PERSPECTIVES

Counseling Patients About HIV Risk from Oral Sex

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Unprotected oral sex is not well recognized as a risk factor for transmitting the human immunodeficiency virus, yet as evidence of its potential risk accrues, physicians must confront the question of how to counsel patients about oral sex risk. How do health care professionals feel about broaching this topic with their patients? Can the psychological literature help physicians understand their patients' risk perceptions and motivate healthful behaviors? In this article, we review the literature on oral sex risk, discuss barriers to communicating caution to patients, and propose recommendations and specific counseling strategies based on risk perception and behavior change theory that we believe will help physicians effectively intervene in the prevention of HIV transmission.

REVIEW OF THE LITERATURE

Since the advent of the AIDS epidemic, researchers have sought to define categories of risk for transmission of HIV in sexual behavior. Although receptive anal and vaginal intercourse have been clearly classified as the highest-risk behaviors, and kissing and masturbation as behaviors with the lowest risk,¹ the level of risk for oral sex remains a matter of debate. A variety of research methods—human and animal, epidemiologic studies and case reports, in vitro and in vivo—have yielded a growing literature addressing the question of oral sex risk. The comparative riskiness of oral sex in epidemiologic studies attempting to relate behavior to HIV seroconversion has been difficult to assess. These studies attempt the near-impossible task of isolating specific sexual practices in research subjects, who usually engage in more than one type of risk behavior, and rely on retrospective self-report data, which can involve recall bias and responses tainted by social desirability (for commentary on problems in sex-

ual behavior research, see R. C. Lewontin, Sex, lies and social science, *The New York Review*, April 20, 1995:24–9).

Subsamples of subjects engaging only in oral sex are likely to be too small to provide adequate statistical power to assess the relative risk.^{2,3} Some investigators have asked subjects only about oral sex practices or have lumped oral sex together with other behaviors.⁴ In addition, a myriad of uncontrolled factors—dates of infection, number of oral sex events, whether or not oral cuts or abrasions were present—prevent the clear quantification of risk. Most of these epidemiologic studies have sampled homosexual or bisexual men exclusively; accordingly, even less is known about the relative risk of oral sex in the context of lesbian or heterosexual practices.

Results from epidemiologic studies have generally been interpreted as evidence against oral sex risk, relative to other behaviors.^{3,5–8} These studies are based on retrospective self-report data from questionnaires or interviews about risk behaviors over a previous time period, and are also longitudinal in that they follow initially HIV-negative men and test these men over time to see whether or not they undergo seroconversion. Laboratory studies have shown that although the HIV virus or HIV-infected cells are present in relatively high concentrations in semen and vaginal or cervical secretions,⁹ the virus is found infrequently and in low concentrations in the saliva of HIV-seropositive patients, suggesting that it is a relatively unlikely vector for transmission.¹⁰ In vitro work also indicates that the mouth is a relatively unlikely site for infection. Human and nonhuman primate saliva inhibits the virus,^{11–13} and human oral epithelium is thicker than rectal or genital epithelia and lacks target cells for the HIV virus.¹⁴

Some 1992 laboratory studies, however, support the argument that oral sex may be risky. Ilaria et al.,¹⁵ and Pudney et al.,¹⁶ reported finding HIV virus in the pre-ejaculatory fluid of HIV-seropositive men. In 1996, Baba et al. reported that the simian immunodeficiency virus (SIV), which is related to HIV, was significantly more transmissible to macaque monkeys through the oral route than through the rectal route.¹⁷ The monkeys were infected in the absence of oral lesions; therefore, the authors suggest that the site of entry for the virus was either the stomach or the tonsils. The authors had demonstrated that inhibition of gastric acid, previously presumed to kill the virus, made no difference in transmission rates. Other studies have also shown the tonsils to be a likely area of initial HIV infection or replication.^{18,19}

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Case reports provide examples of possible HIV transmission via oral sex. A single case study,²⁰ as well as a small-group case study,²¹ suggest that male patients have been infected via *insertive* oral sex, implying that saliva could be a vector for transmission, although blood, from perhaps unnoticed oral cuts or sores, would be the more likely vector. A recent Centers for Disease Control and Prevention report documented the probable transmission of HIV during open-mouthed kissing via saliva containing blood from bleeding gums or lesions to the other partner's oral mucous membranes that were probably inflamed by gingivitis. Although that report involved kissing rather than oral sex, it suggests that (bloody) saliva can be a vector for transmission and that (inflamed) oral mucosa can be a site for infection.²²

Other case studies have reported probable examples of HIV transmission via homosexual receptive oral sex,²³ including cases without ejaculation,^{24,25} which is consistent with studies showing HIV in pre-ejaculatory fluid, and cases of female-to-female oral sex.²⁶⁻³⁰ Although the authors of one case report acknowledge that female-to-female oral sex is probably a relatively inefficient means of HIV transmission, they note that two facts should raise concern about the possible risk of oral sex transmission of HIV between women. First, the dendritic cells in the female genital area have a high concentration of HIV,³¹ and second, their subject reported no risk behaviors other than nontraumatic female-to-female oral-genital and genital-genital contact.³⁰ At least one case report also has implicated transmission through heterosexual oral sex; the male patient's only reported risk behavior was active and passive oral sex with a female prostitute known to use intravenous drugs and presumed to be HIV positive.³²

Many would downplay anecdotal case report data; however, some have suggested specific biological mechanisms that may make HIV transmission via oral sex more likely. Researchers have proposed that some conditions such as chemotherapy,²⁴ or the use of amyl nitrate,³³ impair salivary inhibition of the virus. Other conditions such as throat allergies,³⁴ and gingivitis,³⁵ appear to damage the oral epithelium and increase the risk of direct infection there. A sizable body of epidemiologic research shows that sexually transmitted diseases (STDs) (which may occur at oral sites) may also facilitate the transmission of HIV. The strongest evidence of STDs as cofactors, including results from some longitudinal studies, implicates ulcerative STDs, such as herpes and syphilis,³⁶⁻³⁹ suggesting that the ulcers from STDs damage the epithelium, opening a route for the virus to enter.³⁹

Several reviewers have noted, however, that all STDs may increase the risk of HIV transmission.^{36,40,41} In addition to breaching the epithelial layer, the immunologic response to any STD activates macrophages and stimulates T lymphocytes at the site of infection, both of which are particularly susceptible to HIV infection. One author has suggested that ulcerative STDs may be more efficient HIV cofactors than nonulcerative ones because they trigger

the simultaneous operation of both mechanisms.⁴¹ It has also been proposed that STDs may increase the infectiousness of the HIV-seropositive partner because STD infection may stimulate latent HIV-infected T lymphocytes, activate HIV, and increase viral shedding.³⁹

Studies attempting to show the association between STDs and HIV transmission have a number of methodologic problems. The temporal sequence of events cannot be established except in prospective, longitudinal studies. Such studies, however, may fail to measure sexual activity accurately or misclassify subjects because of diagnostic failures or the failure of subjects to report STD episodes that have been forgotten or were asymptomatic. Study results have also not been entirely consistent. Reviewers have concluded, however, that overall, one can infer that STDs play a significant role as cofactors in HIV transmission.^{36,40}

Oral sex effectively transmits STDs.^{42,43} The partner with an STD in the oral cavity could be more susceptible to the transmission of HIV via oral sex, or could infect the other partner's genitals, making that partner more susceptible to HIV infection in the genital area. These risks, at both oral and genital sites, could accrue with all STDs that are transmitted via oral sex.

NEED FOR CAUTIONARY RECOMMENDATIONS

We believe health care professionals need to educate their patients about the risks of oral sex. The evidence presented thus far fails to establish definitively the risk of HIV transmission through oral sex; nevertheless, the seriousness of the AIDS epidemic and the need to reduce the spread of HIV mandate some public health recommendation about oral sex. Although in 1996 the Centers for Disease Control and Prevention advocated the use of barrier protection for oral sex,¹ some clinical researchers and AIDS activists fear that if homosexual men are told that oral sex is risky, they will no longer comply with restrictions on unprotected anal sex.^{7,44,45} Some AIDS activists have been quoted as dismissing or downplaying Baba and colleagues' recent animal findings (see S. Russell, Research finds oral sex isn't safe sex, *San Francisco Chronicle*, June 7, 1996); one flatly called oral sex risk a "myth" (S. O. Strub, S.O.S. AIDS mythology, *POZ Magazine*, Aug./Sept. 1996:8). Other researchers advocate public messages to avoid ejaculation with oral sex,^{35,46} or to use condoms if there is evidence of throat or mouth infection.³⁴ Although the public has access to scientific literature and media messages, many people, especially HIV-seropositive patients being treated in the health care system, rely on health care professionals to disseminate information and translate scientific findings into concrete recommendations. Until further evidence becomes available, and considering the prevalence of STDs that may serve as cofactors to HIV transmission, we believe that health care professionals should inform their patients that oral sex, while carrying less risk than anal or vaginal inter-

course, is still potentially risky, and patients should seriously consider using barrier protection while engaging in oral sex.

The need for health care professionals to caution patients about oral sex risk is underscored by the public's unclear perceptions of oral sex risk and apparently high rates of unprotected oral sex. Few researchers have directly measured the public's beliefs about the risk of oral sex. In 1988 Goldberg et al. reported interviewing over 300 gay men in Glasgow bars and discos and found that 14% considered oral sex completely safe, 39% were unsure, and 47% considered it definitely unsafe.²³ Remafedi's survey of 239 gay and bisexual adolescents published in 1994 found that 83% of the sample believed that HIV infection through oral sex was "unlikely," although the author did not directly compare this finding with beliefs about other sexual behaviors.⁴⁶ In 1995 Phillips et al. found that oral sex, but not anal sex, predicted repeat HIV-antibody testing among gay and bisexual men.⁴⁷ The authors inferred that persons engaging in frequent oral sex are uncertain about its safety and seek confirmation from repeated testing that their behavior is not placing them at risk.

To explore patients' beliefs and practices regarding oral sex behaviors and health care professionals' beliefs and methods for counseling patients about oral sex risk, we conducted a qualitative study using semistructured interviews with 55 HIV-seropositive patients and 28 health care professionals who treated HIV-seropositive patients in the San Francisco Bay Area. Our patient sample was diverse in gender, ethnicity, sexual orientation, and mode of HIV infection (homosexual sex, heterosexual sex, and intravenous drug use). Most subjects were at a fairly low income level. Although findings from purposive sampling methods, such as those we used, cannot be generalized, several themes emerged from our data that can inform us of issues in counseling about oral sex risk. Many of the health care professionals and patients expressed confusion about the risk of oral sex for transmitting HIV, with patients fairly equally divided between three views: oral sex has little or no risk, it is safe without ejaculation or oral lesions, or it requires barrier protection to be safe. Both health care professionals and patients reported that the question of oral sex risk was the most frequent risk-related inquiry of health care professionals by patients. And many patients expressed a desire for more information about oral sex risk.⁴⁸

Rates of oral sex remain high. Among heterosexual samples, up to 79% of subjects have reported engaging in oral sex.^{49,50} Rates of unprotected oral sex among men who have sex with men are reported to be as high as 87%.⁵¹ One quantitative study of HIV-seropositive men who have sex with men reported that 39% had had unprotected oral sex since diagnosis, 23% of those being with HIV-negative or HIV-status-unknown partners.⁵² Within our selected sample of HIV-seropositive patients, 64% (80% of the gay men) reported having unprotected

oral sex since their diagnosis. Unprotected oral sex apparently remains a common activity among both HIV-negative and HIV-seropositive people.

Particular risk groups may have an increased risk of contracting HIV through oral sex, yet may not be receiving transmission prevention counseling. In 1996, Faruque et al. found that crack-smoking women, many of whom engage in sex for money or drugs, reported high rates of unprotected oral sex.⁵³ Oral sores are also common with crack smoking because of contact of the mouth or lips with hot smoke, hot glass, or other material in the smoking apparatus. In their sample of urban men and women aged 18 to 29 years, both crack smoking and intravenous drug use were significantly associated with oral sores, as was HIV-seropositive status. The authors conclude that all drug users should be counseled to use barrier protection during oral sex. In addition to drug users, groups that are at higher risk of cofactor STDs may also be at higher risk of contracting HIV via oral sex. Women, the fastest-growing group contracting HIV in the United States,⁵⁴ are more susceptible than men to herpes infection and more likely to be unaware of a latent infection.⁵⁵ African Americans have a 60-fold higher syphilis rate than whites, and adolescents have the highest rates of gonorrhea.⁵⁶ Another high-risk group is men who have sex with men but do not self-identify as gay. These men have reported significantly more unprotected oral sex than gay men, are less likely to be tested for HIV or to assume that safer-sex messages apply to them, and often continue to have unprotected intercourse with wives or girlfriends.^{57,58} As gay men and intravenous drug users have traditionally been the focus of HIV-prevention messages, members of these other risk groups may not perceive that safer-sex precautions are relevant to them or that unprotected oral sex presents any risk to them.

BARRIERS TO COMMUNICATING CAUTIONARY RECOMMENDATIONS

Interview data from the health care professionals and HIV-seropositive patients in our qualitative study suggest that important barriers to counseling about oral sex risk were present. The first barrier was patient beliefs and attitudes. Many HIV-seropositive patients believed oral sex presented little risk for transmitting HIV. Subjects also stated that methods of barrier protection were unacceptable, either to themselves or to their partners, or they assumed these methods would be unacceptable to prospective partners. Many patients also expressed the belief that if both sexual partners were HIV seropositive, either safer sex practices were unnecessary, or if they informed prospective partners of their HIV status, they were absolved of further responsibility for safer sex.⁴⁸

Although patient attitudes and beliefs may decrease the effects of counseling, the more significant barriers may well be the beliefs and assumptions of health care professionals themselves. In our sample, the health care profes-

sionals, most of whom treat HIV-seropositive patients on a routine basis, often expressed fears of appearing judgmental, or moralizing, of being politically insensitive, or of causing noncompliance with other precautionary recommendations if they were to advocate barrier protection for oral sex. Health care professionals were often ambivalent about barrier recommendations because they related on a personal level to patients' views that barriers would be undesirable. Most specifically, health care professionals assumed that gay men would be unwilling to change their behaviors or could be driven to have unprotected anal sex if they were told that oral sex is unsafe.⁴⁸ This common assumption may underlie the other fears health care professionals have about oral sex risk counseling.

Health care professionals' assumptions about male homosexual practices and attitudes create two problems. First, assumptions may bias physicians' evaluations about the safety of oral sex (e.g., it is not as risky as anal sex, which we must discourage at all costs; therefore, we will treat it as relatively safe), and may thereby influence, either as a matter of policy or by habit, what is communicated to all patients about oral sex risk. If all patients are made aware of the potential risk of oral sex, those who are not gay men, even if they engage in high rates of oral sex, may be more willing to use barriers, may experience less political investment or cultural pressure surrounding the act of oral sex, may decrease episodes of casual oral sex, or may refrain from oral sex altogether without turning to more risky endeavors. Second, physicians' assumptions are likely to affect groups other than homosexual men, and are likely to lead to underestimation of patients' capacity for changing behavior.

An expectation that patients will not use barriers for oral sex may be a self-fulfilling prophecy. Some of the patients we interviewed—including gay men—explicitly stated that they would use barrier protection or give up oral sex if they knew it was a risky behavior. Research reports provide examples of increasing condom use with oral sex and decreased numbers of partners for oral sex following educational interventions.^{46,59,60} In Israel, one epidemiologic study reports 30% of heterosexual men and 19% of heterosexual women using condoms with oral sex.⁶¹ Male and female college students in Australia reportedly have significantly increased their use of condoms with oral sex; by 1994, 23% of college males and 11% of college females reported always using condoms during oral sex with casual partners.⁶² Wenger et al. found in 1994 that while some of their HIV-seropositive subjects, mostly gay men, reported having unprotected oral sex, 20% reported using condoms during oral sex.⁵² Other studies also have demonstrated that although gay men do not like using condoms with anal sex,⁶³ they are increasingly doing so.⁶⁴⁻⁶⁷ If we acknowledge that oral sex carries a definite risk, even if significantly less than the risk of anal or vaginal sex, health care professionals may be shortchanging all patients by allowing their assumption that people cannot change risky sexual practices to influence their counseling.

SPECIFIC COUNSELING STRATEGIES

Physicians who are committed to counseling their patients about HIV transmission and oral sex risk could learn from risk perception and behavioral change theories. According to Redelmeier et al., several common biases influence judgments about risk and decisions to change behavior.⁶⁸ First, rather than think in terms of relative degrees of risk, people tend to categorize behavior as either "dangerous" or "safe," a tendency we believe could explain patients' views that anal sex is unsafe and oral sex is safe. Second, people prefer the illusion of zero risk or perfect safety, which we believe may explain why many of the HIV-seropositive patients we interviewed believed that following perceived risk-reduction techniques, such as not brushing or flossing before oral sex or avoiding ejaculation, made oral sex safe. Third, people's preferences or judgments can be altered by subtle changes in the way the risk is presented or framed.⁶⁹ For example, a statement such as, "We think that the vast majority of people who have unprotected oral sex will not contract HIV," would leave a different impression on the patient than one such as "We know of over a dozen documented examples of people who probably contracted HIV through unprotected oral sex." Some might argue that without giving the first statement, the second statement is misleading; the first statement, however, could well cause the patient to leap to an assumption of the categorical safety of oral sex.

According to a 1995 U.S. Health and Human Services report, people demonstrate other biases, including an optimistic bias, a confirmatory bias, and a false consensus bias, that we believe may affect the perception of oral sex risk.⁷⁰ The optimistic bias reflects beliefs in infallibility and the ability to control relevant factors, such as the ability to pick safe partners. People with a confirmatory bias interpret information to conform to what they want to believe; for example, they interpret ambivalent information as evidence that oral sex has no risk. People with a false consensus bias overestimate how many others agree with them; some HIV-seropositive patients in our study, for example, reported that no one they knew used condoms with oral sex. To counteract or at least address these fallacies in risk perception and judgment in their discussion with patients, health care professionals must be aware that they exist among patients who want to feel safe and continue to practice oral sex.

Behavior change theory provides methods for helping physicians motivate patients to reduce risky behaviors. Coates and Cummings have described a set of principles to guide health care professionals in changing patient behaviors,⁷¹ on which we base the following specific counseling strategies regarding oral sex risk. The strategies proposed here also integrate other behavior change constructs.

- ♦ First, health care professionals should provide information about oral sex risk that is relevant and comprehensible to the particular patient.
- ♦ Second, they should discuss with the patient his or her

specific current behavior and its potentially serious consequences. This requires some assessment of risk behavior. The patient must feel that he or she is personally susceptible to the risk of transmission of HIV via oral sex; this "perceived susceptibility" is a critical component of the major health behavior change theories and has been shown to have a significant relation to sexual risk behaviors independent of knowledge of risks.⁷² Health care professionals should realize that patients' biases may prevent them from perceiving themselves as susceptible; men who have sex with men, but who do not self-identify as gay, for example, may need to be reminded that unprotected oral sex with men puts them at risk whether or not they participate in other aspects of gay culture.

- ◆ Third, health care professionals need to balance fear-engendering messages by providing the patient with concrete steps to reduce risk; this communicates that the patient is not helpless and the situation is not hopeless. Although health care professionals may want to use fear to motivate patients to practice barrier protection with oral sex, fear—if overwhelming—can hinder rather than facilitate change. Overwhelming fear can incur feelings of helplessness or denial, an effect that some HIV researchers believe will occur if they tell gay men that oral sex is unsafe. By presenting healthful, concrete behavior alternatives, the physician promotes the patients' self-efficacy—the belief in his or her own competence and ability to change—a critical component of behavior change first discussed by Bandura in 1977.⁷³ Health care professionals should give patients specific information about the different types of barriers, for example, the availability of flavored latex condoms, dental dams, or nonporous (nonmicrowaveable) plastic wrap.
- ◆ Fourth, rather than discussing barrier protection in an ambivalent or apologetic way, health care professionals could encourage its use and even make it seem fun.
- ◆ Fifth, the health care professional might help the patient plan or rehearse difficult situations, such as the use of barrier protection with a prospective oral sex partner, which also follows the principle of teaching and collaborating with the patient to develop skills for engaging in healthier behavior.
- ◆ Sixth, the physician may also help the patient create or maintain environments that encourage behavior change, such as avoiding participation in sex clubs or other situations that may have led the patient to risky behavior in the past.
- ◆ Finally, throughout the change process, health care professionals should communicate to patients that slip-ups are normal and not irreversible relapses.

SUMMARY

The risk of HIV transmission accompanying unprotected oral sex, although certainly less than for anal or vaginal sex, remains unclear. Case studies in particular

should caution us against dismissing the risks of unprotected oral sex. Those who argue that counseling against unprotected oral sex will lead patients to throw up their hands and relapse to riskier behavior may not give patients enough credit for the ability to make informed decisions or change their behavior. It should be the patient's decision to engage or not in behaviors for which the risks are uncertain or "low," and it is the health care professional's responsibility to insure that the decision is a well-informed one.

Health care professionals uncomfortable with or unwilling to discuss the ambiguity of oral sex risk for transmitting HIV may adopt the more definitive strategy of emphasizing the clearer risk of oral sex for transmitting STDs. STDs cause discomfort, social stigma, and health problems, and in HIV-seropositive persons can accelerate the natural history of HIV infection; the HIV virus in turn can exacerbate the natural history of STD infections.⁴⁰ One study, for example, demonstrates that HIV-seropositive individuals have a significantly increased risk of contracting oncogenic oral human papillomavirus through unprotected oral sex.⁷⁴ Prevention of STDs, which are more prevalent than HIV, remains an extremely important public health concern that health care professionals can address directly with patients.

An informed, informative, and attentive health care professional, by clearly and sensitively communicating the risks of oral sex, may mitigate the sociocultural forces that push patients into behaviors putting them at risk of STDs and HIV, as well as other health problems. Given that patients and health care professionals have told us that patients have consistently asked about the risks of oral sex, health care professionals could use the topic to approach or broaden discussions about preventing HIV transmission and other prevention issues. Whatever the scope of prevention counseling, we believe that, at a minimum, health care professionals should discuss the risks of oral sex and recommend barrier protection as a standard component of counseling for prevention against HIV transmission.

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REFLECTIONS

Veterans' Day

The parade my father was in, and marched the whole length of
last year, is striking up.

He has only to mention it and I hold a mirror
to my father's working eye presuming
what he wants, that is to look, and cheer.

I can see it streaming
on the street below my parents' highrise—the framed
figurine city
unfurling. Drum and fife and the brass.
Cars and politicians.
More brass.

The tumor's mapped
its own stratagem, shelling
the optic nerve. And astrocytes
goosestep near the cerebellum
making my father hear everything amplified,
a führer screeching. So when he hears, "batter up," Dad whispers,
"and no more Red Sox." Til he can only ask my mother

to kiss him. He loves her lips,
he is saying. Though dragged off
to lie here with the side rails up, here's his war bride, a sailor's
kiss.

DEBORAH S. SNYDER
Stafford, Va.