Facts on STIs

Sexually Transmitted Infections

Sexually transmitted infections (STIs) are infections whose primary route of transmission is through sexual contact and bodily fluid exchange. STIs can be caused mainly by bacteria, viruses or parasites with protozoa (single celled microscopic organism) and represent a major public health concern in today's society. They are among the most common forms of illness, with far reaching social and economic consequences, particularly in the developing world.

STIs cause considerable reproductive morbidity and poor health outcomes, including pelvic inflammatory disease (PID), infertility, ectopic pregnancy, neonatal disorders, cervical cancer, and even death. In addition to the physical impact of the diseases, there is also significant "psychological morbidity" and depression caused to patients, together with social problems arising from stigmatizations.

A For a variety of behavioral, biological, and cultural reasons, sexually-active adolescents 15 – 19 years old and young adults 20 – 24 years old are at higher risk for acquiring STIs. For some STIs, adolescent women may have a natural, physiological susceptibility to infection. The disproportionate rate of STIs among adolescents demonstrates other barriers to necessary health services. These barriers include lack of insurance or ability to pay, lack of transportation, a feeling of awkwardness in facilities designed for adults, and questions about confidentiality. According to estimates, 15- 24 year-olds acquire approximately half of all new STIs while only representing a quarter of the ever sexually active population.

Source

Center for Disease Control. (2007). Sexually transmitted diseases surveillance, 2007. Retrieved October 30, 2009 from http://www.cdc.gov/std/stats07/adol.htm

Condom Effectiveness

There are two primary ways that STIs can be transmitted. HIV, gonorrhea, chlamydia, and trichomoniasis are transmitted when infected semen or vaginal fluids contact mucosal surfaces (e.g., the male urethra, the vagina, or cervix). In contrast, genital ulcer disease such as herpes, syphilis, and HPV, are primarily transmitted through contact with infected skin or mucosal surfaces.

Research has shown that when used consistently and correctly during vaginal, oral, or anal intercourse, latex condoms are highly effective in preventing the sexual transmission of HIV and other STIs that are transmitted though fluid exchange. Because condoms do not cover the entire exposed area they are less effective at reducing the risk of transmission of genital ulcer diseases such as herpes, HPV, and syphilis. Still, condoms are, overall, a very effective means of reducing the risk of STI transmission.

Condoms Are Effective Barriers

- The condom—latex or polyurethane, male or female—is the only method available to prevent the sexual transmission of HIV.
- Laboratory studies show that latex condoms provide an essentially impermeable barrier to particles the size of HIV and other STI pathogens. Studies show that polyurethane condoms also provide effective barriers against sperm, bacteria, and viruses.
- Several studies clearly indicate that condom breakage rates in this country are less than 2%. Most of the breakage and slippage is likely due to incorrect use rather than to the condom's quality.

Condoms Are Effective In Preventing Unplanned Pregnancy

- In one year, only two of every 100 couples who use condoms consistently and correctly will experience an unintended pregnancy. Two pregnancies arising from an estimated 8,300 acts of sexual intercourse is 0.02 percent per-condom pregnancy rate.
- In one year with perfect use (meaning couples use condoms consistently and correctly at every act of sex), 98% of women relying on male condoms will remain pregnancy-free. With typical use, 85% relying on male condoms will remain pregnancy-free.
- In one year with perfect use, 95% of women relying on the female condom will remain pregnancy free. With typical use, 79% relying on female condoms will remain pregnancy-free.
- By comparison, only 15% of women using no method of contraception in a year will remain pregnancy-free.

Sources

Advocates for Youth. (2005). The facts: Condom effectiveness. Retrieved October 25, 2009, from www.advocatesforyouth.org/publications/factsheet/fscondom.htm

Center for Disease Control and Prevention. (2009). Male latex condoms and sexually transmitted diseases. Retrieved October 26, 2009, from www.cdc.gov/nchstp/od/Chlamydia

Chlamydia

Chlamydia is the most frequently reported bacterial sexually transmitted infection in the United States. In 2007, more than 1 million chlamydia infections were reported to CDC from 50 states and the District of Columbia, representing a 7.5% increase from the previous year. Under reporting is substantial because most people with chlamydia are not aware of their infections and do not seek testing. The continuing increase in reported cases likely represents the further expansion of screening for this infection, the development and use of more sensitive screening tests, and more complete national reporting.

In 2007 women ages 15 to 19 and 20 to 24 had the highest rates of reported Chlamydia, both around 3,000 cases per 100,000 females. These rates show an increase of 12.4% and 17.3%, respectively over 2003 statistics. Men 20 to 24 years old show the highest rates of chlamydia.

Symptoms and Transmission

Chlamydia is known as a "silent" disease because about three quarters of infected women and about half of infected men have no symptoms. If symptoms do occur, they usually appear within one to three weeks after exposure.

In women, the bacteria initially infect the cervix and the urethra (urine canal). Women who have symptoms might have an abnormal vaginal discharge or a burning sensation when urinating. When the infection spreads from the cervix to the fallopian tubes (tubes that carry eggs from the ovaries to the uterus), some women still have no signs or symptoms; others have lower abdominal pain, low back pain, nausea, fever, pain during intercourse, or bleeding between menstrual periods. A chlamydial infection of the cervix can spread to the rectum.

Men with signs or symptoms might have a discharge from their penis or a burning sensation when urinating. Men might also have burning and itching around the opening of the penis. Pain and swelling in the testicles are uncommon.

Health Consequences and Treatment

Chlamydia can be cured with antibiotics. If untreated, a chlamydial infections can progress to serious reproductive and other health problems with both short-term and long-term consequences. Like the disease itself, the damage that chlamydia causes is often "silent."

In women, untreated infection can spread into the uterus or fallopian tubes and cause pelvic inflammatory disease (PID). This happens in up to 40% of women with untreated chlamydia. PID can cause permanent damage to the fallopian tubes, uterus, and surrounding tissues. The damage can lead to chronic pelvic pain, infertility, and potentially fatal ectopic pregnancy (pregnancy outside the uterus). Women infected with chlamydia are up to five times more likely to become infected with HIV, if exposed.

To help prevent the serious consequences of chlamydia, screening at least annually for chlamydia is recommended for all sexually active women age 25 years and younger. An annual screening test also is recommended for older women with risk factors for chlamydia (a new sex partner or multiple sex partners). All pregnant women should have a screening test for chlamydia.

Complications among men are rare. Infection sometimes spreads to the epididymis (the tube that carries sperm from the testis), causing pain, fever, and rarely sterility.

Sources

Centers for Disease Control and Prevention. (2009). STD Surveillance 2007. Retrieved October 18, 2009, from www.cdc.gov/std/stats07/chlamydia.htm

Centers for Disease Control and Prevention. (2007). Chlamydia – CDC Fact Sheet. Retrieved October 18, 2009, from www.cdc.gov/std/chlamydia/STDFact-Chlamydia.htm

Gonorrhea

This is an infection caused by the bacterium Neisseria gonorrhoeae. Gonorrhea is the second most commonly reported sexually transmitted bacterial infection in the United States, with 339,593 cases reported in 2005. Like chlamydia, gonorrhea is substantially under diagnosed and under reported, and approximately twice as many new infections are estimated to occur each year as are reported.

In 2007, gonorrhea rates continued to be highest among adolescents and young adults. The rate of gonorrhea among females was highest for 15 to 19 year olds and 20 to 24 year olds (506.8 per 100,000). For men, rates among 20 to 24 year olds were highest, yet slightly lower than rates of females in this age category.

Symptoms and Transmission

Gonorrhea is spread through contact with the penis, vagina, mouth, or anus. Ejaculation does not have to occur for gonorrhea to be transmitted or acquired. Gonorrhea can also be spread from mother to baby during delivery. People who have had gonorrhea and received treatment may get infected again if they have sexual contact with a person infected with gonorrhea. Gonorrhea shares similar symptoms with chlamydia. If symptoms appear, they appear within 10 days of exposure in women and 14 days in men. In men, gonorrhea causes pain during urination and a penile (urethral) discharge but may occur without symptoms. In women, it normally produces only mild or no symptoms.

Health Consequences and Treatment

While gonorrhea is easily cured by an antibiotic, untreated cases can lead to serious health problems. Among women, gonorrhea is a major cause of Pelvic Inflammatory Disease, which can lead to chronic pelvic pain, ectopic pregnancy, and infertility. In men, untreated gonorrhea can cause epididymitis, a painful condition of the testicles that can result in infertility. Rectal infection in men and women may lead to painful bowel movements, blood in the feces, and anal itching and discharge. In addition, studies suggest that presence of gonorrhea infection makes an individual three to five times more likely to acquire HIV, if exposed.

Sources

Centers for Disease Control and Prevention. (2009). Gonorrhea - STD Surveillance 2007. Retrieved October 18, 2009, from www.cdc.gov/std/stats07/gonorrhea.htm

Centers for Disease Control and Prevention. (2008). Gonorrhea – CDC Fact Sheet. Retrieved October 18, 2009, from www.cdc.gov/std/Gonorrhea/STDFact-gonorrhea.htm

HPV/Genital Warts

Human papillomavirus (pronounced pap-ih-lo-ma-vye-rus) is also called HPV. It is a virus that includes more than 100 types, over 30 of which are sexually transmitted. The types of HPV that infect the genital area are known as genital HPV. Genital HPV is the most common sexually transmitted disease in the United States. At least 50% of sexually active men and women contract HPV at some point.

Symptoms and Transmission

The types of HPV that infect the genital area are spread primarily through skin-to-skin genital contact. Most sexually active people will have HPV at some point in their lives, though most will never know it because it usually has no symptoms and goes away on its own. Genital HPV types are either low-risk or high-risk. This does not have to do with the risk of developing the infection; it is about the risk of developing cervical cancer.

While the specific effect of condoms in preventing human papillomavirus infection is unknown, condom use has been associated with a lower rate of cervical cancer. Consistent use of condoms can also help people clear HPV infection and/or reduce their risk of re-infection. But HPV can infect areas that are not covered by a condom; therefore, condoms may not fully protect against HPV. The only sure way to prevent HPV is to avoid all sexual activity.

HPV and Cervical Cancer

Both high- and low-risk types of genital HPV can cause changes or growths on the tissue of a woman's cervix. The cervix is part of the uterus that opens to the vagina. Growths are usually flat and invisible. Some types of HPV can cause cervical cancer. Approximately 10 of the 30 identified genital HPV types can lead to development of cervical cancer. Most HPV infections do not progress to cervical cancer.

Having high-risk HPV is not the same as having cervical cancer. Usually, these high-risk HPV types cause no health problems at all and go away on their own. Persistent high-risk HPV (an infection that does not go away) is the most important risk factor for cervical cancer.

DID YOU KNOW?

HPV Fast Facts:

- Genital HPV is spread through skin-to-skin contact, not through an exchange of bodily fluid.
- Genital HPV cannot be entirely prevented by condom use.
- This virus is often asymptomatic—people usually do not know they have it.
- About 6.2 million new genital HPV cases occur each year.
- About 20 million people—men and women—are thought to have an active HPV infection at any given time.
- At least 50% of sexually active men and women acquire genital HPV at some point in their lives.
- HPV can be contracted from one partner, remain dormant, and then later be unknowingly transmitted to another sexual partner, including a spouse.
- Though usually harmless, some types cause cervical cancer.
- An estimated 11,270 cases of cervical cancer will diagnosed in the U.S. in 2009
- An estimated 4,070 women will die in the U.S. in 2009 from cervical cancer
- The best way to screen for cervical cancer is a Pap test, which may be done alone or in combination with an HPV DNA test.
- Although smoking does not cause HPV, it increases the risk of getting an HPV infection by three times because the body is less able to fight the infection.

The good news is that cervical cell changes can be found with regular Pap tests and treated to prevent cervical cancer from ever developing. To ensure that pre-cancerous cervical cell changes are detected and treated before they become cancerous, the American College of Obstetricians and Gynecologists recommend women begin annual Pap test exams approximately three years after first having vaginal sexual intercourse or at age 21, whichever comes first.

HPV Vaccine

The Gardasil® vaccine can protect females from the four types of HPV (types 6, 11, 16 and 18) that cause most cervical cancers and genital warts. This vaccine is safe and close to 100% effective in preventing these four types of HPV in young women who have not been previously exposed to them. Gardasil® has also been approved for the prevention of certain vulvar and vaginal cancers. Gardasil is given through a series of three injections into muscle tissue over a six-month period. The FDA has approved Gardasil® for use in females ages 9 to 26. An FDA advisory committee has recommended approval of Gardasil® in males ages 9 to 26 for the prevention of genital warts.

HPV and Genital Warts

Low-risk types of HPV can cause genital warts. Warts can form weeks, months, or years after sexual contact with a person who has genital HPV. Genital warts can grow inside and around the outside of the vagina, on the vulva ("lips" or opening to the vagina), cervix, groin, or in or around the anus. In men, genital warts can grow on the penis, scrotum, thigh, or groin, or in or around the anus. While very rare, genital warts can grow in the mouth or throat of a person who had oral sex with an infected person.

The size of genital warts varies, and some may be so small that you cannot see them with your eyes. They can be flat and flesh-colored or look bumpy like cauliflower. They often occur in clusters or groups. They may cause itching, burning, and discomfort. It is also possible that warts may never appear. In fact, most people with low-risk types of genital HPV never know they are infected because they do not develop warts or any other symptom.

Sources

Advocates for Youth. (2005). The Facts: Condom effectiveness. Retrieved October 25, 2009, from www.advocatesforyouth.org/publications/factsheet/fscondom.htm

American Cancer Society. What are the Key Statistics About Cervical Cancer? Retrieved October 25, 2009 from www.cancer.org/docroot/CRI/content/CRI_2_4_1X_What_are_the_key_statistics_for_cervical_cancer_8.asp?rnav=cri

Centers for Disease Control and Prevention. (2008). Genital HPV fact sheet. Retrieved October 18, 2009, from www.cdc.gov/std/HPV/STDFact-HPV.htm

National Cancer Institute. (2007). Human papillomavirus (HPV) vaccines: Questions and answers. Retrieved October 18,

2009, from www.cancer.gov/cancertopics/factsheet/risk/HPV-vaccine

Genital Herpes

Genital herpes is an infection caused by the Herpes Simplex Virus Type I or Type II. An estimated 45 million Americans are currently infected and that as many as one in four Americans have genital herpes. Herpes is more common in women, infecting approximately one out of four, versus one out of eight men.

Symptoms and Transmission

Symptoms include small blisters in the genital area that rapidly break down to leave painful ulcers. Other symptoms include pain or difficulty in passing urine. Some patients may develop headaches and fever. The virus can be spread by skin-to-skin contact at any time when there are blisters or other symptoms. The virus can also be transmitted between outbreaks from skin that does not appear to be broken or to have a sore, though this method of transmission is less likely.

Health Consequences and Treatment

Symptoms usually appear 2-20 days after infection, but it may be years before an outbreak occurs. Recurrences are sometimes related to emotional, physical, or health stresses. Like other viruses, the herpes simplex virus (HSV) remains in the body for life, residing in the nerve cells. Although herpes is a life-long chronic condition which cannot be cured, the severity of infections and likelihood of recurrent infections can be decreased by the use of antiviral drugs taken daily in small doses.

Source

Centers for Disease Control and Prevention. (2008). Herpes – CDC fact sheet. Retrieved October 18, 2009, from www.cdc.gov/std/Herpes/STDFact-Herpes.htm

Syphilis

In the United States, health officials reported 40,920 total cases of syphilis in 2007, a 10.7% increase from 2006. In 2008, the ACHA reported 109 (85%) of 128 schools surveyed offer syphilis testing. Of the nearly 30,000 tests administered, only 89 positive tests were returned (.3% of the tested population).

Syphilis is interesting in that it is very region specific. In 2007 48.8% of cases were accounted for in the South, 30% of cases were in the Northeast, 8.1% in the West and 5.6% in the Midwest.

Symptoms and Transmission

Syphilis is caused by the bacterium Treponema pallidum. It has often been called "the great imitator" because so many of the signs and symptoms are indistinguishable from those of other diseases. Symptoms of syphilis include lesions at the site of inoculation; this lesion becomes an ulcer and often painless. A month or two after infection a widespread red rash will appear on the trunk, palms, legs, soles, face and genitalia. Syphilis is transmitted by coming in contact with a syphilis lesion or rash.

Treatment and Health Consequences

Treatment for syphilis is an antibiotic shot. Someone who is treated for syphilis can get syphilis again if they come in contact with the bacterium. For those who do not treat syphilis, there is a risk of damaging internal organs. These symptoms develop 10 to 20 years after infection and show up as difficulty coordinating muscle movements, gradual blindness and numbness. These severe complications may lead to disability and even death.

Sources

Centers for Disease Control and Prevention. (2004). Syphilis - CDC Fact Sheet. Retrieved October 18, 2009, from http://www.cdc.gov/std/syphilis/STDFact-Syphilis.htm

Centers for Disease Control and Prevention. (2006). Syphilis - STD Surveillance 2005. Retrieved October 18, 2009, from http://www.cdc.gov/std/stats07/syphilis.htm

ACHA (2008). Results from the ACHA pap test and STI survey from calendar year 2007 {web}. Retrieved November 11, 2009, from http://acha.org/info_resources/papsurvey07.cfm

Trichomoniasis and Bacterial Vaginosis

Trichomoniasis is caused by a microscopic parasite and affects both men and women. An estimated 7.4 million new cases occur each year in men and women, and Trichomoniasis is the most common curable STI in young, sexually active women.

Symptoms and Transmission

Most of the time men do not show symptoms. Symptoms for women include a frothy, often unpleasant-smelling discharge, itching in and around the vagina, blood spotting in the discharge, swelling in the groin, and urinating more often than usual, often with pain and burning.

Treatment and Health Consequences

Trichomoniasis is cured with prescription drugs in one single dose. If untreated symptoms may disappear in men, but he still may infect his partner. Genital inflammation caused by trichomoniasis increases a women's susceptibility to HIV.

Source

Centers for Disease Control and Prevention. (2001). Tracking the hidden epidemics: Trichomoniasis and bacterial vaginosis. Retrieved October 18, 2009, from www.cdc.gov/std/Trends2000/trichomoniasis.htm

Centers for Disease Control and Prevention. (2007). Trichomoniasis – CDC fact sheet. Retrieved October 18, 2009, from http://www.cdc.gov/std/trichomonas/STDFact-Trichomoniasis.htm