

Acquired Immunodeficiency Syndrome, known as AIDS (Acquired Immune Deficiency Syndrome), is the clinical manifestation of the infection caused by the human immunodeficiency virus (HIV, Human Immunodeficiency Virus).

This virus particularly affects CD4 T lymphocytes which play a fundamental role in protecting the body from infections. Thus, with the infection, the immune defenses gradually weaken and the body becomes an easy target for infections from viruses, fungi or bacteria.

It is transmitted through contact with infected blood, semen, vaginal fluid and breast milk. There are no specific symptoms, indeed the disease can be asymptomatic for many years, until it manifests itself clinically. The treatment is pharmacological and is based on specific drugs called antiretrovirals.

In 2016, around 36.7 million people (including 2.1 million children under 15) were living with HIV infection in the world.

Deaths from AIDS, on the other hand, were about 1 million. Most (95%) of new infections are present in developing countries, especially in sub-Saharan Africa. Instead in Italy, according to ISS data, in 2019 there were about 2,531 new cases of infection, equal to an incidence of 4.2 new cases per 100,000 residents.

Thanks to recent scientific discoveries, the prognosis is generally good if the disease is treated promptly. What is AIDS, that is, Acquired Immunodeficiency Syndrome, is the clinical manifestation of human immunodeficiency virus (HIV) infection.



AdvertisementIt is a virus that attacks the immune system and in particular a specific type of white blood cell, the CD4 T lymphocytes. These play a fundamental role in the body's defense mechanisms to deal with infections. The immune system is therefore severely weakened and cannot defend itself against other viruses, bacteria, fungi and even tumors.

However, AIDS can remain asymptomatic even for many years after the infection. It is revealed with the onset of non-specific pathologies, i.e. infections with pathogens such as:

- candid
- herpes
- cytomegalovirus, etc.

These infections may not normally develop into pathologies in healthy people, but instead occur in immunosuppressed individuals. It is mainly transmitted sexually (with infected sperm or vaginal fluid), but also through blood and breast milk.

Thanks to advances in scientific research and new antiretroviral therapies, prognosis, life expectancy and quality of life have significantly improved. AdvertisementIn fact, the new drugs have a more tolerable impact on the body and fewer unwanted effects.

When does AIDS develop? Not all people exposed to the virus get sick, even if the reasons are not yet understood. However, there appear to be genetic factors that influence the transition from HIV infection to AIDS. However, in the absence of treatment, AIDS develops in the majority of cases. Particularly:

- in the first years of infection the rate fluctuates between 2 and 5%
- 50% within the first 10 years
- over 10 years about 95%.aids and hiv: what are the differences

AIDS and HIV: the differences Acquired Immune Deficiency Syndrome

Acquired Immune Deficiency Syndrome: full-blown clinical manifestation of the disease caused by HIV infection, the human immunodeficiency virus. It can remain asymptomatic even for many years, until the manifestation of specific diseases considered "indicative of AIDS". These are infections caused by pathogens that can take over in an immunosuppressed person. Between these:

- protozoa, including *Pneumocystis carinii*, responsible for a particular form of pneumonia and *Toxoplasma gondii*, which causes toxoplasmosis, a disease that mainly affects the eyes and brain
- bacteria, especially *Mycobacterium tuberculosis*, responsible for tuberculosis
- viruses, including Herpes simplex and Cytomegalovirus
- fungi, such as *Candida albicans*, which can mainly involve the mouth, esophagus and lungs.

Among the diseases that reveal AIDS there are also different types of tumors, such as: lymphomas

- Kaposi's sarcoma
- cervical cancer.



HIV (Human Immunodeficiency Virus): is a virus that targets our immune system. It belongs to a specific viral family, the retroviruses, characterized by a characteristic replication mechanism. In fact, retroviruses are able to transform their RNA genetic structure into a double strand of DNA. In this way, they enter the affected cell (called the "target cell") to start reproducing.

Target cells are CD4-type T lymphocytes, the first line of our immune system against various types of pathogens and oncogenes. Hence, HIV infection produces a progressive weakening of the immune system, opening the door to tumors and infections by:

- virus
- bacteria
- protozoa
- mushrooms.

Aids: epidemiology in Italy and in the world Epidemiology According to data from the ISS (Istituto Superiore di Sanità) in 2019: among HIV cases, about 80% are men. The average age of onset is 40 for men and 39 for women. The most affected age groups are 25-29 years (10.4 new cases per 100,000 residents) and 30-39 years (9.8 new cases per 100,000 residents).

In the majority of cases, the infection was sexually transmitted (84.5% of all diagnoses), particularly in 59.6% by men and 40.4% by women. Half of the newly diagnosed HIV subjects were diagnosed late in the disease. The incidence in Italy is just below the average incidence in the European Union (5.1 new cases per 100,000).

Since 2012 there has been a decrease in cases for all modes of transmission, especially in the North and Center. Since the beginning of the epidemic in 1982, 71,204 cases of AIDS have been reported to date, of which over 45,000 have died until 2017.

The number of newly diagnosed AIDS subjects who were unaware of their HIV status and discovered that they were HIV positive before being diagnosed with AIDS has decreased. AIDS: how it is transmitted

There are three ways of transmitting HIV:

- blood, that is, through the blood
- from mother to fetus
- sexual.



Blood: via the blood. It occurs through transfusions of infected blood or through the exchange of contaminated syringes. In the 1980s, when little was known about AIDS and how it was contagious, many people contracted HIV precisely because of transfusions of infected blood. In the 1990s, however, with increasingly stringent controls on donors and blood, this danger was completely averted.

However, the risk of contracting HIV through blood is still very high in those who use intravenous drugs and have the habit of exchanging syringes or using syringes or needles already used by others. Especially for needles, it is necessary, in fact, to always use sterile and disposable needles, also for the practices of:

- acupuncture
- tattoos
- piercing, etc.