Influencing HIV Transmission Risk

Seth C. Kalichman, PhD

A considerable amount of research has advanced our understanding of behavioral risks for HIV infection. In general, three domains of factors have been found to influence HIV transmission: biological, psychological, and social-environmental influences. The biological factors include molecular, genetic, immunologic, and mucous membrane variations that influence the relative efficiency of HIV transmission. Psychological factors include those intrapersonal characteristics that promote risk-taking behaviors. The social-environmental domain consists of factors that create the interpersonal and ecological context within which HIV transmission risks occur. The sections below briefly discuss key aspects of these domains.

**Biological Factors**

Transmission occurs when HIV is exposed to cells that carry CD4+ receptor sites and are therefore susceptible to infection. Of most significance are ports of entry that offer access to infectable cells, for example, through sexual trauma and sexually transmitted infections.

**Co-Occurring Trauma and Sexually Transmitted Infections (STIs).** HIV transmission is influenced by the degree to which the virus can access infectable cells. Traumatic injuries to anal and genital tissues are known to increase risks for HIV transmission. Rectal trauma significantly increases the risk for HIV transmission, as does vaginal bleeding. In addition, men with uncircumcised penises may be at higher risk for contracting and transmitting HIV because of the concentrations of Langerhans cells—which are particularly vulnerable to HIV infection—in foreskin tissue.

Of most importance are STIs (also known as sexually transmitted diseases) that degrade the integrity of mucous membranes and create ulcers in the genital mucosa and skin. A history of STIs is a strong independent predictor of HIV seroconversion, particularly when infections involve genital ulcerations. Chlamydia and gonorrhea, although not ulcerative, facilitate HIV transmission by causing lesions and inflammation to mucous membranes. Research in Tanzania suggests that aggressive treatment for STIs can reduce rates of HIV transmission, demonstrating the direct link between HIV transmission and other STIs.¹

**HIV Infectivity.** It is assumed that HIV transmission risks increase with greater concentrations of virus in blood, semen, or vaginal fluids. Natural history studies of HIV infection show that this concentration (viremia) varies over the phases of HIV infection, with higher viremia in blood and semen during the first few months and at the later phases of late-stage AIDS. Compared to the long middle period of HIV infection, studies have shown that people are more likely to become HIV infected when their sex partners have advanced HIV disease, with the risk of women becoming infected increasing threefold when their male partners have advanced disease. Some studies show that a seronegative person faces a six to 17 times greater risk for acquiring HIV infection when his or her sex partner has a CD4+ count below 200.² While viral load is affected by successful antiviral therapy, the degree to which declines in viral load are stable and offer protection against HIV transmission remains an open question. In addition, the risks for transmitting treatment-resistant strains of HIV are not completely understood.

**Psychological Factors**

Individual characteristics influence a person’s decisions, beliefs, and behavior.
Editorial: A Little Knowledge
Robert Marks, Editor

At a time when new technology—from combination therapy to viral load testing—has changed the complexion of the epidemic, people with HIV disease face the daunting challenge of maneuvering through a library of technical information. Understanding combination therapy and protease inhibitors, viral load testing, side effects profiles, adherence challenges, and drug resistance has become a necessity, even for those who choose not to initiate antiviral therapy. There is no doubt that living with HIV is about living with data—confusing and often contradictory data.

Conversely, for some people, living without HIV is an active process of denial, of avoiding information. The media make complete avoidance impossible, and headlines that trumpet the end of the epidemic have contributed to a situation best characterized by the adage: a little knowledge is a dangerous thing. You know from the press—if you know nothing else—that combination treatment has revolutionized HIV care and that taking antiviral drugs right after you think you’ve been exposed to HIV may halt infection. You can leap from this information to the belief that HIV is now curable, even insignificant, and even that risk reduction is unnecessary.

At the 12th World AIDS Conference—I’m sitting in Geneva now—there have been at least a dozen presentations on the effects of information about combination therapy and viral load testing on attitudes toward risk reduction. The data seems to bear out an alternative conclusion, articulated by Ariane van der Straten in this issue of FOCUS: most people do not believe HIV has been cured, and for most uninfected people, information about new treatments has not changed their sexual practices.

In a hallway conversation here, I asked van der Straten how she explained these results, and she suggested that for people who have committed to safer sex, the optimism about treatment will not provoke unprotected behavior. For people who are committed to unsafe sex, this optimism simply becomes another rationalization for justifying unsafe sexual practices. I asked her about the people in the middle—those less consistent in their behavior—and she hypothesized that these might be the people whose behavior is in fact being affected by optimism.

In this issue of FOCUS, Seth Kalichman joins with van der Straten to provide an overview of the factors contributing to HIV-related risk. These articles identify new influences on risk and revisit known ones that remain current.

Raising HIV prevention in the context of traditional psychotherapy is a subtle art. The guiding principle here is to garner as much information as possible and apply it appropriately. A suggestion that a sexually active client look at risk may be perceived as heavy-handed or as a pronouncement to never have sex at all. Therapists should approach these issues gently, but approach them nonetheless. To talk about risk is to begin to come to terms with it.

Risks for sexual transmission of HIV differ for people of different ages, people who are experiencing emotional distress, and people who abuse substances.

Age and Development. Forty-two percent of people with AIDS were under the age of 35 years when they were first diagnosed with an AIDS-defining condition, and a full 80 percent were diagnosed under the age of 44 years. Because it has historically taken an average of 10 years for HIV infection to progress to AIDS, it is clear that most people are infected from their late teens to their middle to late twenties. At least two aspects of developmental age account for the increases in HIV risk among youth. First, sexual mixing and sexual networking patterns in younger populations promote the spread of STIs, including HIV disease, because of rapid partner transitions. Second, young persons often misperceive their risks and are resistant to practicing risk-reducing behaviors. For these reasons, sexually active adolescents and young adults in areas of high HIV prevalence are at considerable risk for HIV transmission.

Personality Dispositions. Personality characteristics, including low self-esteem, neuroticism, and antisocial character, are well-established correlates of sexual “acting out.” The degree of impulsivity versus sexual self-control, for example, predict patterns of sexual behavior that correspond to risks for HIV infection in relevant populations. The general propensity to take risks appears to serve as catalysts for sexual risk behaviors. The most widely studied risk-taking personality disposition is “sensation-seeking,” which has been identified as a correlate of HIV-related sexual risk. Sensation-seeking is defined as the tendency to pursue novel, exciting, and optimal levels of stimulation and arousal. People who are averse to reducing their risks across a variety of unrelated activities have been found to be resistant to using

References

condoms and practicing safer sex, and this suggests the pervasive influence of sensation-seeking on activity preferences.

**Emotional Distress.** Depression and anxiety correlate with high-risk sexual behaviors in samples of men who have sex with men, homosexual and bisexual adolescents, and injection drug users. Other negative moods, such as anger, have also been associated with risky sexual practices. The relationship between negative mood and sexual risk behavior parallels the connection between stress and risky sex, where sexual activity may help people meet psychological needs through anxiety reduction, and increased affection and support. Depression and anxiety can also include elements of pessimism and constricted views of the future, both of which have been associated with sexual risk behavior. Alternatively, fear and anxiety can prompt individuals to take preventive action, a benefit that may be lost as people come to view HIV as less of a threat.

**Coping and Adjustment.** Individual styles of coping and managing daily stressors are associated with sexual practices. Living under the stress of poverty and experiencing multiple losses due to HIV are only two examples of common factors that can strain coping capabilities and lead to escape behaviors. High-risk sexual practices themselves can function as coping responses in a similar manner as smoking, over-eating, and other health compromising activities. Alcohol and other drug use can also serve as a means of coping, and substance use may increase risks for HIV infection in a variety of ways.

**Substance Abuse.** Since the earliest days of the AIDS epidemic, psychoactive substance abuse has been known to correlate with HIV risk. Although its role in sexual risk is not consistent and varies across populations, alcohol is often associated with sexual risk for HIV infection. However, crack cocaine, amphetamine, MDMA (ecstasy), and other non-injected drugs are directly associated with HIV risk. As many as 80 percent of crack cocaine users report histories of other STIs, and 12 percent of crack using men in New York City and 7 percent in Miami are HIV seropositive. Crack cocaine is relatively inexpensive and has become one of the most widely used drugs among the inner-city poor, the severely mentally ill, and the homeless. Finally, nitrite inhalants—poppers—are directly associated with unprotected anal intercourse in gay male communities. In fact, the link between poppers and unprotected anal sex is among the most consistent correlation because of the drug’s direct pharmacological effects, which induce transient states of euphoria and relaxation of the smooth muscles that facilitate anal sex.

**Social-Environmental Factors**

Almost all HIV infection results from interpersonal behaviors, that is, within a social context. Social conditions exert powerful influences on behavior, particularly conditions associated with power, poverty, and normative beliefs.

**Relationships.** The meaning of condoms and safer sex varies greatly across relationships. Condoms can imply a lack of trust, posing significant barriers to their use. The need to practice safer sex in relationships tends to dissipate over time, particularly as trust develops between partners. Unprotected sex occurs more often in coupled relationships than casual relations regardless of whether one of the partners is HIV seropositive. Condom use clearly carries different communicative values in steady relationships, where care, trust, safety, and commitment contradict the idea of protecting partners from each other. Believing that a relationship has developed into a steady partnership is the reason why most couples who use condoms stop. Of course, when coupled partners are both HIV seronegative and are monogamous, they are in fact at no risk for HIV infection. Unfortunately, long-term monogamy is often more of an ideal than a reality, and cultural values may force partners to hide casual sex with others, introducing a great uncertainty into the relationship.

**Power.** Cultural and socioeconomic factors strongly influence sexual decision making. Power imbalances and gender scripting determine the degree of control a person has in his or her sexual relationships. Power and control create significant barriers to self-protective behaviors particularly among women, especially women living in poverty. One study identified four central factors that contribute to women’s sexual risk for HIV infection: the social status of women in a given society; the importance a culture places on relationships in defining women’s sense of self-worth; the risk histories of the men with which women become involved; a history of and fear of physical and sexual abuse. People do not have significant power to change the relationships in which they are

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financially dependent. Power in sexual relationships therefore plays a direct role in HIV risks. Factors that contribute to risk include difficulties negotiating condom use, coercion of sexual activity, and the use of addictive substances to broker sex.

Societal Influences. Sociocultural factors influence the sexual scripts that are played out as roles in sexual relationships. Still, relatively little research has investigated societal dimensions of HIV risk in relationships, including culture, values, community norms, and public policies. The dearth of information in this area is likely attributable to difficulties in operationalizing and measuring overarching social constructs.

Research, however, has assessed individual perceptions of socially held beliefs about HIV risk and risk reduction behaviors. Social perceptions, particularly perceived social norms, serve to promote and reinforce sexual practices, including sexual risk and sexually protective behaviors. Studies show that men who have sex with men who perceive condoms and safer sex as more acceptable to their peers are themselves more likely to practice safer sex. Another study found that perceptions of peer norms for safer sex were stronger among men who did not practice unprotected anal intercourse when compared to men who practiced this highest-risk behavior. Indeed, dramatic changes in risk behavior over the course of the HIV epidemic observed among gay and bisexual men in HIV epicenters are commonly attributed to changes in social norms. These changes in norms are caused in part by the redefining of sexual relationships.

Implications for Prevention
The value of a better understanding of HIV risk is its potential application to HIV prevention efforts. Given what we know about HIV-related risks, the following implications for prevention should be considered. First, treatment of STIs should be an essential part of HIV prevention policies. Second, beliefs that reductions in viral load may reduce levels of infectivity are potentially dangerous and should be discouraged until more information becomes available.

Third, behavioral skills-building interventions should be tailored and targeted to people at greatest risk for HIV infection. Attention to developmental level, personality dispositions, mental health, and coping capacity should be considered in this process. Fourth, substance abuse treatment offers a viable opportunity for HIV prevention because participants are likely sober and in settings that facilitate implementing effective behavioral interventions.

Fifth, couples with at least one HIV-seropositive partner should be a priority for HIV prevention. Interventions for serodiscordant couples allow providers to implement prevention strategies in the very context within which transmission risks occur. Issues of power and control can effectively be dealt with using common couples counseling techniques. Finally, social influence models offer opportunities to increase readiness to change at a population level and alter social norms to promote and sustain risk reduction.

Conclusion
HIV prevention is most effective when tailored to relevant characteristics of at-risk populations. Research that has identified such factors can assist in targeting efforts to the most significant factors. Integrating such research findings into prevention practice remains a crucial challenge.

References
Rhodes T, Stimson G, Quirk A. Sex,
The Effects of New Treatments on Sexual Risk Taking
Ariane van der Straten, PhD, MPH

While there has been much discussion about the impact of HIV-related medical advances on risk perception and behavior, there have been no systematic studies monitoring such changes published in the scientific literature. Yet, it is clear that concepts such as post-exposure prevention (treatment with antiviral drugs after a presumed exposure to HIV) and “undetectable” blood viral load, as well as the broad publicity for new antiviral treatment success are likely to affect the ways in which people react to HIV risk and risk reduction.

California Partners Study
In December 1996, the California Partners Study, an ongoing study of HIV-serodiscordant heterosexual and bisexual couples in Northern California, began monitoring the effects of new information on sexual risk taking. The study, which includes more than 200 participants, combines a counseling intervention with behavioral surveys, laboratory testing, and follow-up every six months. In addition, it includes a substudy examining biological and immunologic factors associated with the prevention of HIV transmission. The California Partners Study is singular in at least two ways. First, it gathers data from both sex partners, acknowledging each partner’s role in influencing decisions about risk and safety in the relationship. Researchers define a “couple” as having had one penetrative sexual contact in the prior six months and having an “ongoing” relationship. Second, beyond biological information and behavioral surveys, it collects qualitative information from the counseling intervention and in-depth interviews.

The study’s participant sample is highly diverse and reflective of the heterosexual HIV epidemic. More than 60 percent of the sample is non-White, and 22 percent of the sample includes current injection drug users. In 53 percent of the couples, the woman is the infected partner, and in 74 percent of the couples, unprotected sex occurred in the previous six months.

The survey and qualitative interviews included questions about awareness and use of post-exposure prevention (PEP), viral load monitoring, and antiviral treatments. Some of these issues were addressed during the counseling intervention as well. Preliminary data from baseline surveys with 67 couples and in-depth interviews with 12 couples have already drawn a complex picture of the new medical advances, and the ways they are understood, interpreted, and integrated into a couple’s risk management strategy.

Viral Load
The role of medical advances on sexual risk taking must be placed in the context of how people in high risk relationships understand and interpret messages about HIV transmission. The California Partners Study previously found that many couples have problems integrating HIV prevention information together with their own personal risk histories. In general, people have difficulty understanding probabilities and incorrectly estimate HIV transmission risk. For example, it is not uncommon to hear partners in HIV-serodiscordant couples who have had multiple instances of unprotected sex talk about the immunity or lack of effectiveness of post-exposure prevention.

*Only one report presents findings on this topic, and it presents only preliminary data on a small sample of gay men.*

See also references cited in articles in this issue.
Medical advances are decreasing concerns about infection and increasing risk-taking in a minority of serodiscordant couples.

References


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of infectivity of their partners and themselves.

Those who feel that they cannot infect their partner, may have their conviction reinforced when receiving an “undetectable” viral load reading. For others, higher than expected viral load may increase condom use. In some couples who consistently practice safer sex, such medical advances do not appear to modify their behavior. Finally, some participants consider viral load only to be a health indicator and do not connect it to transmission risk. Among the 67 couples analyzed so far in the California Partners Study, 90 percent of the seropositive partners had their viral load measured, and 37 percent said it was undetectable. More than 94 percent said that knowledge of viral load had not changed their condom use practices; two couples reported less condom use, and two couples reported more condom use. There was no association between the viral load level of the HIV-infected partner and the couple's sexual risk behavior.

Antiviral and Post-Exposure Treatment

While antiviral treatment often evokes hope, in 70 percent of the couples in the California Partners Study, both partners agreed that it had no effect on their sex life. A small minority reported both positive and negative effects—for example, decreased sex drive and cracked lips, which raised concerns about risk of kissing. A minority of couples reported change in risk taking and risk perception because of antiviral treatment. For example, fewer than 20 percent of the seropositive partners asserted that because of the new antiviral treatments, they had taken more chances at having unprotected sex with their partners, were less concerned about passing HIV to their partners, or felt they were less likely to infect their partners. These participants did not differ from the rest of the sample in terms of age, geographical location, drug use history, gender, or race.

HIV-positive and HIV-negative partners did not always agree about sexual risk-taking and risk perceptions because of antiviral treatments. HIV-negative partners tended to agree more often than their HIV-positive partners that they already had taken a chance of getting infected by having sex with their seropositive partner. They also agreed more often with the statement that their partners were less likely to infect them if on antiviral treatments.

Post-exposure prevention (PEP) refers to HIV antiviral treatment that begins within 72 hours of a possible exposure to HIV through unprotected sexual or needle-sharing contact with someone who is suspected of being HIV-infected. Treatment continues for a month. PEP has been used for several years to respond to occupational exposures among health care workers, and has recently become available for non-occupational exposure in San Francisco. In the context of prevention, it has been a concern that PEP would create a false sense of security among seronegative people who might take less care to protect themselves.

In the California Partners Study baseline sample, only 25 percent of participants were aware of PEP. Of those, none reported modifying condom use with his or her partner because of the availability of PEP.

Three of the 67 HIV-negative partners reported taking antiviral medications after a possible exposure to HIV; notably, however, more than two-thirds said that they were likely to take PEP in the future.

Conclusion

New medical advances are decreasing concerns about infection and increasing willingness to take risks only in a minority of HIV-serodiscordant couples. While these technologies may not increase unprotected sex per se, they may provide additional rationale for those not committed to consistent condom use. It is critical to continue to monitor how people interpret these advances in the context of their own lives, risk behavior, and relationships. Providers should expand the discussion of these advances beyond health to their effect on the sexual relationship of their clients. Clients in relationships should engage their partners in similar discussions.

Comments and Submissions

We invite readers to send letters responding to articles published in FOCUS or dealing with current AIDS research and counseling issues. We also encourage readers to submit article proposals, including a summary of the idea and a detailed outline of the article. Send correspondence to:

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Recent Reports

Evaluating HIV Intervention Programs

A substantial review of recent intervention programs throughout the world confirms the view that HIV prevention efforts are more effective when they focus less on acquisition of knowledge and more on social skills, communication techniques, and assertiveness training.

In addition, it remains important to tailor interventions to the target group in several ways: by assessing the nature and extent of relevant behaviors in a particular community prior to implementing the intervention; by working with harder-to-reach groups in a non-stigmatizing way; and by establishing firm links with local health care agencies for swift and efficient referrals.

Reviewers evaluated interventions targeted at four groups in particular: young people, gay and bisexual men, commercial sex workers, and injecting drug users. They reviewed a range of programs implemented throughout the world between 1987 and 1995. Among their conclusions were: first, young people tended to respond most positively to educational efforts that incorporated flexibility, informality, and humor. For example, group discussions and role-play exercises were more likely than formal lectures to be effective.

Second, interventions aimed at youth were more likely to be successful if young people were involved in designing their content and presentation. Third, training commercial sex workers to educate their peers was an especially effective way to promote HIV risk-reduction behaviors, especially because sex workers often work in pairs or groups. Fourth, the success of needle exchange programs depended on easy access—both physically and psychologically—and non-judgmental staff.

Programs that explicitly described the theoretical rationale underlying their interventions were generally more coherent than programs that did not do so. However, even among those programs that lacked reference to psychological or sociological preventive theory, there was a wide range of valuable educational interventions. The reviewers recommend explicit collaboration between theoretically grounded researchers and those who do not rely on theory but who have had success developing effective intervention programs.

Finally, it is also important to include a formal evaluation component to ensure that the intervention efforts are efficient and effective. Such a process helps not only to determine the direction of the existing program but also to design and implement new interventions. Among the components of an ideal evaluation process are: an explicit theoretical grounding; both process and outcome evaluations; thorough pre-testing of baseline factors; the use of control groups; a focus on both cognitive and behavioral impacts; evaluation of all relevant participants, including the target audience, program designers, and educators; post-intervention follow-up analysis of behavior and behavior change; and a longitudinal evaluation to assess sustenance of changes.

Risk Reduction for Women

Effective condom-use-focused prevention programs for women emphasize gender-related influences, such as stress, power imbalances, and sexual assertiveness, according to a review of the published literature on interventions targeting women.

Although HIV prevention skills and education are important factors in increasing condom use, unsafe sexual behavior often has significance within a woman’s relationships and sociocultural context. Behavior change requires developing and refining self-motivation skills, ensuring access to appropriate resources, and receiving social support.

The reviewers conducted a search of HIV prevention interventions for women through three internet databases for the period from 1984 to 1995. The review was limited to published research articles and excluded interventions that specifically targeted sex workers, injection drug users, or women outside of the United States, and those that assessed changes in HIV education and intentions to use condoms rather than actual changes in condom use. Of the hundreds of studies identified, only 16 reported an outcome.

While most research shows that needle exchange substantially reduces HIV risk, it is not clear what is the “active ingredient” in these programs.
evaluation of a sexual risk reduction intervention for women, and only seven of these met the review’s further inclusion criteria. The participants of these studies were primarily young socioeconomically disadvantaged women.

The reviewers defined effective interventions as those that increase and maintain condom use for at least three months. According to this definition, four of the seven reviewed programs were effective. Each of these interventions employed Social Cognitive Theory (SCT), a model that examines social, environmental, and personal influences on an individual’s behavior and which emphasizes the role of self-motivation skills and self-efficacy.

All effective programs applied a randomized controlled design to compare conditions or interventions. Effective programs also used peer educators to facilitate their interventions, which included training in negotiating and implementing safer sex practices. In addition, peers served as positive role models and attempted to dispel misconceptions women had about socially-acceptable behavior. This was especially important for women in high-risk social environments who often perceived HIV risk behavior to be the community norm.

Finally, all effective interventions were multiple-session programs, and interventions in which women received eight to 10 hours of HIV prevention education and skills training were more effective at enhancing and maintaining condom use than were single-session interventions.

Interventions for Injection Drug Users

A decade of research on HIV prevention demonstrates that injection drug users who participate in syringe-exchange programs change their behavior to substantially reduce their risk of HIV infection. What is not clear is which components of these programs are the "active ingredients" in this process.

Reviewers identified 14 syringe-exchange studies and three bleach disinfection studies. Most interventions aimed at reducing transmission among injection drug users do more than replace potentially contaminated injection equipment with sterile equipment. Typically, they also distribute bleach for disinfection as well as condoms and information about HIV. In addition, many programs provide a range of “non-HIV” services, such as drug treatment and tuberculosis screening, services that may increase program retention and encourage risk reduction.

Trust between staff and participants may also facilitate adherence to safe injection techniques. It is difficult, therefore, to determine whether a particular program’s success is due primarily to the exchange of equipment or to other elements of the intervention. It is, nonetheless, clear that participation in syringe exchange is a very effective method of reducing HIV-related risk.

Three studies examined the relationship between bleach use and HIV incidence among injection drug users. These compared self-reported bleach use among drug users who did and did not become infected with HIV. Two of the studies detected no protective effect of using bleach; the third found a moderately strong protective effect. The reviewers concluded that disinfection with bleach is better than no disinfection. However, it is clear that sharing works that have been “disinfected” with bleach is not as safe as using new equipment. For this reason, prevention programs should not rely on bleach disinfection.

Next Month

Over the past several years, cognitive-behavioral theory has been applied to HIV prevention in intriguing ways. In the August issue of FOCUS, one of the leading researchers in this area, Ron Gold, PhD and his associates, all from LaTrobe University in Australia, review the application of self-justifications used to rationalize unsafe sex. They focus in particular on the belief that a man will “withdraw” before ejaculation, how this results in unsafe sex, and how rationalization is applied without premeditation—in the “heat of the moment.” They also look at how prevention interventions, including mass media approaches, might be used to respond to rationalizations.

Also in the August issue, James W. Dilley, MD, the Executive Director of the UCSF AIDS Health Project (AHP) and Executive Editor of FOCUS, discusses AHP’s application of Gold’s theories regarding self-justifications in the context of a counseling intervention.
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