Fast facts about HIV treatment

In the early 1980s when the AIDS epidemic began, people living with HIV were not likely to live more than a few years. However, with the development of safe and effective drugs, HIV positive people now have longer and healthier lives.

Currently available drugs do not cure HIV infection but they do prevent the development of AIDS. They can stop the virus being made in the body and this stops the virus from damaging the immune system, but these drugs cannot eliminate HIV from the body. Hence, people with HIV need to continuously take antiretroviral drugs.

The use of antiretroviral (ARV) therapy in combinations of three or more drugs as a HIV treatment has dramatically improved the quality of life for people with HIV and prevented them from dying early, since 1996 in countries where they are widely accessible.

How does HIV treatment – or antiretroviral (ARV) therapy - work in someone who is HIV positive?

HIV is a virus that infects cells of the human immune system and destroys or impairs their function. Infection with this virus results in the progressive deterioration of the immune system, leading to 'immune deficiency'. Our immune systems are essential to protect us from developing infections and cancers.

Combination ARV therapy prevents the HIV virus from multiplying inside a person. If this growth stops, then the body's immune cells - most notably the CD4 cells - are able to live longer and provide the body protection from infections.

What is treatment adherence and why is it important?

HIV is a very active virus that makes lots of copies of itself that then damage the body’s immune cells (CD4 cells). It is also a very clever virus that quickly adapts to whatever medicines are being taken as it tries to change itself through mutations so that these medicines no longer work.

However, taking at least 3 medicines at the same time makes it harder for the virus to adapt and become resistant. Taking the medicines everyday at the right time and in the right way keeps the right levels of the medicines in the body which makes it very hard for the virus to become resistant to the medicines. Missing your medication can give the HIV a chance to become resistant to the ARV medicine.

What are the side-effects of HIV treatment?

Current World Health Organization (WHO) recommendations for HIV treatment state that three separate ARV medicines need to be taken at all times.

Source: World Health Organization
Last updated: September 2009

Some of these medicines can produce side effects such as nausea and vomiting or headaches. Usually most side effects are not serious and improve once the patient gets used to the medicines. However as with all medicines, sometimes unpleasant or dangerous side effects can appear. Some specific ARV medicines cause longer term changes in body shape and the distribution of fat within the body, which can be upsetting for the patient. Usually changing the ARV medicines will lead to improvement in the patients well being.

How can ART prevent mother to child transmission of HIV?

HIV can pass from the mother to her unborn baby during pregnancy or the delivery and it can also be transferred to the baby by the mother's breast milk. This is usually called mother to child transmission of HIV (MTCT). Luckily we have a range of different things that can be done to prevent this, so it is important to make sure that all pregnant women have an HIV test.

If a pregnant woman does have HIV, first the doctors check to see if she needs treatment (ART) herself. If she does need ART then this is a very good way to make sure that her baby will not get the HIV. If she does not need ART herself, the mother will need to have ARV medicines during the pregnancy and the delivery to try to prevent the HIV from being passed to the baby.

Once the baby is born, the mother needs to consider if replacement feeding—such as using mothers' milk substitutes—is a safe, feasible and acceptable long term option for her and the family. If it is not, she is needs to exclusively breastfeed the baby until replacement feeding becomes possible. All mothers need access to clear information, support and counselling when making these difficult choices.

The ARV regimens used to prevent transmission usually contain nevirapine or zidovudine (often know as AZT). Using only nevirapine may be the only option when women come very late to pregnancy care, but is not the best option to prevent transmission. In most high income countries the rate of transmission of HIV to babies has been reduced to less than 1% by using a range of medicine and good care for the mother during pregnancy. HIV positive women wanting to get pregnant are advised to do so in consultation with the health care provider to reduce the likelihood of their baby becoming infected.

Antiretroviral drugs should only be taken under medical supervision.

Is there a cure for HIV?

No, there is no cure for HIV. However, with good and continued adherence to treatment the progression of the HIV in the body can be slowed down and almost halted. Increasingly, people living with HIV are kept well and productive for very extended periods, even in low income countries.

Source: World Health Organization
Last updated: September 2009

What are antiretroviral drugs?

Antiretroviral drugs are used in the treatment and prevention of HIV infection. They work against HIV by stopping or interfering with the reproduction of virus in the body.

How do antiretroviral drugs work?

Inside an infected cell, HIV multiplies and produces lots of copies of itself, which can then go on to infect other healthy cells within the body. The more cells HIV infects, the greater is its impact on the immune system, and the more severe the deficiency in the immune system it produces (immunodeficiency). Antiretroviral drugs interfere with the way HIV makes copies of itself and the way it spreads from cell to cell. There are several different classes of drugs.

- Nucleoside Reverse Transcriptase Inhibitors:
  HIV needs a substance called reverse transcriptase to make new copies of its genetic material (i.e. itself) elf. This group of drugs inhibits this reverse transcriptase.
- Non-Nucleoside Reverse Transcriptase Inhibitors:
  This group of drugs also blocks the reverse transcriptase.
- Protease Inhibitors:
  HIV needs another substance called Protease to be able to make new copies of itself. The protease inhibitors block this substance and so stop HIV multiplying.
- Other drugs are also available that interfere with other steps in the process HIV uses to make copies of itself.

What is the difference between “first”, “second” and “third line” antiretroviral drugs?

HIV is a clever virus that quickly adapts to whatever medicines are being taken and tries to change itself through mutations so that these medicines no longer work and then the virus can start to reproduce to the same extent as before.

The first combination of drugs taken by a patient is usually called the first line regimen and when this no longer works to block HIV, another regimen made up of new medicines is needed. This is usually not needed for many years, and is called the second line regimen. If this also eventually fails, a third line or salvage cocktail of medicines is usually recommended.

Antiretroviral drugs should only be taken under medical supervision.

What is the current status of ARV treatment?

More than 4 million people in low- and middle-income countries were receiving HIV antiretroviral therapy at the close of 2008.

Until 2003, the high cost of the medicines, weak or inadequate

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Last updated: September 2009

health care infrastructure and lack of financing prevented wide use of combination ART treatment in low- and middle-income countries.

However, enormous progress has been made and the increased political and economic commitment, stimulated by people living with HIV, civil society and other partners, has allowed dramatic expansion of access to HIV therapy.

What other kinds of care do people living with HIV need?

Even when ART is available, people living with HIV need other elements of care. In addition to access to HIV treatment, good nutrition, safe water, basic hygiene and other important elements of care can help maintain a high quality of life for a person living with HIV. Often people with HIV need psychosocial support and counselling.

Before ART is needed people usually are asked to start on cotrimoxazole or may need to take isoniazid to prevent TB

What is “PEP”?

The term “post-exposure prophylaxis for HIV” (PEP) refers to a set of actions aimed at preventing infection in a person who may have been exposed to the HIV infection. It includes first aid care, counselling and risk assessment, HIV testing following informed consent, and—depending on the risk assessment—the provision of a short course (28 days) of antiretroviral drugs, with follow-up and support.

Research studies suggest that, if the medication is initiated quickly after possible HIV exposure it may be beneficial in preventing HIV infection. However PEP treatment has not been proven to prevent the transmission of HIV.

PEP should be available as soon as possible and no later than 72 hours, and be given for 28 days without interruption.

For more information, see WHO web site on Post Exposure Prophylaxis: http://www.who.int/hiv/topics/prophylaxis/en/

When you are on antiretroviral therapy, can you transmit the virus to others?

Taking antiretroviral therapy does not guarantee the prevention of transmission to sexual partners, infants or persons sharing unsafe injecting equipment. Usually ART keep the HIV at very low levels or undetectable but poor adherence, other illnesses, taking other medicines that interfere with levels of ARVs can mean the ART is not working well enough to prevent HIV being passed to others at risk.

What is “HAART”?

The term 'Highly Active Anti-Retroviral Therapy' (HAART) is another term used to describe a combination of three or more

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anti-HIV drugs.

Are the UNAIDS Secretariat and Cosponsors working with generic companies?

Yes they are. WHO and the UNAIDS Secretariat promote the engagement of both generic and research-based pharmaceutical companies in the response to HIV. WHO and UNAIDS co-hosted meetings in 2002 and 2003 and continue to work with drug firms.

A number of generic companies, in addition to research and development-based pharmaceuticals, have submitted applications and have been reviewed by the quality assessment project (known as "pre-qualification") undertaken by WHO, with support from UNICEF and the UNAIDS Secretariat. Products from both branded and generic manufacturers that have met the international standards used by WHO in its "prequalification" exercise are available at:

http://www.who.int/prequal/query/ProductRegistry.aspx?list=ha

Generic drugs, diagnostics and other commodities have also been included in the published mapping of sources and prices of HIV-related medications undertaken by WHO, UNICEF, Médecins Sans Frontières and the UNAIDS Secretariat.

Representatives of the generic pharmaceutical industry, along with research-based companies, have participated in the Contact Group on Accelerating Access to AIDS-related care.

What is UNAIDS position regarding the exporting of generic drugs (including ARV medicines)?

UNAIDS supports the engagement of a broad range of partners in the response to the AIDS epidemic. Large volumes of antiretroviral medicines will be required to scale up access to treatment, and both research-based and generic manufacturers must be engaged.

The Declaration of Commitment unanimously endorsed by Member States at the UN 2001 General Assembly Special Session on HIV/AIDS emphasizes the importance of cooperation in strengthening pharmaceutical policies and practices, including those applicable to generic drugs. The WHO Medicines Strategy includes promotion of generic competition.

For more information on HIV treatment visit WHO web site:

http://www.who.int/hiv/treatment/en/index.html

Source: World Health Organization
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