Uncomfortable Knowledge: PEPFAR, HIV Risk Reduction and Safer Sex

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HIV prevention that focuses on abstinence, faithfulness and condoms (ABC) has not worked well, particularly in sub-Saharan Africa. We present the data in support of a more nuanced approach to safer sex that emphasizes risk-reduction and increases prevention options consistent with the new, more liberal, recently reauthorized, President's Emergency Plan for AIDS Relief (PEPFAR) language that calls for evidence-based interventions. It is time to consider the benefits of promoting realistic substitutes for intercourse, specifically oral sex -- equivalent in risk to sex with a condom -- as well as mutual and self-masturbation. We explore the reasons behind the resistance to promoting safer sex and suggest ways forward.

INTRODUCTION

The reauthorized United States President's Emergency Plan for AIDS Relief (PEPFAR) states, "Effective prevention is a prerequisite to significant progress against HIV/AIDS; if the number of people newly infected continues to increase, the growing number of people in need of treatment and care - and the growing number of orphans and vulnerable children - will overwhelm the world's ability to respond and to sustain its response." [1] Behavioral change is at the heart of effective HIV prevention strategies. "Safe sex" is the dominant theme in HIV prevention programs in high prevalence countries. We posit prevention should be viewed as more relative than absolute, with "safer sex" a more realistic and achievable goal than a narrow reliance on abstinence, faithfulness and condom use. The premise is straightforward: The likelihood of infection with HIV is a function of the frequency, duration and type of exposure to an infected source. Abstinence is at one end of the spectrum and unprotected intercourse at the other. At present, three options are presented to reduce HIV susceptibility: abstinence, faithfulness or condom use. These choices are insufficient. They should be expanded through an evidenced-based, risk-reduction strategy that presents, as realistic substitutes for intercourse, the options of oral sex (fellatio and cunnilingus)--ten times safer than unprotected vaginal or anal intercourse and equivalent in risk to intercourse with a condom--as well as mutual and self-masturbation.[2]

HIV/AIDS IS NOT UNDER CONTROL

With 68 percent of a worldwide estimate of 2.5 million new infections in 2007 in sub-Saharan Africa, 53 percent in the under 25 age group, HIV/AIDS is by no means under control.[3] In South Africa, women and girls between the ages of 15 and 24 are four times more likely to be infected than males of the same age and

61 percent of infections in sub-Saharan Africa are in women.[4] In 2006, the Joint United Nations Programme on HIV/AIDS (UNAIDS) noted that "effective HIV prevention often requires changes to deep-seated traditions and social norms regarding human sexuality" and emphasized prevention focused on women and girls as "a global priority" that will require "changing the attitudes and practices of men and boys." It further stated that "effective HIV prevention services for young people should be widely accessible, evidence-based, grounded in human rights, age-specific and gender responsive and should build life skills to enable young people to reduce their vulnerability." [5] While the menu of abstinence, partner reduction, and condom use has been the rule within PEPFAR since its inception, there is now a pressing need, but also an opportunity, for more varied and effective prevention strategies. [6]

PEPFAR 2008

The US Government provides more funds than any other donor in the global fight against AIDS (40.3 percent of all donor funds in 2007) through PEPFAR and US contributions to the Global Fund to Fight AIDS, Tuberculosis and Malaria.[7] In an epidemic as devastating and as difficult to control as HIV/AIDS, the largest donor should lead in innovation and excellence. The Institute of Medicine 2007 report makes it clear this has not always been the case.[8] The original PEPFAR legislation's strong focus on abstinence, faithfulness and condom use (ABC) severely limited the "evidence-based improvements and innovations in the prevention, care, and treatment of HIV/AIDS" now called for in the 2008 legislation. The 2008 legislative language goes beyond removing the requirement that at least 33 percent of prevention funds should be expended for abstinence-until-marriage programs. It is replete with relevant calls to "ensure that behavioral change programs...are... based on objective epidemiological evidence" to "enhance the effectiveness of prevention, treatment" and to "address the particular vulnerabilities of girls." Male behavior is also considered, with a call to "address male norms and behaviors to reduce" the risks of transmitting and contracting HIV, and "promote responsible male behavior; and....male participation and leadership at the community level." The ambitious and non-restrictive legislation mandates "an updated, comprehensive, 5-year, Global strategy" to "prevent 12,000,000 new HIV infections worldwide."[9]

With this more liberal PEPFAR language and a renewed call for evidence-based interventions, the policy challenge is straightforward: Can religious beliefs be treated with respect while also allowing and providing education about substitutes for intercourse? In the balance of this article we present the data in support of safer sex, explore the reasons behind the resistance to promoting safer sex and suggest ways forward.

RISK REDUCTION

Risk reduction, rather than risk elimination, is a proven public health tool. Two examples make the point. The risk of dying in a motor vehicle accident (MVA) has been reduced by the combined effects of highway design changes, speed

limits, car design with crumple zones, seat belts, air bags, laws punishing drunk driving, blood alcohol limits, age limits for driving licenses and eye exams. Although the risk of death in an MVA could be eliminated by not traveling in motor vehicles, this is an unrealistic option for any serious MVA prevention strategy.

The infectious disease consequences of injection drug abuse provide another example. These dangers are eliminated by not injecting drugs. But for those who do use and cannot or do not stop, risk is reduced by needle exchange programs and the use of bleach to clean needles and syringes.

In like manner, more effective HIV prevention should aim to reduce risks by broadening prevention approaches and giving more choices to individuals that recognize the realities of human behavior, the various and complex meanings attributed to sex by different individuals and the variations within and among cultural settings. No one should be compelled to use any particular prevention method, nor should anyone be offered a strictly limited set of prevention choices. An array of expanded choices reasonably includes abstinence, delayed age of sexual debut, fewer partners, increased use of condoms, male circumcision, treatment of genital tract infections, oral sex and masturbation, as well as access to treatment for AIDS. These are all important and are not mutually exclusive prevention practices.[10]

A broadened menu of individual prevention choices complements and in no way lessens the need for strategies that focus on prevention of mother-to-child transmission, the special needs of commercial sex workers, access to health care, reducing both sexual abuse and the need for transactional sex, the empowerment of women and the reduction of poverty.[11]

THE TRANSMISSION RISKS OF SAFER SEX PRACTICES

The risk of HIV transmission associated with various sexual practices has been the subject of many articles ranging from thorough reviews to case reports.[12] Although the risks of transmission by different types of exposure are largely derived from North American data, it is reasonable to assume these risks and the biology of transmission are similar worldwide. Two recent and authoritative reviews complement each other. The first, summarized in Exhibit 1, from the Centers for Disease Control and Prevention (CDC) in 2005, notes that substituting receptive or insertive oral sex for vaginal intercourse, both without a condom, reduces the risk of HIV transmission by 90 percent.[13]

Exhibit 1

Estimated per act risk for acquisition of HIV-1 by exposure route*	
Exposure Route	**Estimated infections per 10,000 exposures to an infected source**
Blood transfusion	9,000
Needle-sharing injection drug use	67
Receptive anal intercourse	50
Percutaneous needle stick	30
Receptive penile-vaginal intercourse	10
Insertive anal intercourse	6.5
Insertive penile-vaginal intercourse	5
Receptive fellatio	1
Insertive fellatio	0.5
* assuming no condom use	

The second review, from the 2004 Canadian AIDS Association Guidelines (CAS) for Assessing Risk, is summarized in Exhibit 2. It includes kissing, mutual masturbation, fellatio and cunnilingus with and without a barrier.[14] Performing oral sex without a barrier has the same risk as vaginal or anal intercourse with a barrier and receiving oral sex without a barrier carries even less, actually negligible, risk.

Exhibit 2.

Sexual Activity and Risk of HIV Transmission				
Activity/Risk	**None**	**Negligible**	**Low**	**High**
Kissing (no blood)	X			
Mutual Masturbation	X			
Receiving Fellatio		X		
Receiving Cunnilingus		X		
Insertive Fellatio with barrier*		X		
Performing Cunnilingus with barrier*		X		
Insertive Fellatio no barrier*			X	
Performing Cunnilingus no barrier*			X	
Anal or vaginal intercourse with barrier*			X	
Anal or vaginal intercourse no barrier*				X
* Barrier in the case of fellatio refers to a male condom. For intercourse and cunnilingus, barrier refers to a male or female condom. For cunnilingus a thin, flexible, impervious membrane covering the female external genitalia could be used as a barrier.				

The CAS definitions of risk are:

> No risk – Neither potential for transmitting nor evidence of transmission.
>
> Negligible risk – Potential for transmission, but no evidence of transmission.
>
> Low risk – Potential for transmission and a few reports of infection, usually from individual case studies or anecdotal reports, and usually under certain identifiable conditions.
>
> High risk – Potential for and evidence of transmission.

In a study of 135 seronegative individuals whose only reported risk factor for HIV transmission was unprotected oral sex with an infected partner, the majority of whom were infected men, no evidence of infection (seroconversion) occurred after an estimated 19,000 incidents of unprotected oral sex.[15] Rebecca Baggaley, Richard White, and Marie-Claude Boily, in summarizing their comprehensive review of the literature, state their findings suggest "a low but non-zero transmission probability" of HIV from oral sex and note that "the fact that infected study participants with solely this exposure (oral sex) have remained difficult to identify may suggest that indeed the contribution of OI (oral sex) to HIV incidence remains low."[16]

Compared to unprotected vaginal and anal intercourse, unprotected oral sex undeniably offers substantial protection from HIV infection. As Dr. Jeffrey Klausner, Director of the STD Prevention and Control Services of the San

Francisco Department of Public Health, has stated, "From a public health perspective at a population level, oral sex is a lower risk activity and the promotion of it on a population level could result in fewer HIV infections."[17]

Oral sex is not perfectly safe. Diseases such as herpes, gonorrhea, chlamydia, and syphilis can be transmitted orally.[18] However, oral transmission is not the primary mode of transmission of such diseases, and gonorrhea, chlamydia, and syphilis are very amenable to antibiotic therapy. By substituting oral sex for vaginal or anal intercourse, the risks of these sexually transmitted infections are more than counterbalanced by the reduction in risk of transmission of a lethal disease (HIV/AIDS). While oral sex is not risk free, it is low risk compared to unprotected vaginal intercourse, which accounts for more than 80 percent of new infections in sub-Saharan Africa.

SOCIAL AND CULTURAL CONSIDERATIONS

The majority of HIV prevention campaigns and programs promoting condoms fail to account for the reasons why even people who are knowledgeable about HIV might still engage in unprotected sex. Sex with condoms is often perceived to be less pleasurable, something other than real sex and needed only if one does not know a partner well. Many people in southern Africa seem to feel that sex with condoms is not real sex. In focus group discussions with adolescents, a pervasive view throughout sub-Saharan Africa was, in order to express love for a partner, one has to have sex without a condom. And, worldwide, sex workers often do not use condoms with steady clients, boyfriends and husbands. [19] As one women stated, "Eating your fruit with the wrapper still on it is not pleasurable and neither is having sex with plastic on." [20] To some, condoms seem to falsify sex. Thus, when individuals want to experience what they perceive as bona fide sex, condom use is likely to be infrequent. Youth who report feelings of "too much love" at the moment to use a condom or who lack access to condoms, need alternatives to unprotected intercourse.[21] Oral sex and mutual masturbation are pleasurable and intimate activities with the potential to reduce risk and be perceived as genuine sex, particularly when orgasm is reached.

The social context of sex has been largely neglected by HIV prevention campaigns. In a patriarchal society women have little ability to insist that their male counterpart use a condom. However, women continue to be the focus of HIV educational campaigns. As long as women continue to be put in the compromising situation of pleasuring men who refuse to use condoms, knowledge of safer alternatives should be made available to them. Women and girls need the knowledge and societal permission to perform solo and consensual sex acts that grant them increased control and power over their own health. Men and boys need to learn about and welcome oral sex and mutual masturbation as pleasurable and satisfying alternatives to intercourse, rather than demeaning to their manhood.

Oral sex and masturbation satisfy eighteen of Donavan and Ross's nineteen motivations for sex, with the exception of procreation.[22] They give pleasure, nurture a relationship, satisfy a need for intimacy, channel excess energy, overcome boredom, help one get to sleep, get rid of an erection, provide

or receive reward, gain social currency, affirm gender or sexuality, demonstrate power, entrap partners, affirm desirability, comply to expectations, social roles or partner's demands, satisfy a compulsive behavioral disorder, make money or its equivalent and satisfy curiosity. Among South African adolescent boys, the strongest motive (90 percent) for first intercourse is strong sexual desire.[23] Among Ethiopian adolescent females, the two most common reasons for sexual debut are maintaining relations with a male partner (51 percent) and passionate love (46 percent).[24] If boys and girls knew more about lower risk sexual practices some might well use these options to relieve their strong sexual desires rather than run the much higher risk of unprotected intercourse. There is evidence from South Africa that knowledge of risk can change the behavior of youths. Adding safer sex approaches to the behavior change menu has the potential to increase the impact of education and decrease new infections with HIV.[25]

According to Robinson, Bocktin, Rosser, Miner and Coleman, self-masturbation is one of the ten essential characteristics of healthy human sexuality, allowing for self-exploration and self-affirmation of sexuality.[26] Comfort with masturbation and sexuality have also been found to be associated with greater condom use.[27] Furthermore, masturbation relieves some of the pressure for women and men to engage in intercourse with their partners, possibly facilitating the avoidance of unprotected intercourse. Women who are able to pleasure themselves without men, on their own terms, will also be empowered. They will gain the confidence to refuse unwanted, unsafe sex and be able to choose safer sex activities. As one Zambian woman, who had just learned about safer sex practices, stated, "I learned about how to say no. I learned to value my body. I learned to be sexually creative and protect the one who loves me as well as myself."[28]

THE CASE AGAINST DENIAL, DISMISSAL, OR WAITING FOR BETTER DATA

Safer sex approaches, whether proposed to avoid unplanned pregnancies in the 1970s or more recently as a tool to reduce the transmission of HIV, have repeatedly been disregarded.[29] Some feel the promotion of safer sex is wrong and will stimulate promiscuity and enhance rather than decrease HIV transmission. However, programs that focus on abstinence, rather than on open discussion about sex with youths, have repeatedly been found to be ineffective.[30] On the other hand, sexual interventions promoting safer sex as the best protection from HIV have been shown to delay sexual onset, reduce sexual activity and reduce unprotected sexual intercourse among adolescents.[31] If we are to prevent needless deaths we must recognize and work with the powerful drive of sex, particularly in teens and young adults. Abstinence, fidelity and condom use are fine for those who so choose. However, limiting HIV prevention tools to abstinence, fidelity and condom use denies access to prevention and risk reduction to half of sexually active youth in South Africa and to many women in patriarchal societies.[32]

Safer sex activities are not a new topic for many adolescents. What will be new to many is the fact that these are effective strategies comparable to condoms in preventing HIV infection. In South Africa, 76 percent of young males and 51

percent of young females correctly acknowledged that masturbation is harmless. As one South African female youth states, "You don't have to sleep with a boy, you can do it yourself. It is safe to masturbate. There is no disease, no danger of HIV and STDs [sexually transmitted diseases]." [33] In South Africa, one-fifth of 16- and 17-year-olds have experienced oral sex.[34] About 52 percent of boys and 30 percent of girls have masturbated. Boys start masturbating at the average age of 13.5 years and girls at the age of 14.4 years, with 50 percent of boys masturbating by the age of 15. Fifty-one percent of 16-and-17- year-old boys and 72 percent of 16-and-17-year-old girls have experienced caressing and genital stimulation with a partner.[35]

Some may feel that we should wait for additional data on the risks of safer sex practices. However, where HIV prevalence is high, the dangers of waiting for additional data are great and deaths will be measured in the tens of thousands or more. Gathering better data that will clearly separate out and attribute risk reduction to various sexual techniques (e.g. oral sex) or societal change (e.g. the status of women) pose interesting, but difficult research challenges. The time needed to obtain answers, if meaningful answers are possible, would be 5 to 10 years. This is too long to wait. Current data show the need and provide the evidence for expanding the prevention menu now.

Safer sex techniques are low-to-no-cost strategies. The supply chain and distribution problems of condoms are avoided. Safer sexual gratification is readily achieved. Risk reduction calls for knowledge by the user and a willingness to achieve orgasm without intercourse along with a more enlightened and open approach to prevention by parents, peers, health professionals, educators, community and religious leaders, politicians and funding agencies. Taboos and discomfort may be less than expected. A poster seen on the wall of a Botswana high school that shows a teen-age male masturbating and thinking about his girlfriend is attributed to BOTUSA, a collaboration between the US Centers for Disease Control and the Government of Botswana.[36] A Protestant minister from a high prevalence southern African country said a draft of this paper "tackles an issue or an area in the fight against HIV/AIDS which in my context and experience we do not have the courage to address and if we do it is not adequately handled... I was hoping to use the article to generate our discussion on 'Responsible Living and HIV/AIDS Prevention' ".[37] Although the proposed changes will not be easy to accomplish, given the magnitude of HIV/AIDS, particularly in sub-Saharan Africa, to do less is to condemn thousands of people to an early and unnecessary death.

CONCLUSION

In 2001, writing in the *New York Times*, Pascoul Mocumbi, a physician and Prime Minister of Mozambique said, "Community and religious leaders wrongly believe that sexuality education promotes promiscuity...Health providers and teachers are ill at ease with sexuality. Parents know little about sexuality...Above all we must summon the courage to talk frankly and constructively about sexuality."[38]

In areas where HIV rates are high and not decreasing, open and informative discussions about sex are urgently needed. A public health strategy of educating individuals about prevention methods beyond the ABCs, with full discussion about alternatives to unprotected intercourse, has great potential for combating the spread of HIV.

Political, religious, and cultural sensitivities are likely to make educating youth about safer sex practices uncomfortable and difficult. However, fear, discomfort and uncertainty cannot be used as excuses to dismiss potentially powerful HIV prevention strategies. At a minimum, safer sex techniques, as additions to current prevention strategies, should be frankly discussed by parents, peers, policy makers, educators, community and religious leaders, opinion leaders and members of the donor and academic communities. Given the enormity of the AIDS epidemic and its vast negative societal consequences in high-prevalence countries, there is neither moral nor scientific justification for avoiding serious consideration and expanded use of these techniques.

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