

Sexually Transmitted Infections (STIs)

Jennifer Yushu

Department of Virology, Ritsumeikan University, Oryol, Russia Email: yushujenny@hotmail.com

More than 1 million sexually transmitted infections (STIs) are acquired every day worldwide. Each year, there are an estimated 376 million new infections with 1 of 4 STIs: chlamydia, gonorrhoea, syphilis and trichomoniasis. More than 500 million people are estimated to have genital infection with herpes simplex virus (HSV). More than 290 million women have a human papillomavirus (HPV) infection. The majority of STIs have no symptoms or only mild symptoms that may not be recognized as an STI.

STIs such as HSV type 2 and syphilis can increase the risk of HIV acquisition. 988,000 pregnant women were infected with syphilis in 2016, resulting in over 350,000 adverse birth outcomes including 200,000 stillbirths and newborn deaths. In some cases, STIs can have serious reproductive health consequences beyond the immediate impact of the infection itself.

The Gonococcal Antimicrobial Resistance Surveillance Programme has shown high rates of quinolone resistance, increasing azithromycin resistance and emerging resistance to extended-spectrum cephalosporins. Drug resistance, especially for gonorrhoea, is a major threat to reducing the impact of STIs worldwide.

More than 30 different bacteria, viruses and parasites are known to be transmitted through sexual contact. Eight of these pathogens are linked to the greatest incidence of sexually transmitted disease. Of these 8 infections, 4 are currently curable: syphilis, gonorrhoea, chlamydia and trichomoniasis. The other 4 are viral infections which are incurable: hepatitis B, herpes simplex virus (HSV or herpes), HIV, and human papillomavirus (HPV). Symptoms or disease due to the incurable viral infections can be reduced or modified through treatment.

STIs are spread predominantly by sexual contact, including vaginal, anal and oral sex. Some STIs can also be spread through non-sexual means such as via blood or blood products. Many STIs including syphilis, hepatitis B, HIV, chlamydia, gonorrhoea, herpes, and HPV can also be transmitted from mother to child during pregnancy and childbirth.

A person can have an STI without having obvious symptoms of disease. Common symptoms of STIs include vaginal discharge, urethral discharge or burning in men, genital ulcers, and abdominal pain.

Scope of the problem

STIs have a profound impact on sexual and reproductive health worldwide.

More than 1 million STIs are acquired every day. In 2016, WHO estimated 376 million new infections with 1 of 4 STIs: chlamydia (127 million), gonorrhoea (87 million), syphilis (6.3 million) and trichomoniasis (156 million). More than 500 million people are living with genital HSV (herpes) infection and an estimated 300 million women have an HPV infection, the primary cause of cervical cancer. An estimated 240 million people are living with chronic hepatitis B globally. Both HPV and hepatitis B infections are preventable with vaccination.

STIs can have serious consequences beyond the immediate impact of the infection itself.

STIs like herpes and syphilis can increase the risk of HIV acquisition three-fold or more.

Mother-to-child transmission of STIs can result in stillbirth, neonatal death, low-birth-weight and prematurity, sepsis, pneumonia, neonatal conjunctivitis, and congenital deformities. Approximately 1 million pregnant women were estimated to have active syphilis in 2016, resulting in over 350,000 adverse birth outcomes of which 200,000 occurred as stillbirth or neonatal death (5).

HPV infection causes 570,000 cases of cervical cancer and over 300,000 cervical cancer deaths each year (6).

STIs such as gonorrhoea and chlamydia are major causes of pelvic inflammatory disease (PID) and infertility in women.