

HIV COFACTORs

An HIV cofactor is a behavior, substance, infection or other agent that affects the course of HIV, either by influencing the transmission of the virus or the progression of the disease. Agents that have been considered as possible cofactors for HIV transmission or disease progression include alcohol and other drug use, a range of sexually transmitted diseases (STDs), psychological stress, smoking and nutrition.

RESEARCH UPDATE

A variety of factors have been studied for their possible role in affecting the initiation and course of HIV. Because research substantiating the role of cofactors is limited, and because studies often contradict one another, this Research Update includes a range of possible factors believed by HIV service providers and some researchers and clinicians to have the potential to affect HIV.

The following is a review of factors that may contribute to the transmission of HIV, or, if a person is already infected, may accelerate the course of HIV.

Alcohol and Other Drug Use

Alcohol and some illegal drugs are known to have a suppressive effect on the immune system, the body's main defense against invading organisms like HIV. They can also affect the central nervous system. Historically, studies have found that alcohol consumption results in higher rates of physical and emotional illness and higher risk for many types of infection. Alcohol makes cells more permeable, leading them to become weak and less able to defend against invading organisms. Some researchers speculate that this may make it easier for HIV to invade the body.

Alcohol and other drugs can also affect behavior. First, alcohol and other drugs reduce inhibitions, leading a person to make decisions and take actions he or she would not otherwise choose. Because judgment is impaired and perceptions of safer behaviors are blurred, a person may be more likely to engage in unsafe behaviors. For instance, someone under the influence of alcohol or other drugs may fail to use a condom, or may use it incorrectly.

A study of gay men who reported engaging in receptive anal intercourse found that "heavy drinkers," defined as those who consumed several drinks, on several occasions weekly, were more likely to engage in sex with more partners, had more anonymous sex and failed to use condoms during sex. The study, in which participants were antibody negative at the start, found that HIV infection occurred more often in people who were heavy drinkers or "moderate to heavy drug users" than in those who were not. Moderate to heavy drug users were defined as those who used recreational drugs at least weekly.

Crack cocaine use is strongly associated with sexual risk behavior, and in many cases crack users exchange sex for the drug. Studies have found higher rates of HIV infection among crack users than in those who do not use the drug.

While many people are aware that drugs can pose some dangers to health, others do not hold this view, especially with drugs that have become popular only in recent years. For instance, the psychoactive drug MDMA — known commonly as "Ecstasy" and most popular among adolescents and young adults — is incorrectly believed by many of its users to pose no danger to health, or impairment to judgment. In fact, prolonged use of the drug has produced serious side effects, with problems ranging from heart palpitation to psychosis. Because of its psychoactive nature, MDMA can impair a person's judgment, and make someone more likely to engage in unsafe sexual behavior.

STDs and Other Infectious Diseases

STDs can increase susceptibility to HIV infection because they can suppress
the immune system and cause lesions and other breaks in the skin — particularly in genital areas — that create pathways which allow HIV to enter the body more easily. Syphilis and herpes simplex infection have been reported as possible cofactors for HIV infection because they can cause open sores that break down the skin and its protective effect.

A person with a history of STDs is considered to be at higher risk of becoming infected with HIV, partly because behaviors that lead to STD infection are often the same ones that lead to HIV infection. Studies have found far higher rates of STD infection in people testing antibody positive than in those testing antibody negative. Subjects who developed AIDS during a 5-year study period.

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The presence of STDs is an indicator that a person is engaging in unsafe sexual activity. For example, a recent outbreak of hepatitis A among gay men in various parts of California is a marker that individuals have been engaging in oral-anal contact.

Research has shown a relationship between STDs and progression of HIV. In a study of people who seroconverted over five years, those who progressed to AIDS from an asymptomatic state during the period were nearly twice as likely to have had a history of STDs compared to those who did not progress to AIDS.

Evidence suggests that the spread of HIV to other cells is markedly accelerated when a person with HIV is also infected with a herpes virus. Infection with cytomegalovirus, hepatitis B and hepatitis C may also speed disease progression.

**Emotional Support and Stress**

Clinicians and some researchers suggest that high levels of stress in a person's life may suppress the immune system or lead to impaired judgment. There is little published evidence directly linking stress and its immune-suppressing effects to HIV. However, there is growing anecdotal evidence demonstrating that stress can lead a person to engage in risk behaviors for HIV infection, or other behaviors, such as alcohol or other drug use, that can lead to unsafe behaviors.

For people with HIV, emotional well-being and management of stress are increasingly viewed as factors in maintaining one's physical health in the face of serious illnesses. Research related to illnesses other than HIV has found that significant exposure to stress has preceded the onset of a variety of serious illnesses. However, one study of people with HIV found no evidence that exceptionally stressful, one-time events affected the onset of symptoms.

Emotional support can increase a person's desire to live, improve quality of life, and directly affect a person's overall health. A study of gay men with AIDS found that those who were depressed or those who felt a lack of community involvement had a shortened survival time.
Stress and lack of support have been found to adversely affect survival in studies of people with other serious illnesses. These findings may be relevant to people with HIV infection. Among leukemia patients in one study, of 13 who were found to be highly depressed, only one was alive one year after the study began; of 87 who were not depressed, 34 were still alive after two years.13

Another study found that involvement in support groups was related to increased life expectancy in a group of terminally ill women with breast cancer. In this study, those in support groups lived nearly twice as long as those receiving only medical care.14

For people facing stress, a variety of tools are available. Support groups, stress management programs and individual or group psychotherapy have been useful for many people. Anti-anxiety or anti-depressive drugs may be recommended by physicians to manage excessive anxiety or depression.10 People who have difficulty managing their stress should also discontinue alcohol and other drug use and other behaviors that may be detrimental to their health.

**Smoking**

The relationship between smoking and HIV infection is not fully known, and some researchers are skeptical whether HIV and smoking are directly related. However, a recent study of Haitian women found that smokers were more likely to have a higher number of lifetime sexual partners than non-smokers. Smokers also had a higher rate of HIV infection than non-smokers.17

Smoking can seriously impair a person's overall health, especially the respiratory system. For a person with HIV, smoking may lead to more serious bouts of HIV-related conditions such as Pneumocystis carinii pneumonia. One

**Professionals’ Perspectives on Cofactors**

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<td>&quot;We have observed that those clients who are using drugs, especially alcohol, appear to develop more physical problems and the problems seem to last longer and are more resistant to treatment. Whether this is because people under emotional stress are more susceptible to infection, whether drug and alcohol users have a different lifestyle that makes them more susceptible to physical disorders, or whether the drugs and alcohol themselves affect the system, is not yet known. Recent research lends support to all of these factors affecting the person who is HIV positive.”</td>
<td>&quot;Just as certain types of sexual practices may increase the risk of contracting an STD or HIV, diagnosis with certain STDs — such as syphilis, herpes and hepatitis — may also make an individual more susceptible to HIV infection due to breaks in the skin caused by STDs. &quot;In an HIV-positive individual, certain concurrent STD infections, such as syphilis and hepatitis, may be more difficult both to diagnose and to treat. In short, health care providers and patients need to be more knowledgeable about both STDs and HIV, their interrelationship and specific testing for both.”</td>
<td>&quot;Studies of other illnesses have found that behavioral and attitudinal factors influence longevity — how well you eat, how positively you think, and the circle of people in your life who support and love you. We realize these same rules apply in HIV infection. People with HIV need to not only see a doctor, but to assess the nature of stresses in their lives, and how to reduce them. &quot;People at high risk for HIV who experience stress may engage in unsafe behaviors they’ll later regret. Therefore, it is important to monitor stress if seronegative and at risk for HIV.”</td>
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—Millicent Stoller, Psychologist; Addictive Behaviors Specialist, AIDS Project Los Angeles

—Hugh Rice, Director of Health Services, Edelman Health Center, Los Angeles Gay and Lesbian Community Services Center

—Leon McKusick, Clinical Psychologist; Research Investigator, Center for AIDS Prevention Studies, University of California San Francisco
rates of HIV infection in a group of high-risk, sexually active gay and bisexual men. However, a subsequent study refuted this finding. Clinicians report anecdotes of patients who, after quitting smoking, have had increases in T-helper cell counts and have responded more effectively to preventive therapy for opportunistic infections. More research is warranted on the possible effects of smoking.

Nutrition

A well-balanced diet is important for the functioning of the immune system and for a person's overall health, regardless of HIV antibody status. For people with HIV, studies have shown that a diet that includes adequate amounts of vitamins, minerals, and calories, and that helps a person maintain a recommended weight, can boost the body's ability to fight infection and delay the deterioration of the immune system.

Some nutritionists recommend dietary supplements, such as those that include iron, zinc and vitamin C, to slow the progression of HIV infection. However, the specific benefits of these supplements have not been proven.

Cofactors for Kaposi's Sarcoma

For some time, researchers have studied specific cofactors that may cause Kaposi's sarcoma (KS). KS is an HIV-related disease that occurs often among gay men with HIV, but rarely among others with HIV.

One recent study showed a link between KS and oral-fecal, or oral-anal, contact, also known as "rimming," which is a risk behavior for HIV infection. In this study of gay and bisexual men with AIDS, KS developed in only 18% of the men who reported never having engaged in insertive rimming, compared to 61% of the men who had engaged in the behavior.

Researchers have also considered a possible link between KS and "poppers." Poppers are nitrite inhalants that impair a person's judgment. Among gay men with AIDS, KS has occurred most commonly in those who have reported a history of nitrite use. The manufacture and sale of butyl nitrites was outlawed in 1988; but other products are now being marketed and they may have effects similar to butyl nitrites.

Many of the topics discussed in this Research Update, including substance abuse and STDs, are scheduled to be discussed in greater detail in future issues of PERSPECTIVES.

References

HIV COFACTORS

IMPLICATIONS FOR COUNSELING

Clients may know that cofactors such as alcohol and drug use, STDs and stress can be harmful, but they are less likely to relate the potential harm of these factors to HIV infection. Talking about cofactors may help clients make this connection. This is especially true for clients who do not readily view themselves at risk for HIV. Learning about cofactors may be the most relevant HIV prevention message they receive.

A discussion of cofactors can be incorporated into counseling with little difficulty. Instead of viewing a client’s risk for HIV by looking only at behaviors that directly lead to infection, such as sexual or needle-using activities, a counselor can broaden the assessment of risks to include concerns such as a client’s history of STDs, psychological stress, and alcohol and other drug use. Because these topics have an impact on overall health, they deserve attention in counseling sessions regardless of whether clients consider themselves to be at risk for HIV.

Some clients may dispute the significance of cofactors, in part because of conflicting evidence about their effects. However, counselors can state that, based on current knowledge, there is reason to be concerned about cofactors.

Begin a discussion of cofactors by performing a risk assessment during pre-test counseling. Review the “HIV Antibody Test Reporting Form” completed by clients and ask clients about their sexual or needle-using history. Also, talk about cofactors in the context of clients’ relationships, jobs, social support networks and activities they enjoy. In this way, clients can see the relevance of cofactors in their lives. Review this information again during post-test counseling. A counselor should avoid laboring over defining the word “cofactor,” and instead focus on an individual’s behaviors.

For someone who tests positive, cofactors can be integrated into counseling as part of the discussion of steps a person can take to manage his or her infection. Do not wait for a client to ask how he or she can stay healthy before talking about cofactors. Assess a client’s risks and cofactors, initiate a discussion about the role of cofactors in disease progression, obtain a client’s commitment to address these issues, and offer relevant referrals and written information to be read later.

The following are techniques for discussing specific cofactors with clients who test HIV antibody negative or positive.

Alcohol and Other Drugs

Alcohol and other drugs impair judgment and behavior, and they may weaken the immune system. Many people are not aware that these substances have such effects. Others may see that substance use is related to unsafe behavior, but they believe they are unable to stop their use of alcohol or other drugs.

Ask clients to discuss their alcohol and other drug-use patterns; assess these to see the role of alcohol and other drugs in a client’s life. Look beyond the behavior to the reasons clients are using these substances. There may be other events in clients’ lives that deserve attention. For instance, they may be drinking or using other drugs to reduce high levels of stress, or to feel freer to engage in sex. Or, they may be using substances because they find little in life to interest them.

Offer referrals to prevention, education and support groups where clients can discuss their behaviors. Also, where appropriate, offer referrals to substance abuse service providers and 12-step recovery groups.

Make antibody positive clients aware that the use of alcohol and other drugs can suppress a person’s immune system and potentially lead to more rapid disease progression. Small amounts of alcohol may not be directly detrimental to the immune system, but a person who consumes even small amounts of alcohol is at potential risk for increasing alcohol use.

Many people who consume large amounts of alcohol, including some who have an alcohol addiction, do not consider themselves to be "heavy drinkers."

**STDs**

Clients with an STD history may see their risk for specific STDs they have been infected with, but they may fail to perceive their risks for HIV. Similarly, some clients who see their risk for HIV may not see their risk for other STDs. Increased awareness of HIV in recent years has generally not been accompanied by increased awareness of other STDs.

Let clients know about their risks for STDs, and that they can avoid STDs if they engage in safer behaviors. Talk about the destructive effects of STDs, including lesions and inflammation that may expose the body's blood cells and make a person more susceptible to HIV transmission.

For clients with a history of STDs, emphasize that people can become infected with HIV in some of the same ways they are infected with other STDs. Offer general information about STDs, and referrals to STD clinics or other medical providers.

Because STDs can suppress the immune system, and perhaps interact with HIV in ways that speed HIV replication and progression, recommend that antibody positive clients be monitored for STDs and seek treatment for STDs from private doctors or public STD clinics.

**Emotional Support and Stress**

Counselors may find that stress is one of the cofactors they can most effectively work with clients to reduce or manage. While some clients may not acknowledge a history of substance abuse or STDs, they are willing to acknowledge their stress. Discussions of stress and ways of dealing with it may lead clients to talk about unhealthy ways of dealing or not dealing with stress, including substance use or unsafe sex.

Some people do not understand the potential harm from stress because a certain amount of stress is normal, and stress is produced by both good and bad events. In many cases, the harmful effects of stress are related not to the amount of stress in a person's life, but rather to the way someone manages or responds to stress.

Managing and reducing stress do not always require making major changes. To better cope with stress, people can learn meditation techniques; they can practice deep breathing exercises several days a week, particularly when they feel especially anxious or depressed; they can write their feelings in a journal; and they can attend stress reduction groups. AIDS hotlines or AIDS service organizations can provide more information about support groups. If no groups exist locally, encourage clients to help develop such resources.

Receiving a positive test result can produce overwhelming stress as clients suddenly confront questions about their health and survival. After leaving the test site, these feelings can continue as people fear loss of employment, health insurance or relationships.

A person may be better able to manage this stress by learning what a positive test result means and how HIV infection can be managed. Having this knowledge and acting to maintain health can significantly reduce someone's stress. Denial of a positive result is likely to lead to increased stress, and perhaps to anxiety or depression that may not begin to abate until a person acknowledges his or her antibody result.

Some counselors suggest that clients tell at least one other person that they are antibody positive, and maintain contact with that person. Offer referrals for support groups, which can give clients a chance to talk with others about their infection and be involved in their health and in the community.

**Smoking**

Encourage clients who smoke cigarettes to stop smoking. Remind them about the detrimental effects cigarettes have on overall health — particularly the health of the respiratory and cardiovascular systems — and the possible effects on HIV disease and opportunistic infections. Acknowledge that an addiction to nicotine can be difficult to fight.

Be aware of the reasons a per-
Case Study

Stephen, whose antibody test result is negative, is a 32-year-old heterosexual who has been unemployed for two months. After being divorced two years ago, he engaged only in safer sex, but on three occasions in the past month he has “slipped” and had insertive vaginal intercourse without a condom. He says he is drinking more since he lost his job. As a result of his drinking and unemployment, a sense of hopelessness has entered his life, and he has lost motivation to continue his job search. Increasingly, he pursues only two activities with interest: drinking and sex. He believes that both drinking and sex reduce his level of stress.

Counseling Intervention

Cases like Stephen’s are increasingly common at HIV test sites. In some cases, clients may face challenges in life similar to Stephen’s, but they may not acknowledge them unless asked.

At least two cofactors appear to be leading to Stephen’s unsafe behavior: his stress and his drinking to reduce the stress.

To effectively combat these, start by considering Stephen’s divorce or unemployment, which may be a primary cause of his stress and hopelessness. Empathize with Stephen’s difficulty in finding a job. Many people with exceptional skills and experience are currently unemployed and unable to find work.

Ask Stephen to talk about his stress and his drinking patterns. Ask how long he has been drinking, how much he drinks and how often he drinks. Talk about his unemployment and how his life has changed since he became unemployed. Help him see that his unemployment, and the frustrations that accompany it, are likely leading to his increased stress and that the stress may be leading to his increased drinking and his heightened risk for unsafe sex.

Emphasize that if he continues to experience stress and feelings of hopelessness, he is likely to continue to drink, and he will continue to be at risk for engaging in unsafe behaviors. Even if in the past he was generally able to drink and engage in safer sex, he is obviously unable to do so now. Help him see that his response to stress is life-threatening. It would also be useful to help Stephen see that alcohol use may be keeping him from his job search. For instance, he might make plans to pursue his job search, but before he follows through with this, he consumes alcohol and therefore does not feel well enough to do anything productive.

It is important that Stephen regain hope in his job search, or at least in other productive parts of his life. Offer him encouragement in his search. If he is uninterested in seeking employment, emphasize the importance of engaging in productive activities that will make him feel better about himself and that will help him reduce his stress, his drinking, or his vulnerability to engage in unsafe sex. Find out what productive activities might interest him. Offer appropriate referrals to a career counselor or to a source for short-term psychotherapy. If he is interested in pursuing his career search, suggest that he seek career-related books at a library or bookstore.

Explore Stephen’s emotional support and his potential to make use of a support system. Stephen may have emotional support that he has been unwilling to use. Suggest a support group for dealing with stress reduction or substance use. Suggest exercise or other productive activities that might interest Stephen.

Re-emphasize the importance of safer sex, but state that knowledge and awareness by themselves do not ensure compliance.

Nutrition

Discuss with clients the value of maintaining a balanced diet, and suggest that antibody positive clients consult with a nutritionist so they can evaluate their dietary needs and habits, and determine whether their diet includes a proper amount of nutrients. Eating well is important because weight loss is a common HIV symptom that occurs with increased frequency at later stages of disease. By maintaining good nutritional habits early in the course of infection, people may help avoid or delay weight loss.

Some people, including those with HIV, seek radical or unproven diet plans. Such plans may be harmful to a person’s overall health and they can distract someone from maintaining a good nutritional plan. Clients should discuss their nutritional plans with their physician.
TEST YOURSELF

1. True or False: Alcohol and other drug use are believed to have no detrimental effect on the immune system.

2. True or False: Some STDs can cause lesions or ulcerations, which can allow HIV to more easily enter the body.

3. Studies have found individuals who engaged in which of the following behaviors to be at increased risk for HIV? a) heavy drinking, b) crack use, c) exercise, d) a and b, e) all of the above.

4. True or False: Emotional support and a sense of belonging do not improve a person's health or slow HIV disease progression.

5. True or False: People with a history of STDs are considered to be at higher risk for becoming infected with HIV.

6. True or False: Good nutritional habits can boost the body's ability to fight infection and delay the deterioration of the immune system.

7. True or False: Researchers have proven conclusively that smoking makes a person more susceptible to HIV infection and disease progression.

8. People who are "heavy" users of alcohol, a) are more likely than others to engage in unsafe sex, b) engage in sex more often than others, c) engage in sex less often than others, d) a and b, e) a and c.

DISCUSSION QUESTIONS

- The Case Study presented someone who felt hopeless and had a great deal of stress, partly as a result of being unemployed. Would the intervention be different for someone with similar feelings of stress and hopelessness who is working? If so, how would it differ?

- Clients may be unwilling to talk about their sexual history, including their history of STDs, alcohol and drug use, and stress, with a counselor. How can counselors offer effective counseling to people who will not discuss these personal issues?

- Many people, for instance those with multiple jobs or several dependents, may state they do not have the time, energy or practical ability to be concerned with stress reduction. How can counselors work with such a client?

- Clients visit antibody test sites to learn if they are infected with HIV, and not to be told to reduce stress or stop smoking. How can counselors effectively discuss cofactors if this is not a topic of interest for a client?

- In what ways can counselors help clients see the relationship between HIV and possible cofactors? How can counselors talk about cofactors with clients who believe there is little evidence to support the role of cofactors in HIV infection?

Answers to Test Yourself

1. False. Alcohol and other drugs can harm the immune system.

2. True. STDs can cause lesions that allow HIV to more easily enter the body.

3. D. Heavy drinking and crack use put an individual at increased risk for HIV infection.

4. False. A sense of belonging and emotional support has been shown in at least one study to be beneficial in slowing the progression of HIV.

5. True. People with a history of STDs are considered to be at higher risk for becoming infected with HIV.

6. True. Good nutrition can boost the body's ability to fight infection and delay deterioration of the immune system.

7. False. Smoking has not been conclusively proven as a factor that makes a person more susceptible to HIV infection or disease progression.

8. D. Heavy users of alcohol are more likely than others to engage in unsafe sex, and they engage in sex more often than others.

How to Use PERSPECTIVES:

PERSPECTIVES is designed as an easy-to-read educational resource for antibody test counselors and other health professionals. Each issue presents a relevant topic with a "Research Update" and an "Implications for Counseling" section. The Research Update reports and analyzes recent research related to the main topic. In Implications for Counseling, the research is applied to the counseling session, and a case study is offered. PERSPECTIVES also includes two sets of questions, one to test yourself on the material presented, and another to discuss with others or consider alone. Each issue can be filed and referred to as an instant resource in the future.