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Sexual Health Disparities Among African American Youth and the Need for Early Prevention Approaches: Parenting and Youth Development Programs as Strategies for Pre-Risk Prevention

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Abstract

In response to the disproportionate rates and staggering effects of HIV/AIDS in the African American community, the Centers for Disease Control and Prevention (CDC) have initiated a heightened national response to address this crisis by developing prevention interventions for African Americans. Because HIV risk behaviors often originate in youth, intensifying prevention efforts with youth provides an opportunity to reduce the impact of HIV/AIDS on the next generation of adults. As such, this article summarizes data from multiple sources on the disproportionate rates of HIV, sexually transmitted infections, and pregnancy for African American youth. Trends in sexual behaviors that put these youth at risk for negative sexual health outcomes also are highlighted. Taking into account the specific needs of African American youth, we then outline parenting and youth development programs that reduce sexual risk and that have the potential to significantly impact the HIV epidemic in the African American community.

Keywords: HIV/AIDS, African American, youth, disparities, prevention, interventions

Centers for Disease Control and Prevention (CDC) surveillance data highlight the consistently disproportionate burden of HIV/AIDS on African Americans, particularly among youth. In 2005, the rate of AIDS cases for African-American adults and adolescents was ten times the rate for Whites and almost three times the rate for Hispanics (CDC, 2006a). Although African American adolescents represented only 16% of the U.S. teenage population in 2005, they accounted for 69% of the reported AIDS cases among youth aged 13-19 years (CDC, 2006b). In 2005, HIV/AIDS was the fourth leading cause of death for African Americans aged 25-34 (Office of Statistics and Program National Center for Injury Prevention and Control, 2005), and given the long latency period from HIV infection to the development of AIDS or death from it, it is likely that many of these young adults were infected during adolescence. In fact, in 2006, among African Americans, 13 to 29 year olds had the highest proportion of new HIV infections of any age group (42% for males; 32% for females; CDC, 2008). This young

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The findings and conclusions in this paper are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention.

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profile of the HIV epidemic for African Americans is particularly striking among young men who have sex with men (YMSM), where the majority (52%) of the new HIV infections for Black YMSM in 2006 were among 13 to 29 year olds (CDC, 2008). Furthermore, a venue-based survey of YMSM from seven urban areas revealed that Black YMSM had the highest rates of HIV (14.1%) compared to Hispanic (6.9%), White (3.3%), and Asian/Pacific Islander (3.0%) YMSM (Valleroy, Mackellar, et al., 2000).

Sexual risk behavior is the primary mode of HIV transmission (CDC, 2008), which also poses a risk for sexually transmitted infections (STIs) and unplanned pregnancy. Similar to the disparities in HIV, disparities exist in the pregnancy and STI rates for African American youth. Although the national pregnancy rate for Black adolescent females fell by 40% between 1990 and 2002, the pregnancy rate reported for Black females between the ages of 15-19 in 2002 was still more than twice the pregnancy rate reported for White female adolescents, and slightly higher than the rate for Hispanic female adolescents (134.2 per 1,000, 48.2 per 1,000 and 131.5 per 1,000, respectively; Ventura, Abma, et al., 2006).

High rates of STIs are of particular concern for HIV risk, as the presence of certain STIs increases susceptibility to HIV infection (Flemming & Wasserheit, 1999). A 2008 CDC study estimates that one in four young women between the ages of 14 and 19 in the United States is infected with at least one of the most common STIs (human papilloma virus, chlamydia, herpes simplex virus, and trichomoniasis) with nearly half of young African American teenage girls infected with an STI, compared with 20% of young White women (Forhan, Gottlieb, et al., 2008). Data from the 2006 Sexually Transmitted Disease Surveillance Report (CDC, 2007) reveal substantial racial disparities in chlamydia and gonorrhea rates for African American preadolescents and adolescents. For example, among 10-14 year-olds, the chlamydia rate for African Americans was 11 times higher than the rate for Whites and 4.5 times higher than the rate for Hispanics (249.2 per 100,000, 22.1 per 100,000 and 55.4 per 100,000, respectively). A similar pattern was found among 15-19 year olds. Similarly, the gonorrhea rate for African Americans 10-14 years of age was 20 times higher than the rate for Whites and 10 times higher than the rate for Hispanics (97.6 per 100,000, 4.7 per 100,000 and 9.5 per 100,000, respectively). Again, this pattern was also found in 15-19 year-olds.

Examining chlamydia and gonorrhea rates by race and gender reveals that the largest disparities exist between African American and White adolescent males, whereas African American female adolescents suffer from the highest overall rates. For example, for gonorrhea among 15-19 year olds, the rates per 100,000 are as follows: Black females, 2898.1; White females, 208.7; Hispanic females 334.2; Black males, 1503.8; White males, 38.4; and Hispanic males 137.4. Taken together, the disproportionate rates of HIV/AIDS, STIs, and pregnancy for African American youth substantiate the need to understand the particular behaviors that put them at heightened risk, and to develop effective sexual risk reduction strategies and interventions for this vulnerable population.

To assess the sexual risk behaviors of African American youth, we reviewed data from the 2003 Middle School Youth Risk Behavior Survey[1] (grades 6-8) from two states, and the 2005 High School Youth Risk Behavior Survey (grades 9-12). The High School Youth Risk Behavior High School Survey (YRBS) is a nationally representative, biannual survey of high school students' health-risk behaviors, including sexual risk behaviors. In addition, individual states can elect to collect data from middle school students and can add or delete questions from the questionnaires (CDC, 2006b). In 2003, Alabama and Mississippi were the only states to conduct a middle school YRBS that included sexual risk behaviors in their questionnaire (Whalen, Grunbaum, et al., 2005). A more in-depth

[1] Middle school data from 2005 for African American students were not available at the state level.

discussion of the YRBS methodology is published elsewhere (CDC, 2004).

African American students at both the middle and high school level report engaging in risky sexual behaviors, with a high proportion reporting ever having had sex. Among African American middle school students, 42.2% in Alabama (53.8% of males, 32.9% of females) and 42.8% in Mississippi (58.3% of males, 25.9% of females) reported having engaged in sexual intercourse at least one time (Whalen, Grunbaum, et al. 2005). According to the national high school YRBS, 67.6% of African American students (74.6% of males, 61.2% of females) reported having engaged in sexual intercourse at least one time (CDC, 2006b). Furthermore, many of these youth initiate sexual intercourse as preadolescents. For African American middle school students, 11.5% in Alabama (19.8% of males, 3.6% of females) and 14.3% in Mississippi (23.5% of males, 4.8% of females) reported first sexual intercourse before age 11 (Whalen, Grunbaum, et al., 2005). Nationally, 16.5% of African American high school students (26.8% of males, 7.1% of females) reported engaging in first sexual intercourse before age 13 years (CDC, 2006b).

Engaging in sex with multiple partners puts youth at additional risk for HIV and STIs. Among African American middle school students, 19.3% in Alabama (27.9% of males, 10.8% of females) and 17.7% in Mississippi (26.6% of males and 8.7% of females) reported having had three or more lifetime sexual partners (Whalen, Grunbaum, et al., 2005), whereas 28.2% of African American high school students (38.7% of males, 18.6% of females) reported having four or more lifetime partners (CDC, 2006b). As seen in Table 1, these rates are much higher than those seen among their White and Hispanic peers, further magnifying the need to focus prevention efforts on this population.

As described above, African American YMSM have disproportionately high rates of HIV compared with their White and Hispanic peers; however, the YRBS does not specify the gender of sexual partners. Additional research is desperately needed to understand the full range of sexual risk behaviors among youth, particularly those of African American youth.

Implications for HIV Prevention for African American Youth

These data from the YRBS indicate not only that African American youth are engaging in behaviors that put them at risk for HIV, but that for many, risk behaviors begin early, in preadolescence, especially for African American males. Most sexual risk reduction interventions, however, are implemented in high school, after many African American youth have already initiated sexual intercourse. These programs, which often focus on delaying the onset of sexual activity, reach youth too late. By high school, high-risk behavior patterns have often become firmly established and are not easily changed. Beginning sexual risk prevention efforts this late misses important opportunities to intervene with youth before the risk of HIV, STIs, and pregnancy becomes a reality and associated behavior patterns become entrenched. Similarly, CDC's HIV prevention strategy, with a focus on routine, opt-out testing for all persons aged 13 to 64 years in all health care settings (CDC, 2006c), and implementation of evidence-based prevention interventions with high-risk individuals (Lyles, Kay, et al. 2007), only addresses people who are already HIV-positive or already engage in high risk behaviors. To complement these efforts, we must include prevention that targets the pre-risk phase – before risk behaviors ever occur and before they have become entrenched and difficult to change.

Research shows that it is easier to prevent risk behaviors before their onset than to change established behavioral patterns (Botvin, Baker, et al., 1990). This primary prevention pre-risk approach has been embraced in a number of public health efforts to prevent smoking, obesity, drug use, partner violence, and vehicular accidents and deaths (Baker, Chen, et al., 2007; Caballero,

Table 1. YRBS 2005 High School and 2003 Middle School Sexual Behaviors by Race and Sex.

YRBS	Site	Race	Sex	Ever Had Sex		Early Initiation				Number of Partners			
				%	CI* (±)	< age 11 %	CI* (±)	< age 13 %	CI* (±)	≥ 3 %	CI* (±)	≥ 4 %	CI* (±)
High School	US	Black	Total	67.6	3.1			16.5	2.4			28.2	2.6
			Male	74.6	3.7			26.8	3.5			38.7	4.2
			Female	61.2	4.6			7.1	2.0			18.6	3.3
		White	Total	43.0	4.1			4.0	0.8			11.4	1.8
			Male	42.2	4.4			5.0	1.0			11.6	2.1
			Female	43.7	4.6			2.9	0.8			11.1	2.2
		Hispanic	Total	51.0	4.3			7.3	1.9			15.9	2.4
			Male	57.6	4.4			11.1	3.2			21.7	3.5
			Female	44.4	5.0			3.6	1.2			10.4	2.1
Middle School	AL	Black	Total	42.8	8.1	11.5	3.4			19.3	4.9		
			Male	53.8	9.2	19.8	6.7			27.9	8.6		
			Female	32.4	8.4	3.6	2.9			10.8	5.0		
		White	Total	23.2	4.2	5.2	1.5			9.6	3.2		
			Male	27.3	4.6	7.6	2.5			11.5	3.2		
			Female	18.9	4.9	2.8	2.1			7.6	4.1		
		Hispanic	Total	NA		NA				NA			
	MS	Black	Total	42.2	5.6	14.3	3.5			17.7	3.8		
			Male	58.3	8.1	23.5	4.8			26.6	6.5		
			Female	25.9	5.7	4.8	3.4			8.7	3.2		
		White	Total	20.0	5.7	5.8	2.5			6.4	2.7		
			Male	25.8	7.9	8.6	5.0			10.0	4.2		
			Female	13.9	5.0	2.9	1.5			2.6	2.0		
		Hispanic	Total	NA		NA				NA			

Note. *95% confidence interval.
NA = Not available, US = United States, AL = Alabama, MS = Mississippi
YRBS = Youth Risk Behavior Survey

Clay, et al., 2003; Cohen & Rice, 1995; Curry, Hollis, et al., 2003; Freedman, Khan, et al., 2001; Lucas & Sampson, 2006; Pentz, Dwyer, et al., 1989; Whitaker, Morrison, et al., 2006). In addition, research examining sexual risk outcomes has found that behavior at sexual debut is an important determinant of subsequent behavior, where condom use at first penile-vaginal intercourse is associated with a 20-fold increase in lifetime regular condom use (Miller, Levin, et al., 1998). This suggests that during the pre-risk stage, we not only have the opportunity to reduce HIV risk during the initial acts of sexual behaviors, but also to help youth establish lifelong patterns of safe, healthy sexual behaviors.

Although a pre-risk approach is critical to addressing the HIV/AIDS crisis in African American youth, it proves a difficult one to implement. There is a great deal of controversy associated with providing youth with sexual health and sexual risk reduction knowledge and skills, especially in school settings (Berstein, 2006). Part of the controversy stems from the perception that providing youth with sex education will increase sexual risk behaviors. In fact, the evidence shows just the opposite, that sex education programs reduce adolescent sexual risk (Kirby, Laris, et al., 2007).

Some community-based organizations have implemented early sexual risk prevention programs for youth, but in more far-reaching arenas such as schools, health departments and faith-based organizations many constraints exist, limiting our ability to reach substantial segments of youth. In order to implement large-scale pre-risk prevention efforts for African American youth, new approaches are needed that are politically palatable, acceptable to a wide range of values, and that can be implemented in a range of venues, from small, private community organizations to large public school districts.

In addition to tailoring the timing of pre-risk strategies to the risk profile of African American youth, we must also ensure that our HIV prevention efforts are culturally grounded and resonate with the lived experiences, values and norms of the African American communities we serve. It cannot be assumed that HIV prevention interventions developed for other populations will also be successful with African American populations (Bing, Bingham, et al., 2008). Interventions need to address social-level factors of sexual risk specific to African American youth, such as family context (DiIorio, McCarty, et al., 2007; DiIorio, Resnicow, et al., 2002; Forehand, Armistead, et al., 2007; McKay, 2004), peer norms (Coyle, Basen-Engquist, et al., 2001; Kirby, Korpi, et al., 1997; Stanton, Li, et al., 1996), and future life opportunities (O'Donnell, Steuve, et al., 1999; Oyserman, Terry, et al., 2001). In addition, programs need to be culturally sensitive by assuring the appropriateness of their delivery strategies (e.g., the characteristics of program facilitators and materials) and content (by including the experience, values, and norms of the population) (Bing, Bingham, et al., 2008). Ultimately, an array of interventions is needed that are conceptualized, designed, implemented and evaluated with and for African American populations.

Intervention Approaches to Pre-Risk Prevention

To fully address the HIV epidemic in African American youth, we need pre-adolescent pre-risk programs that help youth develop the attitudes, knowledge, and skills to avoid sexual risk, that originate from African American communities, that are non-controversial, politically palatable, and that can be implemented in a range of small and large-scale venues. Two types of youth programs that meet this tall order are youth development and parenting programs. Both types of programs can address pre-risk behaviors in non-controversial ways and help youth acquire the necessary skills to develop healthy behaviors and make positive life choices.

Parenting Interventions

One of the most feasible and least controversial approaches to the delivery of early sexual risk prevention is to involve parents in the prevention process. Relative to other information sources, parents have a unique opportunity to engage and educate their children about sexual risk prevention. Parents can reach youth early, long before risk behaviors are initiated or established. Parents can also engage their children in discussions that are continuous (i.e., not one time events), sequential (i.e., building one upon another as the child matures and gains life experience) and time sensitive (i.e., information is immediately responsive to the child's questions and needs rather than programmed, such as in a school curriculum). Parents play a critical role in shaping adolescent sexual behavior through their use of effective parenting strategies and skilled, open communication about sexual values (Dittus, Miller, et al., 2004; Kotchick, Armistead, et al., 2006).

Both parents and teenagers want and value good communication about sexuality (Kirby, 1999), and preadolescents prefer to receive information about sex from their parents rather than from other sources (Kaiser Family Foundation, 1999). However, even when parents think that parent-child sex discussions are important, they do not always engage their children in such discussions (Jaccard, Dittus, et al., 2000), as issues related to sexuality are often difficult for parents to discuss. Common barriers parents face include embarrassment in discussing sexual issues with children (Kirkman, Rosenthal, et al., 2002); apprehension about the child's response (e.g., unwillingness to participate, dishonesty, embarrassment, feeling that the parent is prying; Jaccard, Dittus, et al., 2000; Rosenthal, Feldman, et al., 1998); lack of confidence (DiIorio, Resnicow, et al., 2000), knowledge, and skills (Kirkman, Rosenthal, et al., 2002) to conduct such discussions; and the perception that their child is not ready to receive information about sexual issues (Rosenthal, Feldman, et al., 1998). Thus, encouraging parents to talk with their children early may not be sufficient to promote parent-child sex discussions. Parents also need the knowledge, comfort, skills, and confidence to communicate effectively and keep them from avoiding these often difficult and emotional conversations with their children (Miller, Fasula, et al. in press).

Research demonstrates a strong link between parent-child sexual communication and decreased adolescent sexual risk behavior. For example, studies have found that adolescents who talked with their parents about sexual issues were more likely to use condoms or have fewer sex partners compared to those who had not (Holtzman & Rubinson, 1995; Leland & Barth, 1993; Romer, Stanton, et al., 1999). However, research also suggests that effective parent-child communication about sexual topics is not as simple as having "the talk;" the timing, content, and quality of such discussions is critical to its protective effects on adolescent sexual risk behaviors. Specifically, such discussions are most effective at reducing sexual risk behaviors when they occur early, prior to sexual initiation (Miller, Levin, et al., 1998), when they cover a broad range of topics (DiIorio, Kelley, et al. 1999; Dutra, Miller, et al., 1999), and when they are conducted in a skilled, open, and receptive manner (Dutra, Miller, et al., 1999; Kotchick, Dorsey, et al., 1999; Miller, Kotchick, et al., 1998; Whitaker, Miller, et al., 1999). Furthermore, communication conducted by parents who are knowledgeable, skilled, comfortable, and confident in communicating with their children (a quality that has been quantified and termed "parental responsiveness" in the literature) has been linked to increased delays in sexual initiation, increased partner communication, increased condom use, and decreased overall sexual risk (Dutra, Miller, et al. 1999; Fasula & Miller, 2006; Kotchick, Dorsey, et al., 1999; Whitaker, Miller, et al., 1999).

A number of parent-targeted sexual risk prevention interventions have shown great promise. These programs incorporate parents and families and target children younger than

those typically reached by traditional prevention methods (DiIorio et al., 2002; DiIorio et al., 2007; Forehand et al., 2007; McKay et al., 2004). Many of these programs foster parent-child communication and/or address other aspects of parenting such as parental monitoring. Parent based sexual risk prevention programs must begin by embracing that parents need more than a quick "talk to your kids about sex" sound bite. They need programs that bring them together with other parents to share their experiences and overcome the barriers they have to communicating with their children about a difficult set of topics. They need programs that help them understand the risks their children face, and how early these risks emerge. Parents need programs that help build their knowledge, skills, and confidence to talk with their kids and engage in activities that help them practice and reinforce this needed skill set. Parents do not need to be told they are doing a bad job. Instead, they need to be given tools to strengthen, support and encourage them to take an early and active role in guiding their children through their sexual development and helping them avoid sexual risk for HIV.

Youth development

Many programs to prevent adolescent risk behaviors, such as drug use and violence, have used a youth development or resiliency approach (Santelli, DiClemente, et al. 1999). These programs attempt to reduce risk by improving general life skills; instilling an optimistic belief in the future; and building self-confidence, coping, and risk avoidance skills. A variety of youth development programs show evidence of improving adolescent sexual and reproductive health outcomes and several studies have shown that youth development programs significantly reduced rates of teen pregnancy or birth (Zimmerman & Arunkumar, 1994). In addition, programs with a service learning component have been shown to reduce sexual risk (O'Donnell, Steuve, et al., 1999).

Many have called for a "combination prevention" approach to addressing the HIV/AIDS epidemic and parenting and youth development programs represent two prevention approaches that are likely to have synergistic effects when implemented together. Youth development and parent-based approaches can complement one another by addressing the specific needs of youth at key points in their development. Parents can begin sexual health discussions during preadolescence as sexual self awareness increases, and youth development programs can dovetail these efforts beginning in middle school as youth begin to increase their independence. In addition, taken together, these programs address multiple aspects of the individual and social context of sexual risk. Parenting programs can improve youth's sexual health knowledge, while youth development programs can increase their empowerment and motivation to use this knowledge to avoid sexual risk. These programs can also help connect youth to key social institutions such as the family, school, and the labor market and strengthen the family context and parental effectiveness. Such a synergistic effect on key social aspects of sexual health, provided prior to sexual risk behaviors has the potential to establish the foundation for sexual health equity, rather than perpetuate disparities for the next generation of African American youth.

References

Baker, S. P., Chen, L., et al. (2007). *Nationwide review of graduated driver licensing*. Washington (DC): AAA Foundation for Traffic Safety.

Berstein, E. (2006). Sex-ed classes become latest school battleground. *Wall Street Journal Online.*

Bing, E. G., Bingham, T., et al. (2008). Research needed to more effectively combat HIV among African-American men who have sex with men. *Journal of the National Medical Association, 100*, 52-56.

Botvin, G. J., Baker, E., et al. (1990). Preventing adolescent drug abuse through a multimodal cognitive-behavioral approach: Results of a 3-year study.

Journal of Consulting and Clinical Psychology 58, 437-446.

Caballero, B., Clay, T., et al. (2003). Pathways: A school-based, randomized controlled trial for the prevention of obesity in American Indian schoolchildren. *American Journal of Clinical Nutrition 78*, 1030-1038.

Centers for Disease Control and Prevention (2004). Methodology of the youth risk behavior surveillance system. *Morbidity and Mortality Weekly Report, 53*, RR-12.

Centers for Disease Control and Prevention (2006a). HIV/AIDS surveillance report, 2004. Department of Health and Human Services.

Centers for Disease Control and Prevention (2006b). Youth risk behavior surveillance -- United States, 2005. *Morbidity and Mortality Weekly Report 55*, SS-5.

Centers for Disease Control and Prevention (2006c). Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *Morbidity and Mortality Weekly Report, 55*, 1-24.

Centers for Disease Control and Prevention (2007). *Sexually transmitted disease surveillance, 2006*. Atlanta, GA: U.S. Department of Health and Human Services.

Centers for Disease Control and Prevention (2008). Subpopulation estimates from the HIV incidence surveillance system -- United States, 2006. *Morbidity and Mortality Weekly Report, 57*, 985-989.

Cohen, D. A., & J. C. Rice (1995). A parent-targeted intervention for adolescent substance abuse prevention. *Evaluation Review, 19*, 159-180.

Coyle, K., et al. (2001). Safer choices: Reducing teen pregnancy, HIV, and STDs. *Public Health Reports, 116*, 82-93.

Curry, S. J., Hollis, J., et al. (2003). "A randomized trial of a family-based smoking prevention intervention in managed care." *Preventive Medicine, 37*, 617-626.

DiIorio, C., Kelley, M., et al. (1999). Communication about sexual issues: Mothers, fathers, and friends. *Journal of Adolescent Health, 24*, 181-189.

DiIorio, C., McCarty, F., et al. (2007). Real men: A group-randomized trial of an HIV prevention intervention for adolescent boys. *American Journal of Public Health, 97*, 1087-1089.

DiIorio, C., Resnicow, K., et al. (2000). Social cognitive factors associated with mother-adolescent communication about sex. *Journal of Health Communication, 5*, 41-51.

DiIorio, C., Resnicow, K., et al. (2002). Keepin' it R.E.A.L.!: Program description and results of baseline assessment. *Health Education Behavior, 29*, 104-23.

Dittus, P., Miller, K. S., et al. (2004). Why Parents Matter!: The conceptual basis for a community-based HIV prevention program for the parents of African American youth. *Journal of Child and Family Studies, 13*, 5-20.

Dutra, R., Miller, K. S., et al. (1999). The process and content of sexual communication with adolescents in two-parent families: Association with sexual risk taking behavior. *AIDS and Behavior, 3*, 59-66.

Fasula, A. M., & Miller, K. S. (2006). African-American and Hispanic adolescents' intentions to delay first intercourse: Parental communication as a buffer for sexually active peers. *Journal of Adolescent Health, 38*, 193-200.

Flemming, D. T., & Wasserheit, J. N. (1999). From epidemiological synergy to public health policy and practice: The contribution of other sexually transmitted diseases to sexual transmission of HIV infection. *Sexually Transmitted Infections, 75*, 3-17.

Forehand, R., L., Armistead, L., et al. (2007). Efficacy of a parent based sexual-risk prevention program for African American preadolescents. *Archives of Pediatric and Adolescent Medicine, 161*, 1123-1129.

Forhan, S. E., Gottlieb, S. L., et al. (2008). *Prevalence of sexually transmitted infections and bacterial vaginosis among female adolescent in the United States*. Chicago, IL: National STD Prevention Conference.

Freedman, D. S., Khan, L. K., et al. (2001). Relationship of childhood obesity to coronary heart disease risk factors in adulthood: The Bogalusa heart study. *Pediatrics, 108*, 712-718.

Holtzman, D., & R. Rubinson (1995). Parent and peer communication effects on AIDS-related behavior among US high school students. *Family Planning Perspectives, 27*, 235-240, 268.

Jaccard, J., Dittus, P. J., et al. (2000). Parent-teen communication about premarital sex: Factors associated with the extent of communication. *Journal of Adolescent Research, 15*, 187-208.

Kaiser Family Foundation. (1999). *Kids ready to talk about today's tough issues before their parents are: Sex, AIDS, violence, and drugs/alcohol*. Retrieved April 4, 2007, from http://www.kff.org/youthhivstds/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=14687.

Kirby, D. B. (1999). Sexuality and sex education at home and school. *Adolescent Medicine, 10,* 195-209.

Kirby, D. B., Korpi, M., et al. (1997). An impact evaluation of Project SNAPP: An AIDS risk reduction education and skills training (ARREST) program. *Journal of Adolescent Health, 14,* 533-539.

Kirby, D. B., Laris, B. A., et al. (2007). Sex and HIV education programs: Their impact on sexual behaviors of young people throughout the world. *Journal of Adolescent Health, 40,* 206-217.

Kirkman, M., Rosenthal, D. A., et al. (2002). Talking to a tiger: Fathers reveal their difficulties in communicating about sexuality with adolescents. In S. S. Feldman & D. A. Rosenthal (Eds.), *Talking sexuality: Parent-adolescent communication* (pp. 57-74). San Francisco: Jossey-Bass.

Kotchick, B. A., Armistead, L., et al. (2006). Adolescent sexual risk behavior. In D. A. Wolfe & E. J. Mash (Eds.), *Behavioral and emotional disorders in adolescents* (pp. 563-588). New York: Guilford.

Kotchick, B. A., Dorsey, S., et al. (1999). Adolescent sexual risk-taking behavior in single-parent ethnic minority families. *Journal of Family Psychology 13,* 93-102.

Leland, N. L., & R. P. Barth (1993). Characteristics of adolescents who have attempted to avoid HIV and who have communicated with parents about sex. *Journal of Adolescent Research, 8,* 58-76.

Lucas, A., & H. A. Sampson (2006). *Primary prevention by nutrition intervention in infancy and childhood*. San Francisco, CA: 57th Nestle Nutrition Workshop, Pediatric Program..

Lyles, C. M., Kay, L. S., et al. (2007). Best-evidence interventions: Findings from a systematic review of HIV behavioral interventions for US populations at high risk, 2000-2004. *American Journal of Public Health, 97,* 133-143.

McKay, A. (2004). Adolescent sexual and reproductive health in Canada: A report card in 2004. *Canadian Journal of Human Sexuality, 13,* 67-81.

Miller, K. S., Fasula, A. M., et al. (in press). Barriers and facilitators to maternal communication with preadolescents about age-relevant sexual topics. *AIDS and Behavior.*

Miller, K. S., Kotchick, B. A., et al. (1998). Family communication about sex: What are parents saying and are their adolescents listening? *Family Planning Perspectives, 30,* 218-222.

Miller, K. S., Levin, M. L., Whitaker, D. J., & Xu, X. (1998). Patterns of condom use among adolescents: The impact of mother-adolescent communication. *American Journal of Public Health, 88*, 1542-1544.

O'Donnell, L., Steuve, A., et al. (1999). The effectiveness of the Reach for Health community youth service learning program in reducing early and unprotected sex among urban middle school students. *American Journal of Public Health, 89,* 176-181.

Office of Statistics and Program National Center for Injury Prevention and Control. (2005). *10 leading causes of death, United States 2005*. National Center for Health Statistics.

Oyserman, D., Terry, K,. et al. (2001). A possible selves intervention to enhance school involvement. *Journal of Adolescence, 25,* 313-326.

Pentz, M. A., Dwyer, J. H., et al. (1989). A multicommunity trial for primary prevention of adolescent drug abuse. Effects on drug use prevalence. *Journal of the American Medical Association 261,* 3259-3266.

Romer, D., Stanton, B., et al. (1999). Parental influence on adolescent sexual behavior in high-poverty settings. *Archives of Pediatric Adolescent Medicine, 153,* 1055-1062.

Rosenthal, D. A., Feldman, S. S., et al. (1998). Mum's the word: Mothers' persectives on communication about sexuality with adolescents. *Journal of Adolescence 21,* 727-743.

Santelli, J., DiClemente, R., et al. (1999). Sexually transmitted disease, unintended pregnancy, and adolescent health promotion. In M. Fisher, L. Juszcak, & L. V. Klerman (Eds.), *Adolescent medicine: State of the art reviews, disease prevention, health promotion and risk reduction during adolescence* (pp. 87-108). Philadelphia, PA, Hanley and Belfus Inc.

Stanton, B. F., Li, X., et al. (1996). A randomized controlled effectiveness trial of an AIDS prevention program for low income African-American youths. *Archives of Pediatrics and Adolescent Medicine, 150,* 363-372.

Valleroy, L. A., Mackellar, D. A., et al. (2000). HIV prevalence and associated risks in young men who have sex with men. *Journal of the American Medical Association, 284,* 198-204.

Ventura, S. J., Abma, J. C., et al. (2006). *Recent trends in teenage pregnancy in the United States, 1990-2002*. Hyattsville, MD, National Center for Health Statistics.

Whalen, L. G., Grunbaum, J. A., et al. (2005). *Middle school youth risk behavior survey, 2003*. Atlanta, GA: Centers for Disease Control and Prevention.

Whitaker, D. J., Miller, K. S., et al. (1999). Teenage partners' communication about sexual risk and condom use: the importance of parent-teenager discussions. *Family Planning Perspectives, 31*, 117-121.

Whitaker, D. J., Morrison, S., et al. (2006). A critical review of interventions for the primary prevention of perpetration of partner violence. *Aggression and Violent Behavior, 11,* 151-166.

Zimmerman, M. A., & Arunkumar, R. (1994). Resiliency research: Implications for schools and policy. S*oc Res Child Development 8*, 2-17.