Approaches for Promoting Safer Sex

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Individual behavior is one of the most important antecedents of chronic illness in the United States. As a result, a great deal of effort has been dedicated to testing and evaluating behavior change methodologies. Unhealthy behaviors, such as smoking, drinking, and eating high-fat foods, are frequently rewarding and sometimes addicting, and are particularly difficult to influence. Sexual behavior is perhaps the most difficult to change, but in the age of HIV disease, it may be the most important behavior to alter.

The extent of sexual activity in the U.S. emphasizes these dangers. More than 61 million people between the ages of 15 and 34 are sexually active and at risk for sexually transmitted diseases (STDs). In one study, 26 percent of men and 21 percent of women had sex outside their marriages. Among unmarried people, ages 18 to 24, 40 percent of men and 15 percent of women had had three or more sex partners in the previous year.

In general, behavioral change methods target individuals or their environments or both. Those that focus on the individual assume that people are rational, free agents who have absolute control over their own behaviors and will act to promote their own well-being. The individual approach requires that people take steps to identify and modify their risk behaviors even in the presence of unsupportive families, friends, and social climates. Environmental approaches, on the other hand, assume that people are passive players who can act only within the constraints of their surroundings. These interventions mold behavior by altering the physical milieu and cultural norms. Altered surroundings and norms then guide, manipulate, or force individuals to adopt desired behaviors.

The following is a discussion of these two fundamental behavior change approaches and how effective they may be in promoting safer sex. Another strategy, group counseling, which combines aspects of both these methods, will also be discussed. This approach holds particular promise as an effective modifier of sexual behavior.

The Environmental Approach

Environmental interventions traditionally have focused on altering physical aspects of the environment and have been the most powerful and effective approaches for maintaining public health. For example, the requirement to screen all blood for HIV antibodies has dramatically diminished transfusion-related transmission in the United States. The ready availability of disposable needles and syringes in developing countries would reduce the high prevalence of transmission in health care settings where reusable equipment spreads HIV.

Environmental approaches as applied to promoting safer sex should focus on increasing the accessibility and acceptability of condoms. Such approaches have been widely conducted as part of family planning initiatives throughout the world. Vigorous promotion campaigns, including subsidizing the cost of condoms, providing access to them, and improving their image, have led to significant increases in condom usage in many places including Hong Kong, Mexico, Colombia, India, Ghana, and Thailand.

Some programs have developed their own distribution networks. For example, in Thailand, condoms are sold at a variety of sites ranging from factories to taxis.

Research has shown that increased promotion of condoms encourages sales and that wider availability of condoms increases their use. An unpublished pilot study provided several southern California hotels in areas of high incidence of prostitution with free condoms to offer customers. Hotel managers reported that customers accepted and used the condoms, as was indicated by the fact that hotel maids found wrappers and used condoms in the rooms. This suggests the value of hotels making condoms available to their customers.

Other potential environmental interventions include requiring retailers to display condoms in front of counters rather than behind them; using government funds to subsidize condom prices; placing condom dispensers in all public restrooms, including those in public schools; and issuing 120 condoms annually to all people between the ages of 15 and 40 years. This would allow every couple to have protected intercourse 10 times per month, the average frequency of sexual intercourse, and could cost less than $12.00 per couple per year. While this may appear to be an unrealistic intervention, it is important to note that condoms are routinely provided free to citizens of China.

Since most sexual behavior is dependent upon the attitudes and practices of sex partners, combining environmental and individual tactics may be most effective.

In addition to their direct effects, environmental interventions also alter community norms. As an intervention becomes commonplace, it changes the attitudes, expectations, and behaviors of more and more people. The interventions then become incorporated into society's conventions. In this way, environmental interventions are important to prevent relapse to unsafe sex among people who have already adopted safer sex practices. When there are constant reminders to use condoms and when condoms are readily available, it becomes normal to use them. To create a safer sex norm, media references to the use of condoms should be made any time sex is depicted or suggested.

Environmental approaches are often implemented through legislation. Because the political compromise involved in this process may weaken the environmental impact of measures, the efficacy of many mandated HIV control measures is limited. For example, while legalizing the purchase of sterilized needles removes an important barrier to HIV prevention among injection drug users, it fails to ensure that users will not share their needles. More effective environmental strategies—such as distributing needles that "self-destruct" after a single use or establishing sites where medical personnel could administer drugs to users—have not been politically feasible.

The Individual Approach

The individual approach as applied to HIV prevention can be characterized by HIV antibody testing including pre- and post-test counseling. During test counseling, patients are usually guaran-

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teed confidentiality and are asked to disclose high-risk sexual and substance use behaviors. Counselors explain the significance of the test, the consequences of testing positive, including the possibility of discrimination and the near inevitability of progression to a chronic debilitating disease, and the behaviors that may lead to HIV infection and how to change these behaviors. Individuals must then use this information to reduce their risk.

Evaluation of individual counseling protocols have yielded mixed results. Subjects decreased some risky behaviors while increasing others. A small percentage (estimated at no more than 10 percent) developed what has been termed “disinhibition syndrome”—upon learning they were seronegative, these patients increased risky sexual behavior. Since these studies have lacked control subjects, their results are inconclusive.

It is likely that the content of counseling is just as important as the mode of delivery. Some research has indicated that certain health behaviors, such as the use of drugs, are motivated by the anticipation of a pleasurable outcome more than by the avoidance of a negative outcome. Some individual counseling, however, employs fear as a behavior change approach, even though fear has not been an effective motivator in many mass media health promotion campaigns or in campaigns to prevent tobacco use among youth. But, individual counseling approaches that focus on pleasure during condom use may be uncomfortable for both counselors and clients, unless counselors are specially trained to offer such counseling in a non-threatening way.

Individual counseling that focuses on environmental aspects of behavior, specifically, cues that remind one to use condoms, are potentially effective. Counseling that analyzes the context in which an individual has sex and explicitly advises a person to alter that milieu may assist people to follow through in practicing safer sex. Specific suggestions may include keeping condoms next to the bed or developing personal reminders to purchase condoms before a sexual encounter.

Compared to social marketing approaches in which millions can be reached through advertising, individual counseling, even when it is effective, can reach only a few people for similar amounts of time and effort. Since most sexual behavior is socially determined and dependent upon the attitudes and practices of sex partners, individual counseling may be effective when it is combined with environmental approaches or “family” counseling, in which couples can mutually agree and plan on practicing safer sex together.

Group Counseling

Group counseling targets individuals as the agents of change at the same time as it draws upon elements that make environmental approaches successful. While environmental processes change social norms by changing the context in which these norms operate, group processes clarify norms by creating small social groups in which members can articulate and interpret their values and beliefs. Norms are articulated through group participation, discussion and feedback, questions and answers, and role playing.

Since group counseling programs are more often evaluated than individual counseling programs, there is more documented evidence of their efficacy. Several studies of group interventions in which gay men were taught specific skills, such as assertiveness and cognitive restructuring—that is, how to change the way they think about sex—resulted in a reduction of self-reported high-risk behaviors. Group counseling in Africa among female sex workers reduced HIV seroconversion rate. A group counseling intervention conducted among heterosexual patients in Los Angeles County STD clinics was able to reduce STD reinfections by 50 percent. These studies suggest that elements of successful group counseling include respect for participants, acknowledgment of members' concerns, addressing concerns in a supportive way, active participation of subjects, use of role play, and the development of camaraderie within the group.

While group processes are easier to conduct among people of similar backgrounds and beliefs, they may be enhanced when participants adopt extreme or negative positions. Because a group clarifies social norms, an extreme position may be immediately rejected by the majority. For example, during an intervention session in an STD clinic, a patient announced that using condoms was tantamount to genocide. He was hostile and threatening to the health educator. His challenge forced the rest of the group to confront his ideas and, in the end, they supported the health educator, agreeing that condom use was important. Another time a patient stated that he would rather get AIDS than use a condom. Most of the other patients thought this attitude was absurd and strongly argued that it was better to use condoms. Group situations allow people who have not carefully examined their own beliefs the opportunity to do so. Educating patients in group settings may also communicate most clearly that condoms are acceptable to peers and make them acceptable to individuals.

That group counseling appears to be effective suggests that more interventions should be conducted in this fashion. However, while group interventions are more cost-effective because they reach more people in a given time period than do individual approaches, they require more effort to plan and to meet logistical challenges. For example, group members need to be recruited to attend at the same time and place, and incentives, such as food or money, are necessary to encourage attendance.

Conclusion

While all sexually-active people are theoretically at risk for contracting HIV, the reality is that certain groups are at greater risk than others. Because these groups have disparate social, educational, and economic backgrounds, it is important to develop population- and gender-specific interventions. A combination of individual, environmental, and group approaches is necessary to reach all people and to make the use of condoms routine in sexual relationships.

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References


Request for Submissions and Comments

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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Choosing Brands

Using condoms, especially with spermicides, substantially reduces risk of infection. This article discusses the efficacy of these measures and offers insights into how condoms are evaluated. Since proper use is crucial to protection, it also examines guidelines for use and concludes that conventional instructions are more complicated than they need to be.

Contraceptive and Antiviral Efficacy

Most condom studies have focused on contraceptive efficacy only, so antiviral efficacy remains speculative. With perfect use—that is, independent of the user—annual minimal pregnancy rates are approximately: 2 percent for condoms (depending on quality) and 4 percent for spermicides (depending on type). These figures imply antiviral efficacies of about 99 percent for condoms and 98 percent for spermicides. Assuming that condoms and spermicides act independently, their combined efficacy may be calculated as 99.98 percent per instance of sexual intercourse. Thus, combining condoms and spermicides is theoretically as effective as oral contraception.

If condom failure leading to infection were twice as likely as failure leading to pregnancy—a factor that seems generous given that only possible leakage around the rim makes transmission more likely than insemination—then condoms exhibit about 98 percent, and spermicides about 96 percent, antiviral efficacy per instance of intercourse. The antiviral efficacy of combining condoms with spermicides is around 99.9 percent per instance of intercourse, reducing the unprotected risk 1,000-fold.

Quality

Naturally, this optimistic scenario depends on maintaining condom quality, and on careful and consistent use. The threat of U.S. Food and Drug Administration (FDA) requirements has successfully minimized the prevalence of leaky condoms by encouraging manufacturers to screen condoms to identify holes or thin spots. While FDA procedures—filling specimens with half a pint or 300 milliliters of water—detect holes at least 10 microns across, the fraction of condoms with HIV-sized holes—0.1 micron across—doubtless exceeds the low tolerance of 0.4 percent conventionally prescribed for water-detectable holes. While this may appear at first to be serious, presumably the reason it is not is that germs, like sperm, hunt in packs, and the amount of virus that would most likely induce infection exceeds the amount that could enter through a 10-micron hole in the time available. It is pertinent to note that condoms are tested for holes more rigorously than surgical gloves, which are thicker.

Condom breakage is more serious. More strenuous intercourse—rectal or vaginal—requires stronger condoms, and thicker condoms are stronger on average. Regardless of average strength, however, it is of paramount importance to limit individual condom weakness. Current standards, however, fail to evaluate claims of exceptional condom strength, and thicker brands cannot guarantee a higher breakage threshold or a lower risk of breakage in use.

In August 1990, the International Organization for Standardization finalized the world’s first International Condom Standard (ISO 4074). Condom total strength is evaluated by air-inflation; and ISO 4074-1 (Requirements—Condoms in consumer packages) prescribes a modest tolerance of 1.5 percent for condoms bursting under an excess pressure of 0.9 kiloPascal (about one-hundredth of atmospheric pressure) or a volume of about 15 liters.

Choosing Brands

Couples face a bewildering variety of brands, which differ in terms of color, thickness, shape (plain-ended condoms accommodate semen as effectively as tear-ended ones), and texture. More than two years ago, Consumers Union, an independent non-profit organization in the U.S., tested 40 condom brands and ranked them in descending order of average bursting properties. Two brands, one claiming exceptional strength, failed the ISO 4074 air-bursting requirements, and, in testing for holes, some water-filled specimens of these brands bulged ominously at thin spots. Nonetheless, all brands satisfied the FDA’s leakage tolerance. Consumer’s Union found prices ranging dramatically regardless of quality.

These findings demonstrate the need for continued vigilance by consumer bodies and regulatory agencies. Meanwhile, no legal standard limits weak condoms in the U.S., where ISO 4074 still awaits official adoption.

Instructions

The FDA mandates seven instructions for using condoms against STDs. Yet, only two are Golden Rules for condom use:

1. Before penetration, carefully unroll the condom (right-side out) all the way to the base of the erect penis;
2. During withdrawal, hold the rim of the condom to the base of the penis.

Novices should practice on a banana—first with eyes open, then with eyes closed—to understand the strength of the condom and the futility of trying to unroll it inside out. Condoms may break through mishandling; inadequate lubrication; or use of oil-based lubrication, which weakens rubber causing breakage. Any supplementary lubricant should be water-based and preferably spermicidal. Many authorities urge squeezing the condom’s closed end during placement to expel air, but this involves unnecessary manipulation.

There are only two Golden Rules for use: unroll the condom to the base of the penis, and during withdrawal, hold the rim of the condom to the base of the penis.

Seminal leakage past the rim of the condom poses a negligible risk of conception, but a possible risk of infection, even if the condom does not slip. For antiviral purposes, withdrawal soon after ejaculation may be prudent. Nevertheless, provided the condom rim is held to the insertive man’s body during withdrawal—instructions currently hidden in a forest of relative trivia—any reduction in antiviral efficacy hardly justifies the conventional emphasis on withdrawal immediately after ejaculation or before the penis relaxes. In the event of condom breakage or slippage, particularly without spermicide, immediately washing with soap and water should minimize the risk of infection.

Conclusion

While few couples truly enjoy using condoms or spermicides, these antiviral measures hardly compromise sexual pleasure. Once convinced of their efficacy and accustomed to their use, couples should find condoms as convenient as toothbrushes. Ultimately, the condom should become an integral part of penetrative sexuality, at least for partners of unknown HIV serostatus.

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References


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Recent Reports


A comprehensive study rated condoms in terms of a variety of factors including efficacy, price, and reader preference. Among the top performing brands in airburst testing, which included 40 latex condoms, were Gold Circle Coin, LifeStyles Extra Strength Lubricated, Saxon Wet Lubricated, Ramses Non-Lubricated Reservoir End, and Sheik Non-Lubricated Reservoir End. Price, which varied greatly from one brand to another, was not related to quality: the Gold Circle and Sheik condoms were among the cheapest.

Readers offered opinions of condom brands they had used. To be included in the published ranking, each brand had to have been mentioned by at least 150 heterosexual readers, who ranked the following condoms highest: Trojan Kling-Tite Naturalamb, Ramses Extra, Fourrex, Trojan-Enz Lubricated, and LifeStyles Nuda. Among these, Ramses Extra and Trojan-Enz performed well in airburst testing, but LifeStyles Nuda did not. Readers had a strong preference for lubricated condoms and condoms with reservoir tips. Gay respondents seemed to have different opinions but were too few to offer brand ratings. [Editor's note: Trojan Kling-Tite Naturalamb and Fourrex are lambskin condoms. Recent studies report that animal skin condoms are ineffective in blocking HIV.]

Breakage and Slippage. Emory University (Contraception, February 1991). Also, University of Colorado and Denver Disease Control Service (Sexually Transmitted Diseases, April-June 1989).

Thirty-seven of 106 women (34 percent) experienced at least one incident of condom breakage over their lifetimes. Breakage occurred in about 10 out of every 1,000 acts of intercourse in which condoms were used. Fourteen percent of the women experienced condom breakage in the previous year, with a breakage rate of eight per 1,000 condom uses. Seventy-six percent of the lifetime breaks were discovered after ejaculation.

Participants were women attending an inner city hospital family planning clinic in Atlanta. On average subjects were 23.4 years old and had 12.3 years of education. The study also found that condoms slipped off when the penis was removed from the vagina once for every 30 acts of intercourse using a condom. In the previous year, 29 of the 106 women (27 percent) experienced at least one incident of condom "slippage."

In a separate laboratory study in which 30 condoms containing HIV were subjected to simulated intercourse, none of the condoms leaked HIV. Tests were performed using a glass cylinder and a rubber dildo that was agitated for five minutes and pumped up and down 50 to 100 times. Twenty of the 30 condoms contained the spermicide nonoxynol-9. After 10 of these were ruptured and retested again researchers found the spermicide to be effective in killing HIV.


The effectiveness of current HIV prevention techniques for heterosexual women depends far less on the method's efficacy than on a male partner's acceptance of his female partner's request. According to this commentary on condom and virucide use, to be successful, HIV prevention methods must give control to women.

Studies show that women are more likely to choose a prevention method if they can use it themselves independent of male cooperation. Such methods, even when they are technically less efficacious, may be more effective because they will be consistently used. For example, while virucides should not supersede condoms, they may in the end play an important role in preventing transmission in this population. Also, researchers should exploit the differences between sperm and HIV and develop virucides and virucide use instructions that take into account these differences.


Eighty percent of a group of 219 gay men failed to apply at least one of four condom use steps recommended by the U.S. Centers for Disease Control.

Most commonly, 80.4 percent failed to allow room for air to be expressed from the space at the tip of the condom. Leaving space, by holding the condom by the tip with one hand while unrolling it with the other, allows room for ejaculate and permits movement within the condom during intercourse.

Of the other steps, 8.2 percent of the subjects did not correctly unroll the condom to the base of the model, 8.6 percent did not correctly identify the outside of the condom, and 1.8 percent opened the condom package incorrectly.

The subjects, most of whom were White and had attended college, were gay men who had enrolled in a risk reduction program in Long Beach, California. At the study entry, participants reported greater risk-reduction efforts than a community sample, and were presumed to have above-average condom-using skills.

Special Issue of Population Reports. "Condoms—Now More Than Ever," the current issue of Population Reports, is a comprehensive review of condom promotion, counseling, and efficacy. To get a free copy, write: Population Information Program, Johns Hopkins University, 527 St. Paul Place, Baltimore, MD 21202.

Next Month

The quest for a vaccine may be the most exciting HIV-related research going on today, not only because a vaccine would protect uninfected people, but also because some vaccines under development might fight HIV in those already infected. In the July issue of FOCUS, Allan L. Goldstein, PhD, Professor and Chairman, and Paul H. Naylor, PhD, Associate Research Professor, both prominent vaccine researchers at the Department of Biology and Molecular Biology of George Washington University, discuss the state of HIV-related vaccine research and current vaccine models. They offer some insights into the research process by retelling the story of their own research with HGP-30, a vaccine just beginning human trials in the United States.

One way for people with HIV disease to tap into the hope, as well as the treatment, provided by HIV-related research is to join clinical trials. Also in the July issue, Chris Adams, a contributing editor of San Francisco Focus magazine and a free-lance AIDS writer, details the emotional challenges and rewards of being involved in a clinical trial.