
ALCOHOL ALERT

Alcohol and HIV/AIDS

People with alcohol use disorders are more likely than the general population to contract HIV (human immunodeficiency virus).¹ Similarly, people with HIV are more likely to abuse alcohol at some time during their lives (1). Alcohol use is associated with high-risk sexual behaviors and injection drug use, two major modes of HIV transmission. Concerns about HIV have increased as recent trends suggest a resurgence of the epidemic among men who have sex with men² (2), as well as dramatic increases in the proportion of cases transmitted heterosexually (3,4). In persons already infected, the combination of heavy drinking and HIV has been associated with increased medical and psychiatric complications, delays in seeking treatment (5), difficulties with HIV medication compliance (6,7), and poorer HIV treatment outcomes (8). Decreasing alcohol use in people who have HIV or who are at risk for becoming infected reduces the spread of HIV and the diseases associated with it.

This *Alcohol Alert* briefly examines the changing patterns of HIV transmission in the United States; the role of alcohol in the transmission of HIV within, and potentially beyond, high-risk populations; the potential influence of alcohol abuse on the progression and treatment of HIV-related illness; and the benefits of making alcoholism treatment an integral part of HIV prevention programs.

Trends in HIV Transmission in the United States

HIV is most commonly transmitted by sexual contact and the sharing of contaminated needles by injection drug users (9). By the end of 2000, an estimated 900,000 Americans were living with HIV. Approximately 40,000 new cases of active AIDS disease are diagnosed annually (3). Historically, HIV has been most prevalent among men who have sex with men (10) whereas most new HIV infections are reported among men who have sex with men and among injection drug users (3). Recently, however, the proportion of HIV cases acquired through heterosexual contact has increased and almost equals the proportion of cases attributable to injection drug use (3,4). The proportion of all AIDS cases reported among women has tripled since the mid-1980s, primarily as a result of heterosexual exposure and secondarily through injection drug use (4). Minority groups are the most heavily affected by HIV associated with drug injection, and Blacks and Hispanics now account for an estimated 70 percent of all new AIDS cases (3,4).

Alcohol and HIV Transmission

People who abuse alcohol are more likely to engage in behaviors that place them at risk for contracting HIV. For example, rates of injection drug use are high among alcoholics in treatment (11,12), and increasing levels of alcohol ingestion are associated with greater injection drug-related risk behaviors, including needle sharing (13).

A history of heavy alcohol use has been correlated with a lifetime tendency toward high-risk sexual behaviors, including multiple sex partners, unprotected intercourse, sex with high-risk partners (e.g., injection drug users, prostitutes), and the exchange of sex for money or drugs (11,14-16). There may be many reasons for this association. For example, alcohol can act directly on the brain to reduce inhibitions and diminish risk perception (17-19). However, expectations about alcohol's effects may exert a more powerful influence on alcohol-involved sexual behavior. Studies consistently demonstrate that people who strongly believe that alcohol enhances sexual arousal and performance are more likely to practice risky sex after drinking (19-22).

Some people report deliberately using alcohol during sexual encounters to provide an excuse for socially unacceptable behavior or to reduce their conscious awareness of risk (20). According to McKirnan and colleagues (23), this practice may be especially common among men who have sex with men. This finding is consistent with the observation that men who drink prior to or during homosexual contact are more likely than heterosexuals to engage in high-risk sexual practices (14,24-26).

Finally, the association between drinking levels and high-risk sexual behavior does not imply that alcohol necessarily plays a direct role in such behavior (18) or that it causes high-risk behavior on every occasion (19-22). For example, bars and drinking parties serve as convenient social settings for meeting potential sexual partners (25,27). In addition, alcohol abuse occurs frequently among people whose lifestyle or personality predisposes them to high-risk behaviors in general (14,28,29).

Alcohol and Medical Aspects of AIDS

Alcohol increases susceptibility to some infections that can occur as complications of AIDS. Infections associated with both alcohol and AIDS include tuberculosis; pneumonia caused by the bacterium *Streptococcus pneumoniae*; and the viral disease hepatitis C, a leading cause of death among people with HIV (9,30). Alcohol may also increase the severity of AIDS-related brain damage, which is characterized in its severest form by profound dementia and a high death rate (9,31).

The progression of HIV and the development of AIDS-associated infections may be controlled by highly active antiretroviral therapy (HAART), a combination of powerful antiviral medications. Despite markedly increased survival rates (9), HAART is associated with several disadvantages, including the emergence of medication-resistant HIV strains and the occurrence of adverse interactions with other medications, some of which are prescribed for AIDS-related infections (32). In addition, many patients fail to comply with the complex medication regimen (2,33). Studies have associated heavy alcohol use with decreased medication compliance (7,8) as well as with poorer response to HIV therapy in general (8). The outcome of HIV therapy improved significantly among alcoholics who stopped drinking (8).

Alcoholism Treatment as HIV Prevention

Studies show that decreasing alcohol use among HIV patients not only reduces the medical and psychiatric consequences associated with alcohol consumption but also decreases other drug use and HIV transmission (8). Thus, alcohol and

other drug abuse treatment can be considered primary HIV prevention as well (12). For example, Avins and colleagues (34) found a 58 percent reduction in injection drug use, with similar decreases in high-risk sexual behaviors, among heterosexual patients one year after treatment. Participants who remained abstinent showed substantially greater improvement in both outcomes compared with those who continued to drink (34).

Boscarino and colleagues (15) suggest that for heterosexual alcoholics, the focus of screening and prevention for HIV risk factors should be on people with more severe alcohol dependence. For male alcoholics who have sex with men, the focus should be on those who socialize primarily in bars (15).

Alcoholism prevention among youth is of particular importance. AIDS is a leading cause of death among people ages 15 to 24 (16), and new injection drug users who contract HIV or viral hepatitis often become infected within 2 years after beginning to inject drugs (35). Researchers have found that:

- the prevalence of current, binge, and heavy drinking peaks between the ages of 18 and 24 (36), which is a high-risk period for initiating injection drug use (37);
- drug injection is usually associated with prior use of alcohol in conjunction with non-injection drugs (38), especially among adolescents with alcohol use disorders (37); and
- high rates of risky sexual practices have been reported among adolescents (39) and may be correlated with alcohol consumption (16).

Therefore, it has been suggested that HIV prevention programs for youth should target alcohol consumption in addition to injection drug use and sexual risk reduction (35).

Treatment Access and Integration

Analyses of HIV surveillance data collected by the national Centers for Disease Control and Prevention (3,40), urban and rural health departments (40), and health maintenance organizations (40) revealed that Blacks, Hispanics, women, the chronically mentally ill, and the poor are less likely to obtain appropriate HIV therapy compared with the general population (3). HIV-infected people in rural areas report reduced access to medical and mental health care services relative to their urban counterparts (41).

Timeliness is an essential aspect of effective HIV treatment and prevention. Early detection of HIV infection facilitates the prompt initiation of behavioral changes aimed at reducing transmission and also may enhance treatment effectiveness (42). Unfortunately, many facilities for the treatment of alcohol or other drug use disorders do not routinely or consistently screen their patients for HIV (42). In addition, many people who test positive for HIV fail to seek medical care until the disease has reached an advanced stage (5). Alcohol abuse has been associated with longer delays in seeking treatment (5).

Some evidence suggests that such problems may be ameliorated in part by designing programs that link primary medical care with treatment for abuse of alcohol and other drugs, HIV risk-reduction education, and psychiatric care when appropriate (43,44). In drug treatment programs, for example, both patients and clinicians may focus on what is perceived as the main problem (typically heroin or cocaine use), and neglect or minimize the use of other drugs, including alcohol

(45). Yet in one study, a large proportion of patients in a residential drug treatment program reported daily consumption of large quantities of alcohol (45).

In a randomized controlled trial, Samet and colleagues demonstrated the feasibility of incorporating a multidisciplinary medical clinic within a detoxification unit designed to treat alcohol, heroin, and cocaine dependence (46). Because the integration of different services at a single site can be expensive, the researchers recommended that efforts be made to facilitate information transfer or patient transportation among programs based at multiple locations (46).

Alcohol and AIDS-A Commentary by Raynard Kington, M.D., Ph.D., Acting NIAAA Director, and Kendall Bryant, Ph.D., AIDS Coordinator, Chief, Collaborative and Special Health Programs Branch, Office of Collaborative Research

Research findings clearly show that the use of alcohol and other substances of abuse is a factor in the spread of HIV and can complicate the long-term health outcomes of HIV-positive individuals. Therefore it is important that health care providers screen their HIV patients for alcohol use problems and that patients being treated for alcohol and other substance use be screened for HIV infection. In both cases, steps should be taken to ensure that HIV-positive patients have access to appropriate care.

Health care providers should monitor their HIV-positive patients' alcohol use and initiate interventions to reduce alcohol-related problems when necessary. To begin this process, health care providers should establish good relationships with their patients to encourage open discussions about substance use. Those discussions can form the basis for reducing drinking problems, increasing adherence to HIV medication regimens, and decreasing sexually risky behaviors. Many health care providers believe that, whenever possible, stabilizing the substance user's social life prior to initiating HIV therapy will increase his or her likelihood of sustaining treatment.

Researchers continue to discover and test appropriate interventions for the behavioral, social, and biomedical problems encountered by HIV-positive individuals with alcohol problems. This research can be implemented effectively only when both HIV and substance abuse problems are addressed within a medical system capable of providing the appropriately integrated services.

¹ HIV is the virus that causes acquired immune deficiency syndrome (AIDS).

² This phrase refers to any male who has ever had sexual contact with another male, regardless of primary sexual orientation or gender role identification.

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