Adolescents and young adults have a disproportionate number of sexually transmitted diseases (STDs) compared to adults. STDs can result in serious health consequences, both for young people and their children. Because women often show no symptoms for the most common STDs, chlamydia and gonorrhea, they are diagnosed and treated less frequently than men, who generally have symptoms. Adolescents face special obstacles in obtaining diagnosis and treatment even when they do show symptoms. They are reluctant to seek care, and/or providers are often hesitant to treat them. Because STDs increase an individual’s susceptibility to human immunodeficiency virus (HIV) infection, it is extremely important for these diseases to be treated. Also, STD’s can cause tubal infection and thus infertility.

What is the current situation regarding adolescents and STDs/HIV/AIDS?

Young people are vulnerable to sexually transmitted diseases for both biological and behavioral reasons. In fact, worldwide, the highest reported rates of STDs are found among young people aged 15-19 and 20-24. In the developed world, two-thirds of all reported STD infections occur among men and women under the age of 25. In developing countries the proportion is even higher. Here are some prevalence data for specific diseases:

- Adolescents represent a large proportion of overall chlamydia infections worldwide—at least one-third. In Haiti and Nigeria, this age-group is reported to have the highest level of culture-detectable chlamydia. Prevalence levels can be as high as one-half of all sexually active young women.
• Rates of gonorrhea are often highest among adolescents. As is true of other curable STDs, South Asia and sub-Saharan Africa have a disproportionate number of these infections, and adolescents comprise about one-third of all cases.

• Syphilis, in contrast to gonorrhea and chlamydia, is most common among adults but remains a major problem for teenagers in developing countries. In rural Nigeria, for example, nearly 3% of sexually active teenagers have active syphilis.

• Trichomonal infections are the most common curable STD worldwide, representing more than half of all treatable STD cases. Adolescents make up a disproportionate share of these cases. In Nigeria, nearly one-fourth of adolescents have been identified with this infection.

• Bacterial vaginosis is a common condition among sexually active women though its prevalence among adolescents is not specifically known.

• Although generally less prevalent among young adults, infection with the herpes simplex virus nevertheless affects adolescents, often leading to genital ulceration.

• Adolescents have a higher prevalence of genital human papilloma virus (HPV) than other age groups. One US study showed that up to one-half of sexually active young women have cytologic evidence of infection, even though there is less evidence of external genital warts.

• Hepatitis B virus is widespread, especially in Asia, and has possibly severe health consequences for both adolescents and their offspring.

• About one-half of all human immunodeficiency virus (HIV) infections occur among men and women 24 and younger. Up to 60% of new infections in developing countries occur among 15-24-year-olds. Twice as many young women as men in this age-group are newly infected. In rural Tanzania, females aged 15-24 show the highest HIV infection rate.

**Why are adolescents particularly vulnerable to STDs and HIV?**

For biological, behavioral, and cultural reasons, young people are at especially high risk of contracting STDs, including HIV:
• Sizable numbers of adolescents are sexually active. In some countries, sexual activity begins in early adolescence, either within or outside of marriage. Young age at first intercourse is a strong risk factor for STDs.11, 15

• Their immature reproductive and immune systems make adolescents more vulnerable to infection by various STD agents.6, 12

• Adolescents, especially young girls, are less able to refuse sex and/or less able to insist on adequate protection. Sometimes sexual activity involves abuse or coercion which, in turn, is linked to young age at first intercourse and to more than one sexual partner—both STD risk factors.11

• Conditions such as poverty, homelessness, political strife, and dislocation, which are increasingly common among young people in developing countries, are associated with sexual abuse or with sexual intercourse exchanged for money or support for basic needs.1, 12

• Young people are ill-informed about STDs, their symptoms, the need for treatment, and where to obtain treatment. Combined with many adolescents’ fear of the medical system, these circumstances often result in avoidance and delays in seeking health care.20 Untreated STDs result in increased susceptibility to HIV infection.10

• Reproductive health service providers tend not to welcome adolescent clients. Studies in Antigua, Senegal, and Thailand, among other settings, have found health facilities where adolescent clients are denied privacy and confidentiality, and in which the staff are often rude or moralizing.18

What are the health and social consequences of high STD rates among young people?

Early acquisition of an STD increases the probability of recurrent infections because of longer exposure time and the likelihood of a greater number of partners.6, 13 Recurrence can exacerbate the health consequences. For example, repeat chamydial infection is more likely than primary infection to be associated with fallopian tube damage.16, 17

• Pelvic inflammatory disease (PID), typically resulting from lower genital tract infection as a result of chlamydia or gonorrhea, is more common among sexually active female adolescents than among women in the older age-groups. PID can result in tubal infertility or ectopic pregnancy.6
• Genital human papilloma virus (HPV), which is widespread among adolescents, causes genital warts. In addition, adolescents are at greater risk of developing HPV-associated cancers.\textsuperscript{14}

• Frequent health consequences of the Hepatitis B virus, in addition to hepatitis, include cancer and cirrhosis.\textsuperscript{6}

• STDs increase the likelihood of negative pregnancy outcomes for both the adolescent mother and her infant. STDs such as syphilis, hepatitis B, and HIV can be transmitted to newborns.\textsuperscript{6} Bacterial vaginosis and trichomoniasis are related to preterm delivery and low birthweight.\textsuperscript{6} These problems are made worse by the fact that fewer adolescents than older women seek prenatal care or other reproductive health services for the treatment of these infections.\textsuperscript{5, 6}

• HIV infection is enhanced by the presence of other STDs. Thus adolescents are at increased risk of HIV infection because of their high STD rates.\textsuperscript{7, 10} While AIDS usually develops fully only after the young person is out of the teenage years, the consequences are nevertheless devastating.

• Many teenagers experience serious psychological consequences as a result of becoming infected with an STD. Typical reactions of guilt and shame often prevent young people from seeking treatment in a timely fashion.\textsuperscript{9}

• Infertility as a result of STDs can lead to men abandoning or divorcing their partners. In some societies, women without support turn to commercial sex for survival.\textsuperscript{7}

\textbf{Bibliography}
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18 Senderowitz J. Health Facilities Programs on Reproductive Health for Young Adults: Project Models and Key Elements: Evaluation Findings, Lessons Learned and Future Research Needs. Prepared for FOCUS on Young Adults, Pathfinder International. (In press).


The In Focus series summarizes for professionals working in developing countries some of the program experience and limited research available on young adult reproductive health concerns. This issue was prepared by Judith Senderowitz and was reviewed by the FOCUS Editorial Board, some outside experts, and the staff of the FOCUS program.

The author is particularly indebted to Ward Cates for assistance with this In Focus issue, significant portions of which were summarized from Cates W. and McPheeters M. (see bibliography).
Programs to prevent the transmission of sexually transmitted diseases (STDs) and human immunodeficiency virus (HIV) among adolescents and young adults are relatively new. Given the high rates of STDs among this age-group, and the fact that young people represent more than half of all new HIV infections, there is increased urgency to identify and evaluate effective program models. Although some STDs are curable, others, including HIV, are not. For this reason, many emerging projects for young people emphasize education and prevention rather than treatment. Knowledge alone, however, will not accomplish prevention goals. Young people also need to be helped in developing positive attitudes about themselves, skills, and access to services, especially condoms.

What kinds of STD/HIV prevention programs have been implemented for young people? Have such programs had positive results?

Projects designed to prevent STDs and HIV among young people are usually based on education, communications, and counseling activities. They tend to be located in schools, health care facilities, residential treatment centers, or, through outreach, in the kinds of locations in which young people like to congregate. Although only a limited number of such projects have so far been evaluated, some evidence of success can be observed:

• Schools are a key location for HIV prevention efforts because they provide a means of reaching large numbers of young people. Several US evaluations of high school prevention programs found modest gains in students’ knowledge and risk-reduction behavior (including having fewer sexual partners and using condoms more often). At the same time, researchers concluded that considerably more than 5-15 hours of instruction is required for there to be a major impact.8, 9, 18

Community-based projects are quite varied, reaching young people where they work and socialize.

• A Thai project for young female factory workers studied by the International Center for Research on Women, showed gains in both knowledge and enabling skills (such as taking responsibility for contraception). Young women who participated in peer-led
sessions showed the most significant gains when compared to those in adult-led sessions or self-instructional formats.³

• An evaluation in Nigeria and Ghana, which emphasized peer education activities in community settings, showed that the program had significantly positive effects on young people’s knowledge and self-efficacy, and on the likelihood of their taking protective measures against STDs/HIV (abstinence, limiting the number of partners, and condom use).¹⁰

• A HIV/ acquired immunodeficiency syndrome (AIDS) peer education project in Jamaica held educational sessions in schools, community locations, and outdoor spaces ("on verandahs and under trees") in both rural and urban settings. Among the peer educators in the project, there were significant gains in knowledge, the dispelling of myths, knowing where to go for STD treatment, and the intention to delay sexual intercourse or to use condoms if sexually active.¹⁴

• A project carried out by CARE Kenya used a peer-to-peer education strategy. Young people who participated in the project demonstrated better knowledge, more positive attitudes, and indications of positive behavioral changes in terms of STD/HIV prevention (such as limiting the number of sexual partners) when compared to a control group.⁴

Reaching street children, runaways, and young sex workers is important because these target groups are at a disproportionately high risk of contracting STDs and HIV. Project examples of this type include:

• A model HIV prevention project for Brazilian children and adolescents living and/or working in the streets. The project placed special emphasis on communications that were culturally relevant and on interactive learning sessions. After preliminary evaluation of less than a year’s activities, the project showed significant levels of repeat participation and gains in AIDS awareness and knowledge.¹², ¹³

• An HIV-prevention project in the United States was designed to stress skills training and behavioral self-management among runaway youth living in publicly-funded shelters. Evaluation showed increases in consistent condom use and reductions in patterns of high-risk sexual behavior (such as having many sexual partners or many sexual encounters) three and six months after the intervention. Gains were more significant among young people who attended the most sessions.¹⁶

Communications and social marketing programs are key interventions for youth because they reach and inform people who are especially tuned in to popular culture. Some programs of this type that have been assessed include:
A project in Uganda uses multiple media formats that stress the message: "Safer Sex or AIDS: the Choice is in Your Hands." An evaluation of the campaign's first phase, conducted after about 18 months of activities, showed that significantly more Ugandan youth now know how to protect themselves from HIV infection.17

A Zaire mass media project used television, radio spots, and songs specially created to address AIDS issues. It also used radio and TV soap operas and printed materials (notebooks and calendars) to reach young people. Impact evaluation conducted six months after the first phase of the project showed increased awareness of the issues surrounding AIDS, increased sexual abstinence and mutual fidelity, and increased condom use.5

The Ghanaian Ministry of Health conducted a multimedia campaign to increase AIDS awareness and promote AIDS prevention among its population aged 15-30. The campaign involved television and radio advertisements, community meetings, the dissemination of promotional materials (such as posters and comic books), and outreach to schools. A follow-up survey conducted 10 months after a baseline survey showed increased AIDS awareness, improved knowledge of HIV prevention strategies, a decrease in the number of sexual partners, and increased condom use among a range of sub-groups.11

What are the lessons learned?

Providing a range of prevention options gives different groups of youth a choice and gives "gatekeepers" (adult decision-makers) the opportunity to remain neutral or to support activities selectively. For example, in Haiti, an AIDS Control and Prevention (AIDSCAP) study showed that the AIDS prevention project’s "Fleet of Hope" messages (abstinence, fidelity and monogamy, and condoms) offer a range of acceptable options for diverse community needs and interests.2

Adult support can make a difference in levels of youth participation. As a result of efforts made to gain community support in an area of Kenya in which adults usually limit the involvement of girls in public events, large numbers of girls participated in an AIDS prevention project.4

A US study to evaluate school-based reproductive health education programs found that those that successfully reduced unprotected intercourse (either by delaying the onset of intercourse, increasing the use of condoms, or reducing the number of sexual partners) shared several common elements: the use of social learning theory for
program development; a narrow focus on reducing sexual risk-taking behaviors; the use of learning methods that actively involve young people; activities that address social and/or media influences and pressures to have sex; focus on clear values against unprotected sex; and the modeling and practice of communication or negotiation skills.\(^9\)

- Including STD/HIV prevention and related activities in existing family planning services is a logical and practical type of service expansion to serve clients who would otherwise be missed.

However, such service additions must be accompanied by clear protocols, appropriate training, and sufficient and suitable clinic space for providers and clients, as demonstrated in a South African health facility.\(^1\)

- Young people frequently prefer their peers as a source of information about reproductive health. A survey found that 99% of youthful respondents agreed that talking with peer educators was a good way to learn about HIV/AIDS, and that 81% identified peer educators as a preferred source of information.\(^7\) Young female factory workers, out-of-school Kenyan youth, and young people in a Ghana YWCA project all indicated a preference for peer educators.\(^3, 4, 15\)

- Although there is often high peer turnover in reproductive health and HIV peer-education projects, the strong positive impact of the work on the peer educators themselves may justify their use. An AIDSCAP study showed that 95% of peer educators had made changes in their own life and behavior, 31% were practicing safer sex and/or were using condoms, and 20% had reduced their number of sexual partners.\(^7\)

- Skills-based training is recommended for peers working in AIDS prevention programs. Relevant skills deal with such areas as risk assessment, negotiation, safe sexual practices, violence and abuse, and encouraging the use of health services.\(^6\) In turn, these are important skills for the young target audience to learn. An experimental project studied by the University of Zimbabwe found that a skill-based participatory activity was more effective than an information-based intervention in changing AIDS-related attitudes and practices (increased knowledge about condoms and their correct use, increased self-efficacy, fewer sexual partners, and fewer coital acts without a condom).\(^19\)

- The control of STDs, which facilitate HIV transmission, can reduce the incidence of HIV. A health intervention in rural Tanzania established an STD referral clinic, trained and supervised the new center’s staff, supplied drugs on a regular basis, and offered health education. Evaluation showed a 40% reduction in HIV incidence over
the two years of the study. The largest proportionate reductions occurred among women aged 15-24 and men aged 25-34. 13

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