

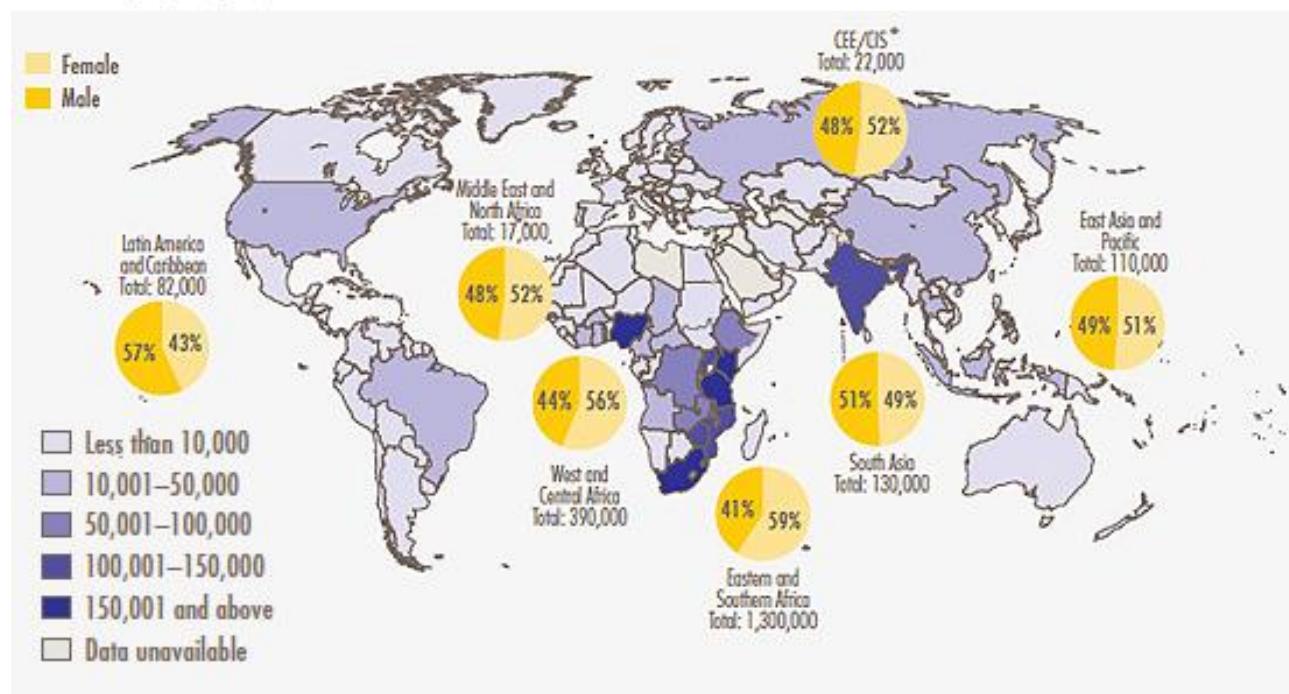
AIDS

The Human Immunodeficiency Virus (HIV) caused by retroviruses destroys and impairs the function of immune cells, infected individuals gradually become immunodeficient. Immune function is typically measured by (T4 –helper cells) CD4 cell count. The most advanced stage of HIV infection is Acquired Immunodeficiency Syndrome (AIDS), which can take from 2 to 15 years to develop depending on the individual. AIDS is defined by the development of certain cancers, infections, or other severe clinical manifestations.

Epidemiology

There are approximately 35 million people living with HIV in 2013. In the same year, 1.5 million people died from HIV-related causes globally. Sub-Saharan Africa is the most affected region, with 24.7 million people living with HIV in 2013. Also sub-Saharan Africa accounts for almost 70% of the global total of new HIV infections. 1.4 million pregnant women living with HIV in developing in the same year.

Estimated number of adolescents (ages 10–19) living with HIV and percentage male and female, by region, 2012



Signs and symptoms

The first few weeks after initial infection, individuals may experience no symptoms or an influenza-like illness including fever, headache, rash or sore throat. As the infection progressively weakens the person's immune system, the individual can develop other signs and symptoms such as swollen lymph nodes, weight loss, fever, diarrhea and cough. Without treatment, they could also develop severe illnesses such as tuberculosis, meningitis, and cancers such as lymphomas and Kaposi's sarcoma.

Transmission

HIV can be transmitted via the exchange of a variety of body fluids from infected individuals, such as blood, breast milk, semen and vaginal secretions. Individuals **cannot** become infected through ordinary day-to-day contact such as kissing, hugging, shaking hands, or sharing personal objects, food or water.

M.O.T

✓ **sexual**

1- male homosexual in western Europe and north America.

2- heterosexual transmission in Africa and many other developing countries.

✓ **perinatal infection**

MTCT transmission, which born children with HIV.

✓ **Blood transfusion and tissue transplantation.**

hemophilic patients who receive infected blood with HIV.

✓ **Intravenous drug abuser.**

Risk factors

- Having unprotected anal or vaginal sex.
- Having another sexually transmitted infection such as syphilis, herpes, chlamydia, gonorrhoea, and bacterial vaginosis.

- Sharing contaminated needles, syringes and other injecting equipment and drug solutions when injecting drugs.
- Receiving unsafe injections, blood transfusions, medical procedures that involve unsterile cutting or piercing; and accidental needle stick injuries, including among health workers.

Diagnosis

HIV test reveals infection status by detecting the presence or absence of antibodies to HIV in the blood. Most people have a "window period", usually 3 to 6 weeks, during which antibodies to HIV are still being produced and are not yet detectable. This early period of infection represents the time of greatest infectivity, but transmission can occur during all stages of the infection. If someone has had a recent possible HIV exposure, retesting should be done **after 6 weeks** to confirm test results, which enables sufficient time to pass for antibody production in infected individuals.

1- Ab-Ag detection; through ELISA test, western blot technique, HIV RNA test to measure the viral load, CD4 lymphocyte count for progression of the disease.

2- Blood cell count

Fall in the blood count of the CD4 lymphocyte from the normal level of about 800/mm³ to below 200 /mm³, where the patient becomes vulnerable to T.B and variety of opportunistic infection such as pneumocystis carinii.

3- Delayed hypersensitivity reaction occur in late stages of disease.

WHO disease staging system for HIV infection and disease:

Stage I: HIV infection is asymptomatic and not categorized as AIDS

Stage II: includes minor mucocutaneous manifestations and recurrent upper respiratory tract infections

Stage III: includes unexplained chronic diarrhea for longer than a month, severe bacterial infections and pulmonary tuberculosis

Stage IV: includes toxoplasmosis of the brain, candidiasis of the esophagus, trachea, bronchi or lungs and Kaposi's sarcoma; these diseases are indicators of AIDS.

National programmes for the control of HIV/AIDS

Health education:

Sex education to promote community awareness of the problem with HIV/AIDS and inform people how they can protect themselves against infection.

Promote safe sex and promote safer habits among illegal drug users.

Control STDs

promote diagnosis and treatment of other STDs, promote safe sexual habits, establish and manage surveillance programme, promote voluntary counseling and testing

Identify high risk groups including sex workers.

Prevent MTCT (mother to child transmission).

General prevention of HIV infection.

Voluntary screening of the pregnant women.

Prevent unwanted pregnancies in infected persons.

Use antiretroviral therapy to protect the child and care for the mother.

Define feasible chemotherapeutic programme in the view of close monitoring of patients including laboratory support and low cost of drugs.

Prevention

Individuals can reduce the risk of HIV infection by limiting exposure to risk factors.

Key approaches for HIV prevention, which are often used in combination, include:

1. Male and female condom use

Correct and consistent use of male and female condoms during vaginal penetration can protect against the spread of sexually transmitted infections, including HIV.

Evidence shows that male latex condoms have an 85% or greater protective effect against HIV and other sexually transmitted infections (STIs).

2. Testing and counseling for HIV and STIs

Testing for HIV and other STIs is strongly advised for all people exposed to any of the risk factors so that they can learn of their own infection status and access

necessary prevention and treatment services without delay. WHO also recommends offering testing for partners.

3. Voluntary medical male circumcision

Medical male circumcision reduces the risk of heterosexually acquired HIV infection in men by approximately 60%. This is a key intervention in generalized epidemic settings with high HIV prevalence and low male circumcision rates.

4. Antiretroviral (ART) use for prevention

5. Harm reduction for injecting drug users

People who inject drugs can take precautions against becoming infected with HIV by using sterile injecting equipment, including needles and syringes, for each injection.

6. Elimination of mother-to-child transmission of HIV (eMTCT)

The transmission of HIV from an HIV-positive mother to her child during pregnancy, labour, delivery or breastfeeding is called vertical or mother-to-child transmission (MTCT). WHO recommends options for prevention of MTCT (PMTCT), which includes providing ARVs to mothers and infants during pregnancy, labour and the post-natal period, and offering life-long treatment to HIV-positive pregnant women regardless of their CD4 count.

Treatment

There is no cure for HIV infection. However, effective treatment with antiretroviral (ARV) drugs can control the virus so that people with HIV can live.

Antiretroviral chemotherapy:

Zidovudine the first specific drug, have limited benefits to patients with advanced disease. Newer drug; reverse transcriptase and protease inhibitors used in combination, reduces mortality, and reduces the risk of MTCT.

HIV/AIDS and Viral Hepatitis

Hepatitis B

Hepatitis B virus (HBV) and human immunodeficiency virus (HIV) are blood borne viruses transmitted primarily through sexual contact and injection drug use. Because of these shared modes of transmission, a high proportion of adults at risk for HIV infection are also at risk for HBV infection. HIV-positive persons who become infected with Hepatitis B virus (HBV) are at increased risk for developing chronic HBV infection and should be tested. In addition, persons who are co-infected with HIV and HBV can have increased risk for liver-related morbidity and mortality. To prevent HBV infection in HIV-infected persons, it's recommended to have Hepatitis B vaccination for those susceptible patients with HIV/AIDS.

Hepatitis C

About one quarter of HIV-infected persons in the United States are also infected with Hepatitis C virus (HCV). HCV is a blood borne virus transmitted through direct contact with the blood of an infected person. Thus, coinfection with HIV and HCV is common (50%–90%) among HIV-infected injection drug users. HCV is one of the most important causes of chronic liver disease and HCV infection progresses more rapidly to liver damage in HIV-infected persons.