



The Role of STD Prevention and Treatment in HIV Prevention



Testing and treatment of sexually transmitted diseases (STDs) can be an effective tool in preventing the spread of HIV, the virus that causes AIDS. An understanding of the relationship between STDs and HIV infection can help in the development of effective HIV prevention programs for persons with high-risk sexual behaviors.

■ What is the link between STDs and HIV Infection?

Individuals who are infected with STDs are at least two to five times more likely than uninfected individuals to acquire HIV infection if they are exposed to the virus through sexual contact. In addition, if an HIV-infected individual is also infected with another STD, that person is more likely to transmit HIV through sexual contact than other HIV-infected persons (Wasserheit, 1992).

There is substantial biological evidence demonstrating that the presence of other STDs increases the likelihood of both transmitting and acquiring HIV.

- Increased susceptibility. STDs appear to increase susceptibility to HIV infection by two mechanisms. Genital ulcers (e.g., syphilis, herpes, or chancroid) result in breaks in the genital tract lining or skin. These breaks create a portal of entry for HIV. Additionally, inflammation resulting from genital ulcers or non-ulcerative STDs (e.g., chlamydia, gonorrhea, and trichomoniasis) increase the concentration of cells in genital secretions that can serve as targets for HIV (e.g., CD4+ cells).
- Increased infectiousness. STDs also appear to increase the risk of an HIV-infected person transmitting the virus to his or her sex partners. Studies have shown that HIV-infected individuals who are also infected with other STDs are particularly likely to shed HIV in their genital secretions. For example, men who are infected with both

gonorrhea and HIV are more than twice as likely to have HIV in their genital secretions than are those who are infected only with HIV. Moreover, the median concentration of HIV in semen is as much as 10 times higher in men who are infected with both gonorrhea and HIV than in men infected only with HIV. The higher the concentration of HIV in semen or genital fluids, the more likely it is that HIV will be transmitted to a sex partner.

■ How can STD treatment slow the spread of HIV infection?

Evidence from intervention studies indicates that detecting and treating STDs may reduce HIV transmission.

- STD treatment reduces an individual's ability to transmit HIV. Studies have shown that treating STDs in HIV-infected individuals decreases both the amount of HIV in genital secretions and how frequently HIV is found in those secretions (Fleming, Wasserheit, 1999).
- Herpes can make people more susceptible to HIV infection, and it can make HIV-infected individuals more infectious. It is critical that all individuals, especially those with herpes, know whether they are infected with HIV and, if uninfected with HIV, take measures to protect themselves from infection with HIV.
- Among individuals with both herpes and HIV, trials are underway studying if treatment of the genital herpes helps prevent HIV transmission to partners.



■ What are the implications for HIV prevention?

Strong STD prevention, testing, and treatment can play a vital role in comprehensive programs to prevent sexual transmission of HIV. Furthermore, STD trends can offer important insights into where the HIV epidemic may grow, making STD surveillance data helpful in forecasting where HIV rates are likely to increase. Better linkages are needed between HIV and STD prevention efforts nationwide in order to control both epidemics.

In the context of persistently high prevalence of STDs in many parts of the United States and with emerging evidence that the U.S. HIV epidemic increasingly is affecting populations with the highest rates of curable STDs, the CDC/HRSA Advisory Committee on HIV/AIDS and STD Prevention (CHAC) recommended the following:

- Early detection and treatment of curable STDs should become a major, explicit component of comprehensive HIV prevention programs at national, state, and local levels;
- In areas where STDs that facilitate HIV transmission are prevalent, screening and treatment programs should be expanded;

- HIV testing should always be recommended for individuals who are diagnosed with or suspected to have an STD.
- HIV and STD prevention programs in the United States, together with private and public sector partners, should take joint responsibility for implementing these strategies.

CHAC also notes that early detection and treatment of STDs should be only one component of a comprehensive HIV prevention program, which also must include a range of social, behavioral, and biomedical interventions.

REFERENCES:

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Fleming DT, Wasserheit JN. 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.

Wasserheit JN. 1992. Epidemiologic synergy: Interrelationships between human immunodeficiency virus infection and other sexually transmitted diseases. *Sexually Transmitted Diseases* 9:61-77.

■ FOR MORE INFORMATION:

Centers for Disease Control and Prevention

Division of STD Prevention (DSTDP)

<http://www.cdc.gov/std/>

Division of HIV/AIDS Prevention

<http://www.cdc.gov/hiv/>

CDC-INFO Contact Center

1-800-CDC-INFO (1-800-232-4636)

Email: cdcinfo@cdc.gov

American Social Health Association (ASHA)

1-800-783-9877

www.ashastd.org