

HIV Transmission via Sexual Contact

By Eleanor Turnbull

The Human Immunodeficiency Virus (HIV) is a virus that is found in blood and other body fluids, such as sexual fluids. The virus infects CD4 cells, found in our blood, which are part of our immune system. CD4 cells are weakened by the presence of the HIV, and become unable to replicate. This prevents the immune system from working properly and culminates in HIV-positive people catching diseases and infections faster and with more severity; the person will eventually develop Acquired Immunodeficiency Syndrome (AIDS) which is terminal. The most common, and best known, route of HIV transmission occurs via sexual contact, primarily during vaginal or anal intercourse, when adequate protection, such as a latex condom, is not utilised. Primary determinants of risk for HIV transmission, via sexual contact, are the number of partners one has, whether these partners overlap, and how high-risk their behaviour is, in terms of their use of condoms, drugs and prostitution. Having sex with one faithful partner for life is the surest non-risk lifestyle.

HIV Transmission during Vaginal Sex

HIV is found in the sexual fluids of an infected person; HIV is therefore in the fluids which come out of the penis before and during sex and which are produced by the vagina before and during sex to help make intercourse easier. HIV transmission occurs when this fluid comes into contact with the blood of another person, so for example if a man with HIV has vaginal intercourse without a condom, infected fluid can pass into the woman's blood stream through a tiny cut or sore inside her body. Such a cut or sore wouldn't always be visible, and could be so small that the woman wouldn't know about it. Furthermore if a woman with HIV has sexual intercourse without a condom, HIV could get into the man's blood through a sore patch on his penis or by getting into the tube that runs down the penis. The risk of HIV transmission is also increased when a woman is going through my menstrual period; there may be blood in the vagina and hence there is a greater chance of contact with blood during sex, and of infection¹.

During unprotected (i.e. without a condom) vaginal sex the female partner is biologically at greater risk of transmission, and of HIV infection because of the greater exposed surface area in the female genital tract than in the male genital tract, the higher concentrations of HIV in seminal fluids than in vaginal fluids, and the larger amount of semen than vaginal fluids exchanged during intercourse.² Traditional practices, such as female genital cutting, can expose women to risk if the cutting instruments are not cleaned properly, or if the area is not left to heal completely before sexual intercourse takes place. Women may often have sexually transmitted infections, with symptoms such as open genital sores that are left untreated; any open sore that increases contact with blood during intercourse increases vulnerability to HIV. Young women may be particularly vulnerable because during intercourse less mature tissues may be more readily permeated or damaged, leading to a higher risk of infection; coercive or forced sex might lead to micro-lesions or small tears in the genital tract that facilitate entry of the virus.

HIV Transmission during Anal Sex

Unprotected (i.e. without a condom) anal sex (penetration of the anus by the penis) between two men or between a man and a woman facilitates a higher risk of HIV transmission than with vaginal intercourse; the lining of the anus is more delicate than the lining of the vagina so this increases the chance of damage (small tears and lesions) during intercourse. This facilitates HIV transmission by enabling the HIV virus in the man's semen to quickly enter the bloodstream of their partner, via the damaged lining.

¹ AVERT- Can you get AIDS from... <http://www.avert.org/howcan.htm>

² HIV 3 Transmission through Sexual Contact: <http://www.engenderhealth.org/res/onc/hiv/transmission/index.html>

HIV Transmission during Oral Sex

The risk of HIV transmission from an infected partner through unprotected oral sex is much smaller than the risk of HIV infection through vaginal and anal sex,³ however transmission can occur and this behaviour is not free from risk of infection. With oral sex, the person at greater risk is the one using his or her mouth to stimulate the other person's genitals; the risk is increased when that person receives semen in the mouth or swallows any secretions but transmission has been known to occur even in cases when their partners didn't ejaculate⁴. Once infected fluid is in the mouth the virus can get into the blood via any small sores or cuts somewhere in the mouth. The risk of HIV transmission is therefore increased when a person has open sores in their mouth or bleeding gums, genital sores, or the presence of other STDs (which are generally the cause of these other symptoms, such as oral ulcers). Infection from oral sex alone however seems to be very rare, and there are things you can do to protect yourself, such as males wearing a condom during oral sex, and women using a sheet of latex or plastic wrap over the vaginal area to prevent transmission to their partner .

Women's Vulnerability and Risk to HIV Transmission

Women are vulnerable to HIV infection for biological, social, and economic reasons; the biological risks have previously been discussed in this article and can be overcome by consistent and correct usage of condoms, plus adequate healthcare, for STI testing and treatment. Social factors stemming from gender inequalities are however far harder to tackle as transmission is largely caused not by a woman's own behaviour, but by that of their partner. Women for example are often expected to remain monogamous, whilst men may be encouraged to have multiple partners or to have intercourse with prostitutes. Fear of violence, abandonment, or loss of economic support means that women have significant barriers to decision-making and negotiating power, regarding issues such as fidelity and condom use; hence they are at significant risk of acquiring HIV infection from their husband. In addition the lack of economic power facing many women can also lead to vulnerability for HIV transmission; some women are forced to enter into sex work and/or multiple partnerships in hopes of bartering sex for economic gain or survival, including food, shelter, and safety⁵. Sex workers in general are at an extremely high risk for infection, particularly when they do not have the ability to negotiate with clients who refuse to wear a condom or when they are in settings where commercial sex work is illegal.

Methods of Protection

Condoms

Latex condoms, when used consistently and correctly, are highly effective in preventing the transmission of HIV. Latex condoms cover the penis and provide an effective barrier to exposure to secretions such as semen and vaginal fluids, blocking the pathway of sexual transmission of HIV infection, and of other discharge sexually transmitted infections (STIs), such as gonorrhoea, chlamydia, and trichomoniasis. Condoms also provide protection from genital ulcer STIs, such as genital herpes, syphilis, chancroid, and human papillomavirus that are transmitted through contact with infected skin or mucosal surfaces (e.g. the male urethra, the vagina or cervix). It has been well documented that the presence of a concurrent STI disease, especially an ulcerative one, facilitates HIV transmission⁶; condoms have a dual purpose in HIV infection because they work as a barrier to prevent HIV transmission via sexual contact and they also act as a method of preventing the STIs that facilitate HIV

³ Centre for Disease Control and Prevention (2000) Preventing the sexual transmission of HIV, the virus that causes AIDS: What You Should Know about Oral Sex

⁴ HIV 3 Transmission through Sexual Contact: <http://www.engenderhealth.org/res/onc/hiv/transmission/index.html>

⁵ HIV 3: Women's Vulnerability and Risk: <http://www.engenderhealth.org/res/onc/hiv/transmission/hiv3p6.html>

⁶ Centre for Disease Control and Prevention. Fact Sheet for Public Health Personnel: Male Latex Condoms and Sexually Transmitted Diseases

transmission. It is important to remember however that a condom must be correctly used with every sexual encounter, because HIV transmission can occur with only one single act of intercourse. Furthermore no protective method is 100% effective, and condom use cannot guarantee absolute protection against any STD, including HIV.

Treatment for STIs

As previously mentioned it is well known that the presence of other STIs, particularly ulcerative infections which cause a person to have open sores, increases the risk of HIV transmission, either to themselves or to a partner. Consistent and correct use of latex condoms will prevent future STIs but it is vitally necessary that people who are sexually active, who have more than one current sexually partner and who have intercourse with people of high risk behaviour, such as prostitutes, should be regularly tested and treated for STIs, at the local health clinic or sexual health clinic.

Circumcision

After extensive research experts have documented that if performed safely in a medical environment, male circumcision (removing the foreskin, a loose fold of skin that covers the head of the penis), roughly halves the risk of a man becoming infected with HIV, through heterosexual sex. There are several possible reasons why circumcision has this effect. The foreskin creates a moist environment in which HIV can survive for longer in contact with the most delicate parts of the penis, and the inner surface of the foreskin contains cells that are especially vulnerable to infection by HIV. If the foreskin is removed then the skin on the head of the penis tends to become tougher and more resistant to infection. In addition, any small tears in the foreskin that occur during sex make it much easier for the virus to enter the body⁷.

There are numerous worries however about the implications of advocating circumcision, primarily there is a concern that if people become too confident about the protective effects of circumcision, they may engage in more high-risk sexual behaviour. Men who have been circumcised might be keener to visit sex workers or stop using condoms; if used consistently over the long term, condoms are at least 80% effective in preventing HIV transmission⁸, whereas circumcision only prevents around 50% of infections. Additionally side-effects of poorly performed circumcision, using un-sterilised tools, can include serious bleeding and damage to the rest of the penis and may actually transmit HIV infections. Moreover, unless the wound is left to heal, men may increase their risk of HIV infection through broken skin. Circumcision is an ideal method of protection when it can be implemented in communities which currently have low availability and usage of condoms, and where it is safe, acceptable, and feasible.

Conclusion

HIV transmission via sexual intercourse is lower than for most other sexual transmitted agents, but as this is the virus that causes AIDS it is essential that all transmission is prevented and eventually negated. The primary message to learn is that when a condom is not worn at every act of intercourse, be it oral, anal or vaginal, there may be a risk of HIV transmission occurring. This risk is further increased when you are having unprotected sex with persons who have had many sexual partners, such as prostitutes (male or female) or persons who inject illegal drugs. Lastly the presence of a concurrent STI disease, especially an ulcerative one facilitates HIV transmission; STI testing and treatment should not be forgotten.

⁷ AVERT: Circumcision and HIV, taken from NIAID (13 December 2006), "[QUESTIONS AND ANSWERS: NIAID-Sponsored Adult Male Circumcision Trials in Kenya and Uganda](#)"

⁸ NIAID (13 December 2006), "[Adult Male Circumcision Significantly Reduces Risk of Acquiring HIV: Trials Kenya and Uganda Stopped Early](#)"