Training manual for Community Health Educators
Understanding HIV and AIDS in Community

UCT School of Public Health and Family Medicine
Health and Human Rights Programme

LEARNING NETWORK

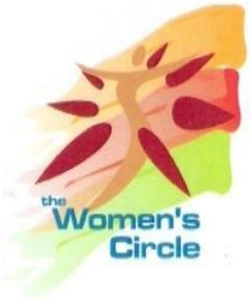
COMMUNITY SYSTEMS STRENGTHENING PROJECT

The Learning Network is a collection of 5 civil society organisations based in Cape Town:

1. The Women's Circle,
2. Ikamva Labantu,
3. Epilepsy South Africa,
4. Women on Farms Project and the
5. Cape Metro Health Forum

The **Learning Network** serves as the umbrella body in the Western Cape and includes 3 higher education institutions:

1. University of Cape Town (UCT)
2. University of the Western Cape (UWC)
3. Maastricht University, in the Netherlands



Capacity Development for Organisations Working with Vulnerable Groups

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Section 1: Understanding HIV and AIDS:

Section 2: HIV and AIDS Treatment and Management

Section 3: HIV Prevention

Section 4: Health Committee Support to Community

Background

Viruses are germs that need to be inside living cells to grow and reproduce, like other germs, they spread in the body and make people sick. Most viruses can't survive very long if they're not inside a living thing like a plant, animal, or person. Whatever a virus lives in is called its host. Viruses cause chickenpox, measles, flu, and many other diseases. HIV (human immunodeficiency virus) is one of the viruses that kill many people in the world with more than 70 million people being infected with it. HIV unreasonably affects more women and adolescent girls than males. This is believed to be as a result of their unequal cultural, social, and economic status in society. Gender inequality, intimate partner violence, and harmful traditional practices reinforce unequal power dynamics between men and women. This limits women's choices, opportunities and access to information, health and social services, education and employment.

Research also shows that about 35 million people have died of HIV since the beginning of the epidemic in the world. Although over 15 million HIV-infected individuals were on antiretroviral therapy (ART) by March 2015, adherence to treatment remains a key challenge for HIV programs to achieve better health outcomes and suppressing the virus. Stigma and discrimination, as well as inequitable laws and cultural practices, further worsen women's vulnerability to HIV and undermine the response to the epidemic. 2011 Political Declaration on HIV and AIDS recognized gender equality and the empowerment of women as fundamental to reducing women's vulnerability to HIV. Specifically, it set a target to "meet the specific needs of women and girls and eliminate gender inequalities and gender-based abuse and violence" – which governments were required to report on every two years.

In 2015, UNAIDS and the African Union outlined three commitments to advance the rights and empowerment of Africa's young women and girls to enable a Fast-Track response to the HIV epidemic. The commitments are to:

- ✓ Stop new HIV infections among young women and adolescent girls in order to ensure that AIDS is no longer the leading cause of death among adolescents
- ✓ Empower young women and adolescent girls through comprehensive sex education
- ✓ Prevent HIV infections among children and keep their mothers alive.

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Section 1: HIV and AIDS in community

Learning Outcomes

By the end of this session, participants will be able to:

1. Define HIV and AIDS
2. Understand the difference between HIV and AIDS
3. Describe how HIV is spread
4. Know the signs and symptoms of HIV and AIDS
5. Understand the complications and consequences of HIV infection
6. Know the side effects of HIV treatment
7. Understand the comprehensive approach to HIV prevention
8. Understand the role health committees can play to support HIV programmes in communities

Please read the following case scenario and highlight key issues that needs urgent attention. How common is this situation in your community.

Son's cry: 'I am HIV positive, not cursed!'

Despite knowing about the HI virus and that he needed medical treatment, a young man from Mpumalanga chose instead to trust his family's judgement.

Thulani Sibiya (23), a young man from Mpumalanga, who was diagnosed with HIV and advised to start anti-retroviral treatment, chose instead to please his family and turn to the church for help.

Prayers and holy water

Now Thulani is sick, has lost weight and has to face his family's rejection if he chooses to take the treatment he needs in order to fight the virus. His story, according to the healthcare worker treating him, is not unusual as many young people find themselves having to face down the stigma of Aids.

When Sibiya told his mother he was HIV positive, she refused to accept the news and chose instead to take him to church for prayers and holy water.

Despite knowing about the HI virus and that he needed medical treatment, Sibiya chose instead to please those closest to him and to rather trust that they had his best interests at heart.

But as time passed, Sibiya grew sick and started losing weight despite his attending church with his mother. He felt his family did not understand his illness and were treating him as though he was cursed.

"By that time I knew I had to do something about my sickness, because I could no longer expect support from my family. I went to the clinic. My blood was taken and sputum for a TB test. My CD4 count results came back 117 and the TB test was negative. I was put on treatment immediately, but it hasn't been easy," Sibiya said.

1. What is HIV?

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Human Immunodeficiency Virus (HIV) is a virus that attacks the immune system, which is our body's natural defense against illness. The virus destroys a type of white blood cell in the immune system called a T-helper cell, and makes copies of itself inside these cells. T-helper cells are also referred to as CD4 cells. These special cells help the immune system fight off infections. Over time, untreated HIV can destroy so many of these CD4 cells that it becomes harder and harder for the body to fight off infections and disease. Opportunistic infections or cancers take advantage of a very weak immune system and signal that the person has AIDS.

Unlike some other viruses, the human body cannot get rid of HIV completely. So once you have HIV, you have it for the rest of your life. If HIV is left untreated, it may take up to 10 or 15 years for the immune system to be so severely damaged that it can no longer defend itself at all. However, as people are all different with regards to age, health and background, the speed that HIV progresses will differ from person to person.

1.1 What is AIDS?

AIDS stands for: Acquired Immune Deficiency Syndrome. AIDS is not a virus but a set of symptoms (or syndrome) caused by the HIV virus. AIDS is the stage of infection that occurs when your immune system is badly damaged so much that you become vulnerable to *opportunistic infections and get sick often*. When the number of your CD4 cells falls below 200 cells per cubic millimetre of blood (200 cells/mm^3), you are considered to have progressed to AIDS. The CD4 count of an uninfected adult/adolescent who is generally in good health ranges from 500 cells/mm^3 to 1,600 cells/mm^3.

However, a person can also be diagnosed with AIDS if they develop one or more opportunistic infections, regardless of the CD4 count. These opportunistic infections are also called AIDS defining symptoms and illnesses. AIDS is also known as the last stage of HIV, when the infection is very advanced, and if left untreated will lead to death. Without treatment, people who are diagnosed

with AIDS typically survive about 3 years. Once someone has a dangerous opportunistic illness, the life he or she can live without treatment falls to about 1 year. People with AIDS need medical treatment to prevent death.

1.2 What is the difference between HIV and AIDS?

HIV is a virus that destroys your immune system and can lead to AIDS. AIDS is a condition that is caused by HIV infection. AIDS is considered the final stage of HIV. Symptoms for HIV and AIDs are different for each person, because the symptoms of each condition come from opportunistic infections. It can be easy to confuse HIV and AIDS. They are different diagnoses, but they do go hand-in-hand and are often used interchangeably to describe a particular disease. You can have an HIV infection without acquiring AIDS. Because of the quality of treatment available, many people with HIV live for years without developing AIDS. While you can have an HIV infection without having AIDS, anyone diagnosed with AIDS already necessarily has HIV. Because there is no cure, the HIV infection never goes away, even if AIDS never develops.

1.3 Children, youth and HIV and AIDS

HIV and AIDS does not only affect adults, children are also affected by HIV and AIDS in many ways. In South Africa and other parts of the world, this disease has left young children heading households because their parents had died. For their survival, the children themselves become vulnerable and became trapped in a cycle of teenage pregnancy, sexual abuse and risk of HIV infection as they try to provide for their younger siblings. Grandparents are also not spared of this burden.

Some ways in which children can be affected include:

1) Be infected with HIV through mother to child transmission and grow up having HIV.
2) Be made to take care of their parents who are infected by HIV and AIDS
3) Be eventually orphaned by HIV infection
4) Heading households and forced to take care of younger siblings, robbing them of their childhood
5) Be exposed to rape and violent crimes due to lack of security
6) Be exposed to poverty and malnutrition leading to poor performance at school and eventually dropping out
7) Be exposed to prostitution and unplanned pregnancy

2. History of HIV: Where Did HIV Come From?

Did You Know? The history of the HIV and AIDS epidemic began in illness, fear and death as the world faced a new and unknown virus. However, scientific advances, such as the development of antiretroviral drugs, have enabled people with access to treatment to live long and healthy lives with HIV. Do you think people are still fearful of HIV? Why do you say so?

The questions about where HIV came from have always been in the minds of many people. HIV did not really appear out of nowhere. The majority of HIV researchers agree that HIV evolved (developed) at some point from the closely related simian immunodeficiency virus (SIV), and that SIV was transferred from non-human primates to humans in the recent past. They identified a type of chimpanzee in Central Africa as the source of HIV infection in humans.

In 1981, two research groups noted a new unknown infection that was killing gay men in California and New York. Through research, these scientists observed that, what they believed was new infection was not actually new, but may have evolved (progressed) almost a century earlier and in another part of the world. By testing blood and tissue samples that had been stored in labs for years, researchers discovered that the HIV virus had killed:

- A doctor from Denmark in 1977.
- Had likely killed a sailor from Norway in 1976 and
- A teen from St. Louis, Mo., in 1969.

Using the same methods, still other scientists found that HIV had infected

- A man in central Africa as early as 1959. He lived in what is now the Democratic Republic of the Congo.

Since then, there has been a lot of developments around HIV and AIDS in South Africa and globally.

3. How common is HIV and AIDS in the World and in S.A.

South Africa has the biggest number of people living with HIV epidemic in the world. It is estimated that about 7 million people were living with HIV and AIDS by the year 2015. In the same year, 380,000 new infections were recorded while 180,000 South Africans died from AIDS-related illnesses (UNAIDS; Gap Report, 2016). This is despite that South Africa has the largest antiretroviral treatment (ART) programme globally that is largely financed from its own domestic resources.

The HIV and AIDS infections in South Africa varies between regions, with Kwazulu Natal being the highest region with HIV infections compared with 18% in Northern Cape and Western Cape. Women face a greater risk of HIV infection. On average in South Africa there are three women infected with HIV for every two men who are infected. The difference is greatest in the 15-24 age group, where three young women for every one young man are infected. Globally, 36.7 million people were living with HIV at the end of 2015. Sub-Saharan Africa remains most severely affected, with nearly 1 in every 25 adults (4.4%) living with HIV and accounting for nearly 70% of the people living with HIV worldwide.

4. Who is at risk of being infected with HIV?

People who:

- Have unprotected vaginal or anal sex
- Have sex with many partners

- Share needles
- Have another STI, especially STIs that cause open sores or ulcers such as herpes or syphilis
- Haemophiliacs – (a mostly inherited genetic disorder that impairs the body's ability to make blood clots, a process needed to stop bleeding) and other people who frequently receive blood products (this risk is now very much diminished, but there are still countries where blood is not adequately screened)
- Are health care workers, where precautions are neglected or fail (for example through not wearing gloves or accidental needle injuries and
- Babies of mothers who are HIV infected

Key affected populations in South Africa and risk to HIV infection

South Africa's National Strategic Plan 2012-2016 identifies a number of key affected populations that are at risk of HIV transmission.

Key populations at risk	How high are the risks of infections
1. **Men who have sex with men (MSM) and HIV in South Africa**	• HIV occurrence in this group in South Africa is estimated at between 22% (22 out 100 people) and 48% (48 out of 100 people). • Infection rate have risen by more than 10% in Johannesburg, Cape Town and Durban.
Plenary activity: Many men who have sex with men still face high levels of social stigma and homophobic violence due to traditional and conservative attitudes. As a result, men who have sex with men find it difficult to disclose their sexuality to healthcare workers, limiting their access to HIV services. What are the attitudes of the people in your community with regards to MSMs and sexuality issues? How do you think these attitudes will affect treatment of HIV?	
2. **Sex workers and HIV in South Africa**	• Nationally, HIV is high among sex workers and is estimated at 59.6%. • Numbers of infection is estimated at 72% in Johannesburg; Durban at 54%, and 40% in Cape Town. • In 2010, sex work accounted for an estimated 19.8% of all new HIV infections in South Africa.
Plenary activity: Sex workers in South Africa face high levels of stigma and discrimination and are restricted by the laws under which they work. Moreover, many sex workers also inject drugs, worsening their vulnerability to HIV infection. What is your view on this? Why do you think people choose sex work over other work? Do you think decriminalization of sex work will lower HIV infection, why/not?	
3. **People who inject drugs (PWID) and HIV in South Africa**	• In 2015, an estimated 19.4% of people who inject drugs in South Africa were living with HIV. • A 2015 study of people who inject drugs in five South African cities found 32% of men and 26% of women regularly shared syringes and other injecting equipment and nearly half reused needles.

4. **Women, adolescent girls and HIV in South Africa**	• More women than men are now HIV-positive; in South Africa, the infection rate in the 15 - 24 age group is an estimated 20 women for every 10 men. • This group accounted for 25% of new infections in South Africa.
5. Intergenerational relationships	Sexual partnering between young women and older men, who might have acquired HIV from women of a similar age, is a key factor driving transmission.

Case Study: 'Sugar daddies'

Lebogang Motsumi was 27 when she was infected with HIV by a "sugar daddy" – a man significantly older than her who was capable of showering her with the gifts she believed she needed to fit in with her friends and feel more accepting of herself. She was reluctant to use a condom because she feared being perceived as promiscuous by men and felt she was "not in control" of the situation when she was with her sexual partners.

"It's transactional, not love," said Motsumi who, after a string of such relationships, was sharing her experiences at the Durban conference. "I wanted the money, I wanted to fit in, wear the latest sneakers like my friends."

Now a mother, Motsumi says she wishes she had received more information at home and at school about risky sexual behaviour, and is using her experience to advocate non-judgmental, face-to-face conversations with young people about relationships with older men.

Health Minister says it's time to shed taboos and start talking to young girls about sex. "Every parent wants to believe that their daughter is an angel... (but) the fact that they are so highly infected it means they're having sex," he told AFP. Bringing the alarming rates of infection down will take more than just talk. "Blessers" thrive on poverty – and girls who stay in school and have a job are bound to find them less attractive.

- Are the 'sugar daddy's common in your area?
- Why do you think this behaviour is happening?
- When is the right age to talk about sex and why?
- What are the lessons learnt in this case study that you would use in your life and your community?

5. Stages of HIV and AIDS

There are three stages of HIV infection with different possible effects.

1. First Stage: Acute HIV Infection: During this stage, it is difficult for most people to know right away that they've been infected with HIV. This is because when infection happens, the immune system puts up a fight to destroy HIV within 2 to 6 weeks after being infected by HIV. This remains a very infectious stage

2. Second Stage: Chronic HIV Infection: After your immune system loses the battle with HIV, the flu-like symptoms will go away. Doctors may call this the asymptomatic or clinical latent period. Most people don't have symptoms you can see or feel, but can still pass HIV on to others. This stage can last 10 years or more. During this time, untreated HIV will be killing CD4 T-cells and destroying your immune system.

3. Third Stage: AIDS: AIDS is the advanced stage of HIV infection. This is usually when your CD4 T-cell number drops below 200. You can also be diagnosed with AIDS if you have an "AIDS defining illness" such as Kaposi's sarcoma (a form of skin cancer) or pneumocystis pneumonia (a lung disease). When immune system damage is severe, people experience opportunistic infections (OIs), they are called "opportunistic" because they are caused by things which our immune systems can usually defend against.

6. How Is HIV Spread?

HIV is passed on from person to person if infected body fluids such as blood, semen, vaginal or anal secretions or fluids and breast milk get into your bloodstream. The five main ways this can happen are:

- Unprotected sex
- From mother to child during pregnancy, childbirth or breastfeeding
- Injecting drugs with a needle that has infected blood in it
- Infected blood donations or organ transplants
- A healthcare worker who gets the blood of an infected patient inside their body.

The spread of HIV, called HIV transmission is only possible if these fluids come in contact with a mucous membrane or damaged tissue or are directly injected into the bloodstream (from a needle or syringe). Mucous membranes are found inside the rectum, the vagina, the opening of the penis, and the mouth.

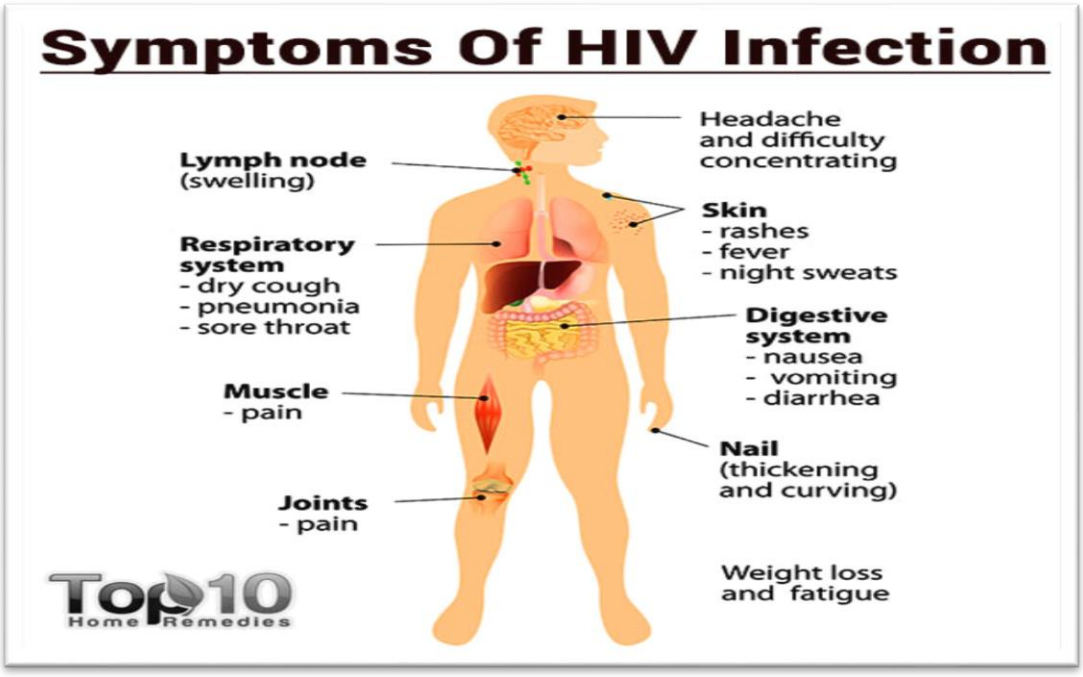
Positive Signs

Certain people do not get infected by HIV, even after they have been exposed to HIV more than once. Others who do get infected do not seem to be affected for a decade or longer. These examples suggest that some immune systems are able to fight HIV off.

You cannot get HIV from…

- Someone who doesn't have HIV
- **Touching someone who has HIV:** HIV can't survive outside of the body so you won't get HIV from touching someone, hugging them or shaking their hand.
- Sweat, tears, urine or faeces of someone who has HIV: There is no HIV in an infected person's sweat, tears, urine or faeces.
- **Insects** - You cannot get HIV from insects. When an insect (such as a mosquito) bites you it sucks your blood – it does not inject the blood of the last person it bit.
- **Air:** HIV cannot survive in the air so coughing, sneezing or spitting cannot transmit HIV.
- HIV doesn't survive on surfaces, so you can't get HIV from any of these: toilet seats, tables, door handles, cutlery, sharing towels. HIV can only survive for a really short amount of time outside of the body.
- **Kissing:** There is such a small amount of HIV in the saliva of an infected person that HIV can't be passed on from kissing. There is only a risk if you both have large open sores or bleeding gums and blood is exchanged during kissing.
- **Oral sex:** As with kissing, the risk of HIV from oral sex is so small unless you or your partner has large open sores on the genital area or bleeding gums or sores in your mouth. Always use a condom or dental dam to eliminate the risk.

7. What are the signs and symptoms of HIV and AIDS?



1. First Stage: Acute HIV Infection: HIV usually causes flu-like symptoms about two to four weeks after infection. The symptoms include:

    - Headache
    - Diarrhea

- Nausea and vomiting
- Fatigue
- Aching muscles
- Sore throat
- Swollen lymph nodes
- A red rash that doesn't itch, usually on your torso
- Fever

2. **Second Stage: Chronic HIV Infection:** After the acute phase, the virus typically becomes less active in the body for as long as 10 years, during which you might have no symptoms at all. This stage is often called the asymptomatic as most people don't have symptoms you can see or feel although HIV test will detect the virus during this period.

3. **Third Stage: AIDS:** Because of the damage to the immune system, people are at risk getting opportunistic infections. Symptoms depend on the particular infection and which part of the body is infected If you didn't know you were infected with HIV earlier, these include:

- Being tired all of the time
- Swollen lymph nodes in your neck or groin
- Fever that lasts for more than 10 days
- Night sweats
- Unexplained weight loss
- Purplish spots on your skin that don't go away
- Shortness of breath
- Severe, long-lasting diarrhea
- Yeast infections in your mouth, throat, or vagina
- Bruises or bleeding you can't explain

8. HIV Test and diagnosis

The World Health Organisation's recently released 5 Cs – principles that must be applied whenever and wherever testing is done:

- Consent:
- Confidential:
- Counselling:
- Correct:
- Connection:

Case Scenario 1

"I went for a rapid test and never expected the answer to be that I was positive. I fell to the floor, cried like I was in a soap opera, and asked "who's going to raise my children?" The tester was so amazing, so helpful in talking me down from this reaction, telling me he'd known people living with HIV for 25 years and more. I latched on to those words like a life vest those first few months." – Anonymous

Case scenario 2

"I don't really remember much about the day or the month or two following. I do remember sitting in my doctor's office as she told me I was HIV positive. I remember looking at the painting on the wall. I became instantly numb and everything became a blur." - Jordan

Reflect on the above insert and discuss when do you think is the right time for an HIV test. Why do you think 'anonymous' and Jordan reacted in the way they did? Do you think you need to prepare yourself when going for an HIV test, how?

Like with other illnesses, you cannot not know if the person has HIV and AIDS just by looking at them, HIV infection can be diagnosed by a simple test. Most HIV tests, including most rapid tests and home tests, are antibody tests. Antibodies are produced by your immune system when you're exposed to viruses like HIV or bacteria. HIV antibody tests look for these antibodies to HIV in your blood or oral fluid. It can take 3 to 12 weeks (21-84 days) for an HIV infected person's body to make enough antibodies for an antibody test to detect HIV infection. This is called the window period.

Fourth generation test: Looks for antigens which are proteins produced by the virus and are part of the virus. Antigens are foreign substances that cause your immune system to activate and are present during acute HIV infection before people develop antibodies to HIV. This test can detect HIV just days after infection.

PCR tests (polymerase chain reaction tests: Also test for the actual virus. This type of test is often used for testing the viral load of HIV-positive people, as well as testing babies born to HIV-positive mothers. 2-3 weeks after infection, there will be enough viral material for a positive result.

8.1 What is the window period for an HIV test?

When testing for HIV, one must keep in mind that there is a period of time after being infected that they won't test positive even though they may be HIV infected. This is called the HIV "window period. This window period can be from 10 days to 3 months, depending on the person's body and on the HIV test that is used. It is also possible to get HIV from someone who is in the window period. In fact, there is evidence that a person in the window period is more likely to pass the virus on. The window period for antigen or antibody test is four weeks. There is a three month window period after exposure, for the confirmatory result to detect more than 99.9% of infections.

8.2 AIDS diagnosis

AIDS is the final stage of the HIV infection. There are a few factors that determine when a person's diagnosis has crossed from HIV latency to AIDS. Because HIV destroys immune cells called CD4 cells, one part of the AIDS diagnosis contains a count of those cells. A person without HIV can have anywhere from 500 to 1,500 cells/mm3 of blood. When the cells have dropped to 200, a person with HIV is considered to have AIDS.

Another factor indicating the AIDS virus is the presence of opportunistic infections. Opportunistic infections are diseases caused by viruses, fungi, or bacteria that would not make a person with a fully functioning immune system sick.

Other tests include:

- HIV viral load, to check how much HIV is in the blood
- A resistance test to see if the virus has any resistance to the medicines used to treat HIV
- Complete blood count, blood chemistry, and urine test
- Tests for other sexually transmitted infections
- TB test
- Pap smear to check for cervical cancer
- Anal pap smear to check for cancer of the anus

9. Other conditions that occur with HIV and AIDS

HIV weakens a person's ability to fight infections and cancer. HIV infection doesn't just affect your immune system, some complications of HIV infection are the direct result of long-term infection, whereas others are the indirect result of aging, antiretroviral treatment or other patient related

factors. The virus and the drugs you take to treat it can harm other parts of your body. HIV infected people need to be cautious and take steps to prevent or slow the damage that can occur.

HIV and AIDS and the skin

Because HIV weakens the immune system, people with AIDS are more likely to suffer health problems, including those of the skin. In fact, certain skin diseases may be the first sign that someone is infected with HIV. While many people with HIV/AIDS may develop the following conditions, especially Kaposi's sarcoma (sometimes called KS), it is important to note that a person may have any one of these conditions but not have HIV and AIDS.

Thrush and HIV/AIDS

Thrush is an infection of the mouth caused by the candida fungus, a type of yeast. A common sign of thrush is the presence of creamy white, slightly raised cuts in your mouth, usually on your tongue or inner cheeks. It can also be on the roof of your mouth, gums, tonsils, or back of your throat. The cuts, which may have a "cottage cheese" appearance, can be painful and may bleed slightly when you scrape them or brush your teeth. Candida infections can spread to other parts of the body, including the esophagus, lungs, liver, and skin and cause complications of the digestive system.

Eyes and HIV and AIDS

Research shows that about 7 out of 10 people with advanced AIDS will have trouble with their eyes. People may not have any symptoms until the problems is more serious. Some eye problems are mild, while others can be severe enough to cause blindness. Among the most common are infections, which can lead to bleeding in the retina (the tissue at the back of your eye that reflects light) and retinal detachment. It is important to get regular eye examinations and inform your health care provider if your vision changes for example:

Heart

HIV appears to independently increase the risk of cardiovascular disease. During HIV infection, your body will be inflamed as it tries to fight the infection. This kind of inflammation has been linked to heart disease.

Kidneys

High blood pressure and diabetes are major causes of kidney disease. Some HIV medications can cause kidney damage. If you already have kidney problems, your doctor may want to avoid those drugs or keep a close eye on their effects.

Liver

Untreated HIV can make liver problems more likely. Many people with HIV also have some form of hepatitis, an inflammation of the liver. Be kind to your liver and:

- Avoid alcohol and drugs
- Diabetes, high cholesterol or triglycerides, and being overweight can lead to fatty liver disease, so watch the extra carbohydrates, fats, and calories.
- Get regular liver tests to identify problems early.

Bones

People with HIV tend to lose bone density faster than other people with no HIV infection. The bones may get brittle, break more easily, may hurt and feel weak especially the hips. It could be from the virus itself or the inflammation it causes, medicines you take to fight HIV or for related illnesses, or an unhealthy lifestyle.

Brain

Advanced HIV infection can lead to opportunistic infections of the brain and spinal cord. These opportunistic infections cause inflammation of the brain and spinal cord. Having HIV can also affect your mental health. Many people living with it have depression or anxiety.

HIV and tuberculosis (TB)

TB is an opportunistic infection which is the common illness that occurs with HIV. This is as result of weakening of the immune system caused by HIV infection. Early TB screening of HIV infected people is advised.

Section 2: HIV and AIDS Treatment and Management

The main goal of HIV treatment is to fight the virus in your body. HIV treatment can help lower the viral load, fight infections, and improve your quality of life in general. But even if you take them, you can still give HIV to others. Remember, there is no cure for HIV yet. ARVs works by combining drugs that attack the virus in different ways and stops it from reproducing itself and spreading.

The goals for these medicines therefore are to:

- Control the growth of the virus in the body
- Improve functioning of the immune system so it can fight the virus
- Slow or stop symptoms
- Control infection to others
- Cause as few side effects as possible

If you have HIV, you need to keep your immune system as healthy as possible – your viral load needs to remain low and your CD4 count as high as possible. Here's what you can do:

• Follow a healthy lifestyle with exercise and a balanced diet.
• Manage your stress.
• Take supplements and immune-boosters.
• Avoid recreational drugs, alcohol abuse and smoking.
• Make routine visits to your doctor or clinic – it's important to get early treatment for opportunistic infections.
• Follow your doctor's directions when on antiretroviral therapy.

10. HIV and AIDS treatment and care

There are more than two dozen approved antiretroviral drugs to treat HIV infection. Doctors recommend taking a combination of at least two of them. This is called antiretroviral therapy (ART) or sometimes called ARVs (antiretrovirals). Your health care provider will let you know specifically how you should take your medications. You need to follow the exact instructions, and you should not miss even one dose. Failure to take your medication as prescribed can lead to drug-resistant strains of HIV, and your medication may stop working to control HIV. Antiretroviral drugs are often broken into six groups because they work in different ways, these include:

Groups of ARVs	What they do
1. Nucleoside/ Nucleotide Reverse Transcriptase Inhibitors (NRTIs)	NRTIs force the HIV virus to use faulty versions of building blocks so infected cells can't make more HIV.
2. Non-nucleoside Reverse Transcriptase Inhibitors (NNRTIs).	These are also called "non-nukes." NNRTIs bind to a specific protein so the HIV virus can't make copies of itself, similar to jamming a zipper
3. Protease Inhibitors (PIs)	These drugs block a protein that infected cells need to put together new copies of the HIV virus.
4. Fusion Inhibitors	Unlike NRTIs, NNRTIs, and PIs -- which work on infected cells -- these drugs help block HIV from getting inside healthy cells in the first place.
5. CCR5 Antagonist	Stops HIV before it gets inside a healthy cell, but in a different way than fusion inhibitors. It blocks a specific kind of "hook" on the outside of certain cells so the virus can't plug in.
6. Integrase Inhibitors	These stop HIV from making copies of itself by blocking a key protein that allows the virus to put its DNA into the healthy cell's DNA. They're also called integrase strand transfer inhibitors (INSTIs).

Some other medicines and supplements don't mix well with HIV drugs, so make sure you tell your doctor about everything you're taking when you start your medication and during your treatment.

10.1 Side effects of HIV and AIDS treatment

When you start taking ART for the first time, or a new antiretroviral drug, you may have side effects as your body adjusts to it. Side effects vary from person to person. For some, they are mild and often people get better within a few weeks, while for others, side effects get in the way of daily life. Your health care provider should tell you about what you can expect from your treatment so you know

what to prepare and watch out for as certain drugs may have potentially life-threatening side effects.

Short-Term Side Effects

You can manage most common, short-term side effects with changes to your lifestyle or habits. Don't smoke, do eat well, and try to exercise every day. Reach out for support if you need to. Your doctor may also be able to change your dose, how you take the medicine, or switch you to a different drug.

➢ Anaemia (abnormality in red blood cells) ➢ Diarrhea ➢ Acid reflux ➢ Dizziness ➢ Fatigue ➢ Headaches ➢ Nausea and vomiting ➢ Pain and tingling, or numbness in your feet or hands ➢ Rash ➢ Insomnia ➢ Dry mouth	ADHD Allergies Alzheimer's & Dementia Bipolar Disorder Cancer Chronic Pain Cold & Flu COPD Crohn's Disease Depression Fibromyalgia Weight loss

Remember: All of these can be signs of an underlying problem unrelated to your HIV treatment, too. If you also have belly pain, a fever, a stiff neck, or have a hard time breathing, call your doctor right away.

LONG-TERM SIDE EFFECTS

Side effect	Explanation	What to do
Lipodystrophy or Fat redistribution	A problem in the way your body produces, uses, and stores fat. These changes can include losing fat in the face and extremities, and gaining fat in the abdomen and back of the neck.	Exercise can help you lose body fat from your whole body, including the areas where fat has built up.
Insulin Resistance	A condition that can lead to abnormalities in your blood sugar levels and, possibly, diabetes.	Metformin is an effective treatment for insulin resistance and diabetes. Eat healthy include vegetables, fruits, beans, whole grains, and lean meats and low in processed foods high in sugar and salt. Regular exercise, being active for 30 minutes on most days of the week
Lipid abnormalities	Increases in cholesterol or triglycerides. Like with insulin resistance, lab tests (cholesterol and triglycerides) are the best indicators of lipid abnormalities	Do not smoke. Exercise more. Reduce the amount of fat in your diet Eat fish and other foods that are high in omega-3 fatty acids. These include walnuts, flaxseeds, and canola oil. Have blood tests Take medications that lower cholesterol if your doctor suggests it.

Decrease in bone density (osteoporosis)	Osteoporosis is a disease that causes bones to become weak and easy to break. Can be a significant issue, especially for older adults with HIV.	The following risk factors for osteoporosis can be controlled by lifestyle choices: **Avoid poor diet**: A diet low in calcium and vitamin D increases the risk of osteoporosis. **Increase physical activity**: Bones become stronger with exercise, so physical inactivity increases the risk of osteoporosis. **Stop smoking**: Smoking is bad for the bones. **Reduce drinking alcohol**: Too much alcohol can cause bone loss and broken bones
Lactic acidosis	A build-up of lactate, a cellular waste product, in the body. This can cause problems such as muscle aches to liver failure.	Treatment for lactic acidosis involves stopping the HIV medicine that is causing the condition. In the rare cases when lactic acidosis becomes life-threatening, immediate treatment in a hospital is necessary.

10.2 Infectiousness of HIV on ARV treatment

Reflection Activity

When I was diagnosed with HIV, "I was speechless, frozen in time. I couldn't believe it. I couldn't stop crying... It has been six years and my boyfriend – now husband – has stayed by my side. He is currently negative and we have four kids together. Just because you are positive doesn't mean you have to put your life on hold. Take your meds and enjoy life. Don't sit around allowing life to pass you by." – Mia.

Reflect on the scenario and explore the reasons why Mia's husband is not infected and yet they have four children conceived during HIV infection?

When a person takes their HIV medications every day as they're prescribed, the HIV medications:

- Are able to prevent the virus from replicating or making copies of itself.
- The amount of HIV in a person's blood stream goes down to a level so low that viral load tests are not able to detect HIV in the person's blood:
- When this happens, we say the person's viral load is undetectable.

Did You Know? Studies show that people living with HIV who are on treatment and have a suppressed viral load do not transmit HIV to HIV-negative sex partners easily. In other words, if you are living with HIV and have an undetectable viral load, worrying about passing HIV on to your sex partners is reduced. For many people, being undetectable offers a renewed sense of freedom, brings less anxiety around sex, and reduces stigma associated with HIV.

Undetectable levels of HIV do not mean a person is HIV-negative. If you stop taking your HIV-medications your viral load will go back up to detectable levels. The length of time that a person can remain undetectable is different for every person. It depends on how high your viral load was before you started treatment, your CD4 cell count, your general health and also what medications you're taking.

10.3 What is HIV drug resistance in HIV treatment?

Drug resistance refers to the ability of disease-causing germs such as bacteria and viruses to continue multiplying despite the presence of drugs that usually kill them.

Drug resistance	Cross resistance
•HIV medicines that previously controlled the person's HIV are not effective against the new, drug-resistant HIV •HIV medicines can't prevent the drug-resistant HIV from multiplying. • Cause HIV treatment to fail, and can spread from person to person.	•When resistance to one HIV medicine causes resistance to other medicines in the same HIV drug class. •A person's HIV may be resistant even to HIV medicines that the person has never taken. •Cross resistance limits the number of HIV medicines available to include in an HIV regimen.

10.3.1 Causes of drug resistance in HIV treatment

If there's one "golden rule" of antiretroviral therapy, it is: the lower the viral load while on treatment, the less likely it is that the virus will continue reproducing and mutating (changing its genetic make-up).

1. Mutation: During HIV infection, HIV multiplies (make copies of it) in the body while also changes form in its genetic structure to produces variations of itself. This is called mutation. This mutation can lead to changes in certain proteins, most commonly enzymes, which help HIV reproduce (replicate).

2. Poor medication adherence: In order for HIV drugs to work correctly, they must be taken every day exactly as prescribed. Skipping doses or not taking your medication correctly can cause the amount of an HIV drug to decrease in the bloodstream, this makes the treatment to be less powerful to prevent HIV from multiplying and mutating.

3. Poor absorption: Not only must HIV drugs be taken on specific times, (schedule), they also need to be absorbed effectively into the bloodstream. A drug or combination of drugs that is not absorbed properly can result in levels in the bloodstream that are too low and, ultimately, allow HIV reproduction and the accumulation of drug-resistance mutations. Certain drugs have dietary requirements, which can affect absorption. People with HIV can also experience diarrhea and vomiting, which can cause HIV drugs to be expelled from the gut too quickly and affect absorption.

4. Varying pharmacokinetics: Pharmacokinetics is the scientific term used by researchers to mean how a drug is absorbed, distributed, broken down, and removed from the body. Interactions between drugs, including common HIV medications can be a major problem in this regard.

10.4 The role of an HIV infected person in HIV treatment

- Take your HIV medicines every day and exactly as prescribed. Use medication aids such as a 7-day pill box or pill diary to stay on track; also set up reminders in your cellphone
- Use condoms the right way every time you have sex.
- Choose less risky sexual behaviors. Sexual activities that don't involve contact with body fluids (semen, vaginal fluid, or blood) carry no risk of HIV transmission.
- Talk to your partner about pre-exposure prophylaxis (PrEP), taking HIV medicines the right way, every day to prevent HIV infection.
- If you inject drugs, never share your needles with anyone.
- Tell your health care provider about any issues that can make adherence difficult e.g. a busy schedule that makes it hard to take medicines on time
- Keep your medical appointments so that your health care provider can monitor your HIV treatment.
- During appointments, ask questions and ask for help to manage problems that make it hard to follow an HIV treatment.
- Attend support groups in your area
- Keep your stress levels to the minimum
- Eat healthier, exercise and avoid alcohol and substance abuse
- If you plan to have a child, talk to your doctor or health care provider

10.5 Support to the HIV infected person to promote adherence:

There are many ways to promote adherence to HIV treatment, these can be facilitated by home based carers and include activities such as:

- Access to drug and alcohol counselling
- Social welfare for grant access
- Emergency relief for nutritional support
- Support with disclosure
- Encourage attendance and participating in a support group. These should be ideally run by community members but might need to be supported by the clinic staff or adherence/therapeutic counsellors or social workers.

Health committees can also support home based carers by accompanying them during their visits in communities. They can also invite them during their meeting to assist in problem solving, and or invite one of them to participate as health committee member. Health committees can also participate in support groups or assist to establish support groups in areas where there are none.

10.6 Factors influencing treatment outcomes

Being told you have HIV can be shocking, this is completely natural. Sticking to your treatment plan is not always easy. If you skip doses, the virus can start copying itself in your body again. There are a number of reasons why someone might struggle with treatment adherence, these include:

Personal:

- Internalized stigma; external discrimination
- Denial of diagnosis
- Unresolved grief reaction
- Lack of disclosure, guilt
- Alcohol and other substance abuse/addiction
- Mental illness
- Dementia

Environmental:

- Pill burden and side-effects
- Income and food insecurity – underlying starvation
- Negative staff attitudes
- Lack of training of staff; perceived lack of caring by health facility and staff
- Shift work; time off work to attend appointments.

Section 3: HIV prevention

Although research shows high levels of knowledge of HIV and prevention methods amongst people, this, however, does not influence people to change their behaviour and prevent HIV infection. Changing the behaviour and social change are long-term processes.

Reflective Activity: How does the following factors influence HIV infection?

Poverty	**Inequality**	**Patriarchy**	**Illiteracy**

The current National Strategic Plan 2012-2016 in South Africa promotes UNAIDS vision of "zero new HIV infections, zero discrimination and zero AIDS-related deaths." It has also committed to "zero new infections due to mother-to-child transmission."

For the best results in HIV prevention, a combination of prevention that support a holistic approach whereby HIV prevention is not a single intervention but includes the following aspects:

Biomedical

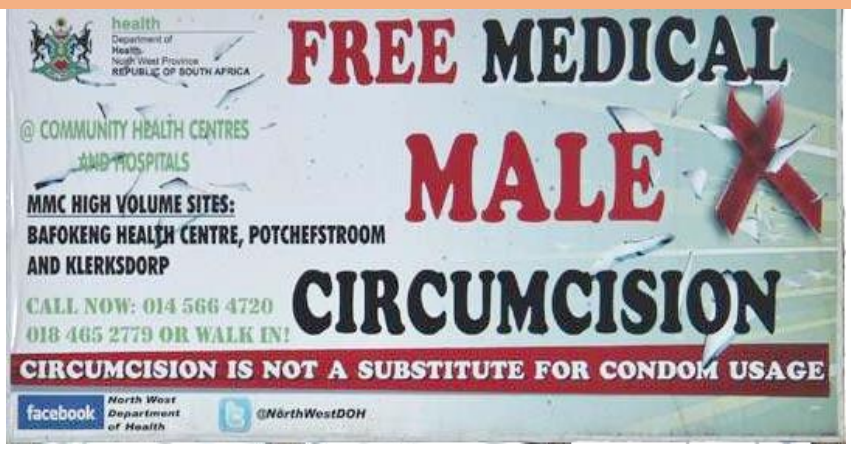
Condoms
Post-exposure prophylaxis (PEP)
MMC (medical male circumcision)
PMTCT
Testing
Needle exchange

Behavioural

Information provision e.g. sex education
Counselling
Safe infant feeding
Stigma and discrimination reduction
Abstain, Be faithful etc.

- Addressing gender, economic and social inequality
- Decriminalising sex work, homosexuality, drug use and the use of harm reduction services
- Protect individuals from police harassment and violence
- Laws protecting the rights of people living with HIV and AIDS

Did You Know? SA parents are 'happy' to circumcise babies to prevent HIV. The idea that babies be circumcised to help fight the HIV/Aids epidemic appears to be acceptable to a great many South African parents, Health24, 15 June 2017. Do you think this is acceptable in all racial groups, why?



The WHO makes it clear that:

⚠ *"Male circumcision should never replace other known effective prevention methods and should always be considered as part of a comprehensive prevention package, which includes correct and consistent use of male or female condoms, reduction in the number of sexual partners, delaying the onset of sexual relations, and HIV testing and counselling."*

11. Combination strategies to prevent HIV

Did you know? In December 2015 South Africa became the first country in sub-Saharan Africa to fully approve pre-exposure prophylaxis (PrEP), the use of antiretroviral drugs to protect HIV-negative people from HIV before potential exposure to the virus although this method is not 100% effective

PrEP isn't recommended for everyone, but for anyone who is:

- In an ongoing relationship with a partner living with HIV or doesn't know their status
- Sexually active with more than one person, even if they recently tested negative for HIV
- Heterosexual and doesn't use condoms with partners whose HIV status is unknown and are at high risk of HIV infection
- Sharing injecting equipment or have been in a treatment programme for injecting drug use

Vaccines for HIV: Although it's been decades since the discovery of the virus, we still don't have a vaccine for it. Why? Developing one is almost always a long process. It took 47 years to come up with a polio vaccine!

An HIV vaccine is even more difficult because:

- ❖ The HIV virus makes copies of itself very quickly.
- ❖ Many types of HIV exist, and new types keep forming.
- ❖ HIV has clever ways of "outwitting" the immune system.

Section 4: Health Committee Support to Communities

Health committees and health activists can play a role in ensuring the protection of human rights as essential to safeguard human dignity in the context of HIV/AIDS. In addition they are to ensure that effective, rights-based response to HIV and AIDS exist at different levels of society including at the health facilities. When human rights are protected, fewer people become infected and those living with HIV/AIDS and their families can better cope with HIV/AIDS, increasing adherence to treatment.

Did You Know? HIV positive teenagers in the Northern Cape have started defaulting on their treatment because of the difficulties they encounter as they regularly have to miss school in order to fetch their medication.
A nurse in the Northern Cape said a multisectoral, holistic approach was needed to address the problem of defaulting. "As Denosa we are advocating for more posts to be made available for nurses

so that our facilities can stay open till late. This will grant teenagers enough time to go and collect their treatment after school, and not during school hours. This will help us to keep a learner in class and at the same time help them to adhere to their treatment and ARV's," she said.
"Defaulting on HIV treatment has implications," said family practitioner in Northern Cape. "Taking medication for life is not an easy task, especially if you are a child. But breaking treatment also has its own adverse reactions," he said, insert from Health24.

Work out an additional plan on how you can support these children so that they can have access to their medication without missing school.

12. Health committees and their participation in health

There is a growing concern in many parts of the world including in South Africa that healthcare is not confidential, contains judgement about a person's HIV status, behaviour, sexual orientation or gender identity. These views are fueled by a variety of factors, including ignorance about HIV transmission routes.

People living with HIV can experience stigma and discrimination. To be HIV infected adds to already stigmatized populations such as women, sex workers, men who have sex with men, transgender people and people who use drugs. In addition to being a violation of human rights in itself, discrimination directed at people living with HIV or those believed to be infected, leads to the violation of other human rights such as access to healthcare and the right to employment.

When discrimination is by healthcare workers, this prevents many people from being honest to healthcare workers when they seek medical help and discourages others from seeking, using and adhering to HIV prevention and treatment services.

For health committees to support local communities, support has to be extended to include programme which aims to support the most vulnerable people in poor communities, who are infected with, or affected by HIV and AIDS. Activities may include:

- Support and collaborate with HIV programmes that aims to strengthen families and communities by giving them access to the prevention tools.
- Support organisations and work with social development to identify and refer orphans of HIV and AIDS to facilitate assistance to resources.
- To ensure that those infected with HIV and AIDS have access to resources and good quality health care through health committee monitoring function at the health facility
- Build capacity of organisations in health to improve self-reliance and sustainability of awareness programmes
- To hold the health department accountable for providing locally relevant rehabilitation services to HIV infected so that they can remain within their families and communities.
- Support organisations to focus on strengthening families and communities through education, early intervention and services delivered to those who need them in the communities where they live.
- Run campaigns with health facility and encourage people to test for HIV, to promote early detection

- Plan and implement community outreach programmes with the health facility and collaborate with relevant stakeholders and government department to destigmatise HIV and AIDS.
- Conduct HIV and AIDS Educational support groups for adults and youth at risk
- Raise awareness of people's right to health
- Advocate for a right-based approach to HIV and AIDS programmes and health services
- Support life skills implementation of support groups for adults and children
- Support initiatives for training of community caregivers in training such as caring for the carer
- Work with home Based Care services guided by Norms and Standards
- Awareness and prevention programs promoting behaviour modification at school and community organisations;
- Establish sectors for HIV community dialogues - invite FBOs to be part of health committees

13. Evaluating your risks of HIV infection

Do you practise any of the following sexual acts with somebody whose HIV status you are guessing as to be HIV-negative?

- Erotic massage only, hugging, kissing, petting, or showering and bathing together?
- Masturbate on you own, or phone sex?
- Mutual masturbation with no contact between broken skin or vaginal fluids?
- Thigh sex?
- Swallowing semen?
- Some of the above, but I do not swallow semen
- All of the above
- No sex please

Do you abstain from sex?

- Yes
- No
- I only have sex with my life partner and he/she has recently tested negative for HIV

Do you practice oral sex on a man?

- Who is wearing a condom?
- Without a condom?
- Without a condom if blood is present
- Without a condom but only on my HIV negative partner
- No, not at all

Do you practice oral sex on a woman?

- Through a latex barrier?
- Without a latex barrier?
- Without a latex barrier but only on my HIV negative partner
- No, not at all

Do you perform or receive oral-anal sex?

- With a latex barrier?
- Without a latex barrier?
- Without a latex barrier and with blood present
- Without a latex barrier but only with my HIV-negative partner
- No oral-anal sex for me

Do you perform or receive vaginal penetration?

- With a condom?
- Without a condom?
- With a condom and using a petroleum-based lubricant?
- Fisting without a latex glove?
- without a condom and only with my partner whom I know is HIV negative
- No sex for me!

Do you receive anal penetrative sex?

- With a condom?
- With a condom and withdrawing before ejaculation?
- without a condom
- With a condom and a petroleum-based lubricant?
- without a condom if blood is present
- Fisting without a latex glove
- Without a condom but only with my HIV-negative partner.
- No anal sex for me!

Do you share uncovered sex toys?

- Yes
- No, I only use my own personal sex toys and don't share it.
- Yes, but I know for sure that both my partner and I are HIV-negative.
- No, I have no sex toys

Do you come in contact with your lover's menstrual blood?

- Yes, and I do not know for certain that she is HIV-negative

- No
- Yes, but I know for certain that she is HIV-negative

How many sex partners did you have the past five years?

- Only one, my life partner, and I know that he/she is HIV-negative
- Only one, but I do not have proof that he is HIV-negative
- Two or more, but I have proof that they were all HIV-negative at the time of our encounters
- Two or more, and I do not know for certain that they are HIV-negative, but they looked healthy
- None

Do you know for certain that your sex partner (either your life partner or your current boyfriend/girlfriend) is HIV-negative?

- We both tested HIV-negative 6 months after the start of our relationship and since then neither of us has had sex with anybody else.
- I think so. He/she looks healthy.
- I did not ask, and do not know.
- I am too scared to ask.
- I do not have sex

Do you use intravenous drugs?

- No
- Yes, I need to inject myself sometimes, but I use sterile needles
- Yes, I need to inject myself sometimes. Sometimes, when in a hurry, I have used a syringe and needle of a friend or even a person unknown to me.

Do you have tuberculosis?

- Yes, I have night sweats and cough a lot
- Yes, but I am being treated
- No

Do you eat at least 3 fruits and vegetables per day, and three portions of meat per week?

- Yes
- No

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