, and statutory rape are important in the identification, treatment, and management of the adolescent victim. *Sexual assault* is a comprehensive term that includes multiple types of forced or inappropriate sexual activity. Sexual assault includes situations in which there is sexual contact with or without penetration that occurs because of physical force or psychologic coercion. This includes touching of a person's "sexual or intimate parts or the intentional touching of the clothing covering those intimate parts."¹

The term *molestation* is applied when there is non-coital sexual activity between a child and an adolescent or adult. Molestation can include viewing of sexual materials, genital or breast fondling, or oral-genital contact.¹

From legal and clinical perspectives, *rape* is defined as "forced sexual intercourse" that occurs because of physical force or psychologic coercion. Rape involves vaginal, anal, or oral penetration by the offender. This definition also includes incidents in which penetration is with a foreign object, such as a bottle, or situations in which the victim is unable to give consent because of intoxication or developmental disability.^{1,2} The terms *acquaintance rape* and *date rape* are applied to those situations in which the assailant and victim know each other.

Statutory rape involves sexual penetration by a person 18 years or older of a person under the age of

consent.¹ Statutory rape laws are based on the premise that, until a person reaches a certain age, he or she is legally incapable of consenting to sexual intercourse. The age of consent varies from state to state. In some states, there are new statutory rape laws mandating that sexual intercourse and sexual contact must now be reported if certain age differences exist between a minor (usually defined as younger than 18 or 21 years) and his or her sex partner (whether minor or adult), even if the sexual act was voluntary and consensual. There is concern that the new laws and mandated reporting statutes can have a significant impact on the interaction between the health care provider and the patient. Adolescents and health care providers may have concerns regarding medical or social history, access to care, and confidentiality, and some adolescents may refuse to seek care or refuse to disclose personal risk information because of possible reporting of sexual partners.³⁻⁵

EPIDEMIOLOGY

National data show that adolescents continue to have the highest rates of rape and other sexual assaults of any age group. Annual rates of sexual assault per 1000 persons (males and females) were reported in 1998 by the US Department of Justice to be 3.5 for ages 12 through 15 years, 5.0 for ages 16 through 19 years, 4.6 for ages 20 through 24 years, and 1.7 for ages 24 through 29 years.⁶ There are significant gender differences in adolescent rape and sexual assault, with female victims exceeding males by a ratio of 13.5:1.⁶ National Crime Victimization Survey statistics reported 308 569 rapes and sexual assaults in females 12 years or older and 21 519 rapes and sexual assaults in males 12 years or older in 1998.⁶ This represents a decrease from peak rates of rape and sexual assault reported in 1992.^{6,7} The US Department of Justice reported that more than half of all rape and sexual assault victims in 1998 were females younger than 25 years.⁶

Studies have demonstrated that two thirds to three quarters of all adolescent rapes and sexual assaults are perpetrated by an acquaintance or relative of the adolescent.⁸⁻¹¹ Older adolescents are most commonly the victims during social encounters with the assailants (eg, a date). With younger adolescent victims, the assailant is more likely to be a member of the adolescent's extended family. Adolescents with developmental disabilities, especially those in the mildly retarded range, are at particular risk for acquaintance and date rape.¹²

Adolescent rape victims are more likely than adult

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victims to have used alcohol or drugs and are less likely to be physically injured during a rape, as the assailants in adolescent rape tend to use weapons less frequently.^{8,9} Adolescent female victims are also more likely to delay seeking medical care after rape and sexual assault and are less likely to press charges than adult women.^{8,9}

Male victims are less likely to report a sexual assault than are female victims.^{13,14} Studies of sexual assault of males have demonstrated that up to 90% of perpetrators are male. Sexual assault of males by females is more commonly reported by older adolescents or young adults, compared with children or young adolescents.¹² Male perpetrators of male sexual assault more commonly identify themselves as heterosexual than homosexual, and there is lack of clarity in the literature whether adolescent and young adult victims are more commonly heterosexual or homosexual.¹³⁻¹⁴ The rate of perpetration by an acquaintance of the victim is similar for male and female victims, but multiple assailants, use of a weapon, and forced oral assaults are more common in assault of males than females.¹⁴

Alcohol or drug use immediately before a sexual assault has been reported by more than 40% of adolescent victims and adolescent assailants.¹⁵ The recent increase in the rate of adolescent acquaintance rape has been associated with the illegal availability of flunitrazepam (Rohypnol, manufactured by Roche Pharmaceuticals Inc, outside of the United States). This so-called "date rape drug" is a benzodiazepine sedative/hypnotic. The effects of flunitrazepam begin 30 minutes after ingestion, peak within 2 hours, and can persist for up to 8 to 12 hours. Drug effects include somnolence, decreased anxiety, muscular relaxation, and profound sedation. There may also be amnesia for the time that the drug exerts its action. This drug can go undetected if added to any drink, thus increasing the risk of sexual assault, especially in the adolescent population.¹⁶⁻¹⁹

ADOLESCENTS' PERCEPTIONS AND ATTITUDES REGARDING SEXUAL ASSAULT AND RAPE

Exploring the perceptions and attitudes of adolescents regarding rape and other forced or unwanted sexual encounters is important. The acquaintance rape phenomenon raises issues of victim credibility, because there may have been voluntary participation until the assault occurred. Aggressive behavior on the part of a male perpetrator may be seen by some adolescents as normative in this context.²⁰⁻²³ One study demonstrated that male and female adolescents who viewed a vignette of unwanted sexual intercourse accompanied by a photograph of the victim dressed in provocative clothing were more likely to indicate that the victim was responsible for the assailant's behavior, more likely to view the male's behavior as justified, and less likely to judge the act as rape.²⁴

Exploration of unwanted sexual experiences and rape from the adolescent's perspective can lead to additional insight into health behaviors and outcomes.^{21,22,25,26} A large survey of unwanted sexual experiences among middle and high school students

indicated that 18% of females and 12% of males reported having had an unwanted sexual experience.²⁶ In 1 study, this led to unexpected gender-reversed patterns of behavior, including the internalizing behavior, bulimia, in males and externalizing behaviors, such as fighting, in females.²⁷ Other studies of female adolescents have found rape during childhood or adolescence to be associated with younger age of first voluntary intercourse, lower internal locus of control, higher depression scores, increased seeking and receipt of psychologic services, increased rate of pregnancy, and greater amounts of illegal drug use as well as evidence of physical abuse and negative mental health states.^{28,29}

TREATMENT AND MANAGEMENT

The pediatrician who is involved in the management of adolescents who are the victims of sexual assault should be trained in the forensic procedures required for documentation and collection of evidence or should refer to an emergency department or rape crisis center where there are personnel experienced with adolescent rape victims. New colposcopic procedures allow examiners to better document genital trauma, including microtrauma, seen in rape cases, with a growing body of literature demonstrating the patterns of genital injury in sexual assault victims.³⁰⁻³²

It is essential that the forensic examination be performed by a person who can ensure an unbroken chain of evidence and accurate documentation of findings.^{1,33-38} Details of the required examination and documentation are presented in a handbook by the American College of Emergency Physicians, *Evaluation and Management of the Sexually Assaulted or Sexually Abused Patient*.³⁹ Pediatricians who treat sexually abused or assaulted patients need to be aware of the legal requirements, including completion of appropriate forms and reporting to appropriate authorities, specific to their locale. Pediatricians should also be aware that the availability of DNA amplification technology now used to more accurately identify assailants allows for performance of a forensic examination beyond the 72-hour period that was previously considered the cutoff for such examinations.^{36,40-41}

The diagnosis and management of sexually transmitted diseases (STDs) is an important component of treatment of the assault victim.⁴² Blood and tissue specimens should be obtained from appropriate sites (as identified in the history) to detect *Neisseria gonorrhoea* and *Chlamydia trachomatis*. Vaginal secretions should be microscopically examined for *Trichomonas* species. Specimens should be tested for herpes virus if there is a clinical indication (eg, vesicles). Serum samples should be obtained to test for syphilis, hepatitis B virus (HBV), and human immunodeficiency virus (HIV). These tests serve as a baseline indicating the presence of any STDs in the victim before the assault but are considered controversial by some authorities who prefer performing the initial STD tests 2 weeks after the assault. All authorities agree that the syphilis and HBV tests should be repeated in 6 weeks and that the HIV test should be repeated in 3 to 6 months.^{1,36-39,42}

Pregnancy prevention and postcoital contraception should be addressed with every adolescent female rape and sexual assault victim. This discussion should include risks of failure and options for pregnancy management. A baseline urine pregnancy test should be performed. This is important because the adolescent could be pregnant from sexual activity that occurred before the assault.^{1,36-39}

Current recommendations are to provide prophylactic treatment for *Chlamydia* infection and gonorrhea to adolescent sexual assault victims and to provide prophylaxis for pregnancy prevention.^{1,36-39,42} HIV prophylaxis is not universally recommended but should be considered when there is mucosal exposure (oral, vaginal, or anal). Factors to consider include the risks and benefits of the medical regimen, whether there was repeated abuse or multiple perpetrators, if the perpetrator is known to be HIV-positive, or if there is a high prevalence of HIV in the geographic area where the sexual assault occurred.^{1,36-39,43} HBV vaccination is recommended for those who have not received a complete HBV series or who have a negative surface antibody despite previous vaccination.³⁶⁻³⁹

ADOLESCENT REACTIONS TO RAPE

Posttraumatic stress disorder occurs in up to 80% of rape victims.⁴⁴ Rape trauma syndrome is described as consisting of an initial phase lasting days to weeks during which the victim experiences disbelief, anxiety, fear, emotional lability, and guilt followed by a reorganization phase lasting months to years during which the victim goes through periods of adjustment, integration, and recovery.^{37,45} Counseling designed to specifically address these issues as well as additional psychologic trauma that results from date or acquaintance rape should be available. Psychotropic medications may be required in some instances. The pediatrician should be knowledgeable about services available in the community to address these issues and should provide initial psychologic support.

Other victim reactions to rape can include the feeling that his or her trust has been violated, increased self-blame, less positive self-concept, anxiety, alcohol abuse, and effects on sexual activity (including younger age at first voluntary sexual activity, poor use of contraception, greater number of abortions and pregnancies, STDs, victimization by older partners, and sexual dissatisfaction).^{28,34,46-49} Adolescent victims may feel that their actions contributed to the act of rape and have confusion as to whether the incident was forced or consensual.⁵⁰⁻⁵²

Because responses to rape can vary, it is important for pediatricians to not only manage the physical needs of the victim but also be sensitive to the psychologic needs of the adolescent. Pediatricians should be aware that self-blame, humiliation, and naiveté may prevent the adolescent from seeking medical care. Effective screening, referral, and follow-up allow for support of the adolescent rape victim and appropriate delivery of health care services. Because patients treated in emergency departments often do not return for follow-up care,⁵³ it is impor-

tant that the emergency treatment team refer the assaulted adolescent back to his or her medical home. Thus, pediatricians should be prepared to provide such services as follow-up STD testing, completion of the HBV vaccination series, treatment of injuries, screening for mental health problems, and management of substance use issues.

SEXUAL ASSAULT AND RAPE PREVENTION STRATEGIES

Adolescent rape exists in a sociocultural context in which issues of male dominance, appropriate gender behaviors, female victimization, and power imbalances in relationships are highly visible. Prevention messages for adolescents need to be designed for males and females.^{33,34,54-56} Adolescents need to be able to identify high-risk situations and should be encouraged to seek medical care after a rape. Factors that may increase the likelihood of assault (eg, late night use of drugs or alcohol) and strategies to prevent rape should be discussed, and associated educational materials should be distributed.^{33,34,54-56}

Screening of adolescents for sexual victimization should be part of a routine history. Adolescents should be asked direct questions regarding their past sexual experiences. These questions should include those that explore age of first sexual experience, unwanted voluntary or forced sexual acts, and a description of events. Exploration of gender roles and relationship parameters (eg, exploitative, nonconsensual vs healthy) are critical. The patient needs the opportunity to describe the experience in his or her own words.³⁰⁻³⁴

RECOMMENDATIONS

1. Pediatricians should be knowledgeable about the epidemiology of sexual assault in adolescence.
2. Pediatricians should be knowledgeable about the current reporting requirements for sexual assault in their communities.
3. Pediatricians should be knowledgeable about sexual assault and rape evaluation services available in their communities and when to refer adolescents for a forensic examination.
4. Pediatricians should screen adolescents for a history of sexual assault and potential sequelae.
5. Pediatricians should be prepared to offer psychologic support or referral for counseling and should be aware of the services in the community that provide management, examination, and counseling for the adolescent patient who has been sexually assaulted.
6. Pediatricians should provide preventive counseling to their adolescent patients regarding avoidance of high-risk situations that could lead to sexual assault.

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REFERENCES

1. American Academy of Pediatrics, Committee on Adolescence. Sexual assault and the adolescent. *Pediatrics*. 1994;94:761-765
2. Perkins C, Klaus P. *Criminal Victimization 1994: National Crime Victimization Survey*. Washington, DC: Bureau of Justice Statistics; 1996. Available at: <http://www.ojp.usdoj.gov/bjs/abstract/cv94.htm>. Accessed November 6, 2000
3. Teare C, English A. An analysis of Assembly Bill 327: New California Child Abuse Reporting Requirements for Family Planning Providers. San Francisco, CA: National Center for Youth Law for the California Health Council Inc; 1998. Available at: <http://www.youth.law.org/ab327.pdf>. Accessed November 6, 2000
4. Ford CA, Millstein SG. Delivery of confidentiality assurances to adolescents by primary care physicians. *Arch Pediatr Adolesc Med*. 1997;151:505-509
5. Donovan P. Can statutory rape laws be effective in preventing adolescent pregnancy? *Fam Plann Perspect*. 1997;29:30-34, 40
6. Rennison CM. *Criminal Victimization 1998: Changes 1997-1998 With Trends 1993-1998*. Washington, DC: Bureau of Justice Statistics; 1999. Available at: <http://www.ojp.usdoj.gov/bjs/abstract/cv98.htm>. Accessed November 6, 2000
7. Greenfield LA. *Sex Offenses and Offenders: An Analysis of Data on Rape and Sexual Assault*. Washington, DC: Bureau of Justice Statistics; 1997. Available at: <http://www.ojp.usdoj.gov/bjs/pub/pdf/soo.pdf>. Accessed November 6, 2000
8. Muram D, Hostetler BR, Jones CE, Speck PM. Adolescent victims of sexual assault. *J Adolesc Health*. 1995;17:372-375
9. Peipert JF, Domagalski LR. Epidemiology of adolescent sexual assault. *Obstet Gynecol*. 1994;84:867-871
10. National Victim Center. *Rape in America: A Report to the Nation*. Arlington, VA: National Victim Center; 1992
11. Heise LL. Reproductive freedom and violence against women: where are the intersections? *J Law Med Ethics*. 1993;21:206-216
12. Quint EH. Gynecological health care for adolescents with developmental disabilities. *Adolesc Med*. 1999;10:221-229
13. Holmes WC, Slap GB. Sexual abuse of boys: definition, prevalence, correlates, sequelae, and management. *JAMA*. 1998;280:1855-1862
14. Lacy HB, Roberts R. Sexual assault on men. *Int J STD AIDS*. 1991;2:258-260
15. Seifert SA. Substance use and sexual assault. *Subst Use Misuse*. 1999;34:935-945
16. Schwartz RH, Weaver AB. Rohypnol: the date rape drug. *Clin Pediatr (Phila)*. 1998;37:321
17. Simmons MM, Cupp MJ. Use and abuse of flunitrazepam. *Ann Pharmacother*. 1998;32:117-119
18. Rickert VI, Weimann CM. Date rape: office-based solutions. *Contemp Ob/Gyn*. March 1998:133-153
19. Anglin D, Spears KL, Hutson HR. Flunitrazepam and its involvement in date or acquaintance rape. *Acad Emerg Med*. 1997;4:323-326
20. Parrot A. Acquaintance rape among adolescents: identifying risk groups and intervention strategies. *J Soc Work Hum Sex*. 1989;8:47-61
21. Small SA, Kerns D. Unwanted sexual activity among peers during early and middle adolescence, incidence and risk factors. *J Marriage Fam*. 1993;55:941-952
22. Kershner R. Adolescent attitudes about rape. *Adolescence*. 1996;31:29-33
23. Boxley J, Lawrence L, Gruchow H. A preliminary study of eighth grade students' attitudes toward rape myths and women's roles. *J Sch Health*. 1995;65:96-100
24. Cassidy L, Hurrell RM. The influence of victim's attire on adolescent's judgments of date rape. *Adolescence*. 1995;30:319-323
25. Kellogg ND, Hoffman TJ. Unwanted and illegal sexual experiences in childhood and adolescence. *Child Abuse Negl*. 1995;19:1457-1468
26. Erickson PI, Rapkin AJ. Unwanted sexual experiences among middle and high school youth. *J Adolesc Health*. 1991;12:319-325
27. 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
28. Miller BC, Monson BH, Norton MC. The effects of forced sexual intercourse on white female adolescents. *Child Abuse Negl*. 1995;19:1289-1301
29. Nagy S, DiClemente R, Adcock AG. Adverse factors associated with forced sex among southern adolescent girls. *Pediatrics*. 1995;96:944-946
30. Slaughter L, Brown CR, Crowley S, Peck R. Patterns of genital injury in female sexual assault victims. *Am J Obstet Gynecol*. 1997;176:609-616
31. Lenahan LC, Ernst A, Johnson B. Colposcopy in evaluation of the adult sexual assault victim. *Am J Emerg Med*. 1998;16:183-184
32. Biggs M, Stermac LE, Divinsky M. Genital injuries following sexual assault of women with and without prior sexual intercourse experience. *Can Med Assoc J*. 1998;159:33-37
33. American College Obstetricians and Gynecologists. Sexual assault. *ACOG Educ Bull*. 1997;242:1-4
34. American College Obstetricians and Gynecologists. Adolescent victims of sexual assault. *ACOG Educ Bull*. 1998;252:1-5
35. Campbell R, Bybee D. Emergency medical services for rape victims: detecting the cracks in service delivery. *Womens Health*. 1997;3:75-101
36. Hampton HL. Care of the woman who has been raped. *N Engl J Med*. 1995;332:234-237
37. Petter LM, Whitehill DL. Management of female sexual assault. *Am Fam Physician*. 1998;58:920-926, 929-930
38. Linden JA. Sexual assault. *Emerg Med Clin North Am*. 1999;17:685-697
39. American College of Emergency Physicians. *Evaluation and Management of the Sexually Assaulted or Sexually Abused Patient*. Dallas, TX: American College of Emergency Physicians; 1999. Available at: <http://www.acep.org/library/index.cfm/id/2101>. Accessed November 6, 2000
40. Chakraborty R, Kidd KK. The utility of DNA typing in forensic work. *Science*. 1991;254:1735-1739
41. Ledray LE, Netzel L. DNA evidence collection. *J Emerg Nurs*. 1997;23:156-158
42. Reynolds MW, Peipert JF, Collins B. Epidemiologic issues of sexually transmitted diseases in sexual assault victims. *Obstet Gynecol Surv*. 2000;55:51-57
43. Bamberger JD, Waldo CR, Gerberding JL, Katz MH. Postexposure prophylaxis for human immunodeficiency virus (HIV) infection following sexual assault. *Am J Med*. 1999;106:323-326
44. Pynoos RS, Nader K. Post traumatic stress disorder. In: McAnarney ER, Kreipe RE, Orr DP, Comerci GD, eds. *Textbook of Adolescent Medicine*. Philadelphia, PA: WB Saunders Co; 1992:1003-1009
45. Beebe DK. Sexual assault: the physician's role in prevention and treatment. *J Miss State Med Assoc*. 1998;39:366-369
46. Boyer D, Fine D. Sexual abuse as a factor in adolescent pregnancy and child maltreatment. *Fam Plann Perspect*. 1992;24:4-11,19
47. Moore KA, Nord CW, Petterson JL. Nonvoluntary sexual activity among adolescents. *Fam Plann Perspect*. 1989;21:110-114
48. Smith MD, Besharov DT, Gardiner KN, Hoff T. *Early Sexual Experiences: How Voluntary? How Violent?* Menlo Park, CA: Henry J. Kaiser Family Foundation; 1996
49. Taylor D, Chavez G, Chabra A, Boggess J. Risk factors for adult paternity in births to adolescents. *Obstet Gynecol*. 1997;89:199-205
50. American Medical Association. *Strategies for the Treatment and Prevention of Sexual Assault*. Chicago, IL: American Medical Association; 1995
51. Louis Harris and Associates. *In Their Own Words: Adolescent Girls Discuss Health and Healthcare Issues*. New York, NY: The Commonwealth Fund; 1997
52. Koval JE. Violence in dating relationships. *J Pediatr Health Care*. 1989;3:298-304
53. Holmes MM, Resnick HS, Frampton D. Follow-up of sexual assault victims. *Am J Obstet Gynecol*. 1998;179:336-342
54. Holmes MM. The primary health care provider's role in sexual assault prevention. *Womens Health Issues*. 1995;5:224-232
55. Vickio CJ, Hoffman BA, Yarris E. Combating sexual offenses on the college campus: keys to success. *J Am Coll Health*. 1999;47:283-286
56. Scarce M. Same-sex rape of male college students. *J Am Coll Health*. 1997;45:171-173

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