

RESEARCH



Adolescent STI/HIV Prevention Programs: What Works for Teens?

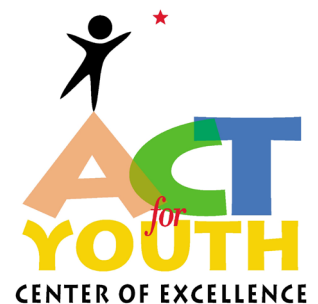
by Jessica M. Sales and Ralph J. DiClemente

In 2010, it isn't shocking news to hear that adolescents are having sex. However, in the past year, it may have shocked many to hear findings from a highly publicized national study stating that one in four adolescent girls (ages 14-19) in the United States are infected with one of four common sexually transmitted infections (STIs), and that African American girls had a 50% prevalence of any one of the assessed STIs [1]. Or that approximately half of all new HIV infections occur in young people less than 25 years of age, with African American youth disproportionately affected. Unfortunately, for those engaged as clinicians, practitioners, or researchers in areas related to adolescent sexual health, these statistics were likely not surprising.

For over a decade, compared to older adults, adolescents (15- to 19-years-old) and young adults (20- to 24-years-old) have been disproportionately affected by the STI epidemic [2]. The striking rate of STI infections among adolescents often begs two questions: 1) Why are STI rates so high among this population? and 2) What can we do to prevent HIV/STI in adolescents? Here we provide a brief overview of adolescent sexual behaviors and the current status of STI and HIV rates in adolescents, some potential explanations for why STI rates are so high in the adolescent population, and a summary of what works in terms of HIV/STI prevention programs for teens.

Sexual Behavior During Adolescence

Many adolescents and young adults engage in sexual intercourse, often times with multiple sex partners and without using condoms. In 2007, 47.8% of high school students in the U.S. reported having had sexual intercourse [3], with 7.1% reporting having had sexual intercourse for the first time before age 13. Although most adolescents do not have concurrent sex partners at any given point in time, the number of sex partners



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cumulates over time. Specifically, among high school seniors in 2007, approximately 22.4% reported having had sex with at least four different sex partners [3]. Moreover, among sexually active adolescents, only 61.5% reported using a condom the last time they had sexual intercourse [3]. In spite of the fact that many adolescents have used condoms at some time during an episode of sexual intercourse, comparatively few report using them every time they have sex [4]. Thus, adolescents engage in sexual behaviors that place them at risk for acquiring STIs, including HIV.

STI/HIV/AIDS and Adolescents: The Extent of the Problem

Globally, over 100 million STIs occur each year in people under the age of 25 years [5], and an estimated 11.8 million people aged 15-24 were living with HIV by mid-2002. Further, about half of all new HIV infections worldwide, or nearly 6,000 cases per day, occur in young people [6]. In the United States alone, approximately one-quarter of new STI infections, almost four million, are diagnosed among teens [7, 8]. Moreover, approximately 1,700 newly diagnosed cases of AIDS were reported in people between the ages of 13 and 24 in 2003 [9]. However, the risk of STI/HIV infection is not uniform among adolescents. Females, men who have sex with men, injection drug users, people who have exchange sex (i.e., sex for money or goods), and racial minorities have markedly higher rates of STI/HIV during adolescence [10].



Explanations for High STI Rates among Adolescents

Adolescents are at especially high risk of contracting STIs, including HIV, for several reasons. Below we enumerate these reasons.

- 1. Immature biology.** Biologically, adolescents' immature reproductive and immune systems make them more vulnerable to infection by various STI pathogens [11]. For example, cervical ectopy, a benign condition common in young girls, increases susceptibility to infection [10].
- 2. Earlier sexual debut and later onset of marriage.** Over the past few decades in the United States, both the onset of puberty and the initiation of sexual intercourse have occurred at decreasing ages [12], yet the age at first marriage has increased, with the median age of first marriage 28.6 years for men and 26.6 years for women [13]. Thus, adolescents usually have had sexual intercourse with multiple partners prior to marriage, thereby increasing their risk of acquiring an STI or HIV.
- 3. Contextual conditions.** Conditions such as poverty, homelessness, political strife, and dislocation, all problems that are increasingly common among adolescents in developing countries, are associated with sexual abuse or sexual intercourse in exchange for money or support for basic needs [14]. Also, for social and cultural reasons, adolescents, especially young girls,



may be less able to refuse sex or less able to insist on adequate protection, thereby increasing their risk for STI/HIV infection [15].

4. Barriers to quality STI prevention services. Often adolescents are confronted with multiple barriers to seeking and receiving STI testing and treatment, such as lack of insurance, lack of money to pay, lack of transportation, discomfort with facilities and services designed for adults, and concerns about confidentiality [10]. Moreover, adolescents may be ill informed about STIs, their symptoms, the need for treatment, and where and how they can obtain treatment.

Programming Resource

The CDC maintains a Compendium of Evidence-Based HIV Prevention Interventions that catalogues many effective programs:

<http://www.cdc.gov/hiv/topics/research/prs/evidence-based-interventions.htm>

HIV/STI Prevention for Adolescents: What Works?

In response to the personal and public health threat posed by STI/HIV, over the past 15 years a number of sexual risk-reduction programs for adolescents in the United States have been published in peer-review medical, public health, and social science journals. These sexual risk-reduction programs were specifically designed to reduce adolescents' STI/HIV-associated sexual behaviors and psychosocial mediators (i.e.,



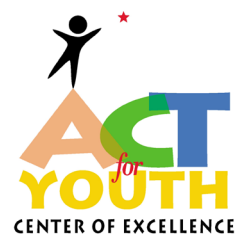
attitudes, perceived normative influences, social skills) associated with STI/HIV behaviors. Many programs have been developed, implemented, and evaluated in community settings, schools, clinics, or other locations such as prisons, detention centers, or in-patient substance abuse treatment centers.

We recently conducted a systematic review of published STI/HIV prevention intervention programs

for adolescents in the U.S. [16]. In our review, a number of key findings emerged, pointing to “what works” for adolescents in reducing their sexual risk behaviors. Below we briefly summarize these key strategies.

Strategy 1: Target those behaviors that are most amenable to change.

Across numerous interventions delivered in a variety of settings, the risk behavior most susceptible to change was condom use during vaginal sex. A few STI/HIV prevention programs showed promising effects in terms of increasing abstinence or decreasing the number of sexual partners; however, these findings were markedly less common. Future interventions with adolescents, especially adolescents who are sexually active, should target behaviors, like condom use, that have been empirically demonstrated across a variety of adolescent subgroups and venues to be most amenable to change. Taking a focused approach that targets only those areas of behavioral change that are both reasonable and feasible for adolescents to accomplish may result in prevention efforts that not only reduce adolescents' sexual risk behaviors, but lay the foundation for more sustainable sexual risk-



reduction over time. Ultimately, this approach may result in reductions in STI/HIV among adolescents.

Strategy 2: Tailor programs for the target population.

Our review of the adolescent STI/HIV prevention intervention literature suggests that interventions with the most success decreasing high-risk sexual behavior were those that specifically tailored and delivered their intervention to a particular subgroup of adolescents (e.g., African American females). Various researchers have supported and advocated for a tailored approach to STI/HIV risk-reduction interventions, arguing that these tailored interventions ultimately have the greatest likelihood of success [17, 18]. One particularly important point emerging from our review was that, regardless of the type of venue in which the intervention took place, targeted interventions are markedly more effective than general or broad-based interventions in reducing STI/HIV-associated behaviors. Targeted interventions acknowledge that adolescents are not a homogeneous group, but rather a heterogeneous mosaic of subgroups of different ethnicities/cultures, behavioral risk characteristics, developmental levels, sexual orientations, and gender differences. Because of the manifold differences between adolescent subgroups, developing



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interventions specifically for a particular subgroup of adolescents may produce better results in terms of reducing risk-associated behavior. Thus, acknowledging that adolescents are not a homogeneous group is a critical first step in designing and implementing effective programs for youth.

Strategy 3: Use theory to guide program development. The use of theory in intervention development and implementation was associated with improved STI/HIV risk behavior outcomes. Social learning theory and social cognitive theory were the frameworks most consistently used in successful programs. These programs typically:

- Incorporated modeling activities (e.g., modeling how to put on a condom correctly, or modeling how to begin a discussion about condoms with a sex partner),
- Included skill building exercises (e.g., role plays of communicating with sexual partners),
- Attempted to increase adolescents' self-efficacy (their confidence to perform a specific behavior) to communicate safer sex desires and intentions with sexual partners,
- Helped adolescents increase their self-efficacy to use condoms correctly.

Thus, using a strong theoretical structure (one that has proven useful in HIV prevention research) to help guide choice of intervention activities ensures that



appropriate intervention content and delivery methods are being implemented in STI/HIV programs for adolescents.

Strategy 4: Address more than just sexual risk in interventions. Finally, interventions that went beyond STI/HIV prevention education to include an emphasis on psychological correlates of risk behaviors were most effective at decreasing STI/HIV risk behavior. For example, interventions that included broader-based content, such as problem solving, decision-making skills, capacity building, social skills building, and enhancing gender and ethnic pride, had the greatest impact on reducing STI/HIV sexual behaviors. As Robin and colleagues note, “Interventions more generally targeted toward increasing resiliency and competencies are emerging as promising approaches to reducing sexual risk behavior” (p.18)[19]. Sexual decision making is a complex behavior and is influenced by a vast array of factors; thus developing competencies in other, related domains can also strengthen adolescents’ sexual decision making skills.



Conclusion

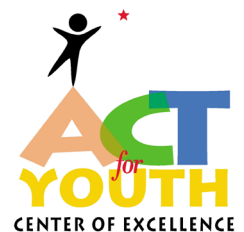
STI and HIV infections in adolescents are at epidemic levels worldwide. As long as adolescents continue to engage in sexual behaviors that place them at risk for STI/HIV (e.g., sex without a condom and with multiple sex partners) they will be vulnerable to these health threats. For reasons outlined above, a few of which are amenable to change, adolescents may be especially susceptible to STI/HIV. It is a public health imperative that we incorporate successfully demonstrated strategies from past prevention efforts into current adolescent STI/HIV prevention programs and that we also continue to search for new ways to protect our youth, as well as teach them to protect themselves, from STI/HIV infections. ★

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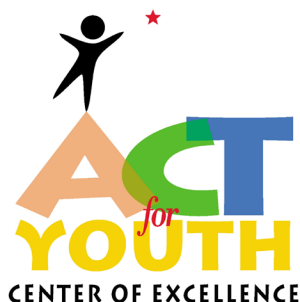


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