

1

MYTHS AND TRUTHS ABOUT HIV

Key points:

1. HIV is a virus that attacks and weakens the human immune system.
2. HIV causes AIDS.
3. AIDS is a stage in HIV disease when a person's immune system is so weak that they get many illnesses at the same time.

An estimated 1.8 million South Africans have died from AIDS. 250,000 people each year continue to die in silence because of fear, stigma and lack of knowledge. There are also many false claims about cures and treatment. This chapter introduces the science of HIV/AIDS so that we can better understand the illness. We will talk about the history of HIV/AIDS and learn how scientists and doctors are able to show that HIV is the virus that causes AIDS.

In this chapter, we may use terms you have not heard before. Please look in the Glossary for a full definition of any words you do not understand when using this manual. Please see the table below for a list of terms translated into different languages used throughout South Africa. You can also write down everyday language that you commonly use to describe these terms.

TERMS	ISIXHOSA	ISIZULU	SESOThO	SLANG
HIV	<i>Intsholongwane kagawulayo, house in vincent</i>	<i>Isandulela ngculaza</i>	<i>Kwatsi</i>	
AIDS	<i>Ugawulayo, ingculaza, Z3, amagama amathathu</i>	<i>Ingiwane Lengculaza</i>	<i>Phamokate</i>	
IMMUNE SYSTEM	<i>Amajoni omzimba</i>	<i>Amasosha omzimba</i>	<i>Sesole sa mmele</i>	
FALSE CURES	<i>Imikokotelo yonyango</i>	<i>Imishanguzo Engahloliwe</i>	<i>Meriana e fosahetseng</i>	
VIRUS	<i>Intsholongwane</i>	<i>Ingiwane</i>	<i>Kokwanahloko</i>	
MYTH	<i>Inkolelo zobuxoki</i>	<i>Inkoleloze</i>	<i>Pheteletso</i>	
ARVS	<i>Amachiza okuthomalalisa ugawulayo</i>	<i>Imishanguzo yokunciphisa ingciwane nengculaza</i>	<i>Diokobatsi</i>	
EPIDEMIC	<i>Isifo esixakileyo</i>	<i>Isifo esixakile</i>	<i>Lefu le nammeng</i>	





ABOUT THIS CHAPTER

This chapter introduces the history of HIV/AIDS to everyone.

This chapter has the following sections:

- Myths about HIV
- Facts about HIV
- The origin of HIV
- History of the HIV pandemic
- How do we know that HIV causes AIDS?
- The spread of HIV in Africa
- Number of people living with HIV in South Africa
- Different kinds of HIV



Welcome and congratulations for starting the first chapter of the Health Literacy Manual. Many of you may know a lot about HIV, while for others this will be new information. All of us have heard stories about HIV and AIDS in our communities, at work and from our friends and families. Many of those stories are myths, based on fear and not on fact.

Some traditional healers claim they know the cure. Some people say AIDS is a curse from God and that the Church can cure people of HIV. Others say that vitamins can reverse the course of AIDS. All these different claims are not true. People have seen family members, neighbours and friends die of AIDS, which makes them scared and vulnerable. It is because of this that they are willing to believe these false claims and cures that have been shown not to work.

When we know the science of HIV/AIDS, we can better understand what it is and how we can prevent and treat it. HIV is not a death sentence. HIV is a virus. In this chapter, we will talk about the history of HIV/AIDS so that we can learn how scientists and doctors have proven the link between HIV and AIDS. By the end of this chapter you will understand how we know HIV is a virus and why it causes AIDS. This information will also help us to see why many of the stories we hear about HIV are not true.

Myths about HIV

A myth is a popular belief that is false or unsupported by facts. Often no-one knows where the myth came from. Myths often try to explain something that people fear, like HIV/ AIDS. Many people have questions about HIV/AIDS such as:

- What is HIV?
- Are HIV and AIDS the same thing?
- Does HIV cause AIDS?
- How can you get HIV?
- Will you die if you are HIV positive?

In this chapter we will talk about the stories you have heard about HIV/AIDS. We will then introduce you to the science of HIV/AIDS. First we will talk about the history of HIV/AIDS. This will help answer some of your questions. This will also help you to see why many of the stories and claims for cures are not true.



WORKBOOK NOTES

Have you heard any of these stories about HIV/AIDS?

- HIV was invented in a laboratory in America by scientists.
- You cannot get HIV if you are married.
- HIV is spread by using condoms.
- You can get HIV from eating oranges.
- Women are responsible for spreading HIV.
- HIV came from people who had sex with monkeys.
- HIV does not cause AIDS.
- Mosquitoes can give you HIV.
- HIV is a harmless virus that can be treated with vitamins.
- AIDS drugs (antiretrovirals) are toxic and make you sick.

These stories are not true. In this chapter and the rest of the Health Literacy Manual you will learn the facts about HIV/AIDS and see why these stories are not true.

Get informed
on the real facts
about HIV/AIDS.

Facts about HIV

Episode 1, Chapter 1



What does HIV mean? HIV is a short way of saying Human Immunodeficiency Virus. Each letter stands for 1 part of the name.



WORKBOOK NOTES

H is for 'Human' because HIV only infects humans.

I is for 'Immunodeficiency'. When someone has HIV it means that their immune system is weakened. The immune system is a very important part of our bodies that helps prevent us from getting sick. The immune system fights infections and germs, so when it is deficient or weak, it means that we will get sick easily.

V is for 'Virus'. A virus is a kind of germ that can enter our body and make us sick.

There are many different kinds of viruses. HIV is just one kind of virus that attacks the human immune system. HIV comes from a group of viruses called 'lentiviruses'. The name 'lentivirus' means 'slow virus' because it takes a long time for it to make us sick. Other lentiviruses can also be found in animals such as cats, sheep, horses, cattle and apes (monkeys, chimpanzees, gorillas). But HIV is only found in humans.

HIV is also part of a larger group of viruses called 'retroviruses'. You might recognise this name because HIV treatment is known as antiretroviral therapy or ARVs. When someone has HIV in their body, their immune system is weakened and can no longer defend their bodies from infections and illnesses. Before we learn more about HIV and what happens when it enters our body, let us look at where HIV came from.

Personal Story:

"My name is Nandipha Sgebenga. I live in Khayelitsha. My sister Ntombekhaya Kruthani passed away due to HIV. I came home from work one day and my sister said she had found some people who would treat her from home. This was a doctor called Dr Rath. This Dr Rath gives HIV positive people his treatment for only 1 to 2 months and they are meant to feel better on the third month. They told her to stop the Site B (ARV) treatment and not to mix it with theirs.

I did not see any improvement in her condition. She used to love food. She would smell something and ask: "What's cooking?" She used to clean her plate when she was on the Site B treatment (ARVs), but after starting Rath's treatments she would only eat a banana and drink juice. I asked her how the pills will work on an empty stomach and she would say she doesn't want to eat. If I made her eat, she would throw it up along with the pills.

She became weaker and weaker and this all happened in just 3 weeks, because she started Rath's treatment in early March and died on the 27th. I feel so sad because she could have survived longer like others. Some people with HIV are living life; we see them every day, and they live for 13 or 15 years with HIV. So I wish she hadn't taken Rath's pills. I wish I had known that by taking those pills, she would get sick and die so quickly."



The origin of HIV

Episode 1, Chapter 1



Where did HIV come from? Some of the myths and stories about HIV are about where it came from. After learning more about the origin of HIV, you will be able to see why these stories are not true. The reason it is important to know where HIV came from is because we can then learn more about it and why it has spread throughout the world.

WORKBOOK NOTES

No-one knows exactly where HIV came from. There are different theories or ideas based on what we do know that help explain how HIV developed. For many years scientists, medical doctors and researchers looked for clues to find out where this new virus called HIV came from.

Based on this research, the most likely theory is that HIV is a combination of 2 other viruses, which are found in West African monkeys. These monkeys are hunted and eaten by chimpanzees. At some time in the last million years, these 2 viruses combined in the body of a chimpanzee, creating a virus called SIV (Simian Immunodeficiency Virus). Simian means ape or monkey. SIV is very similar to HIV. In the last 50 to 80 years in West Africa, SIV crossed from chimpanzees to humans.

So how did Simian Immunodeficiency Virus (SIV) cross from apes to humans and become Human Immunodeficiency Virus (HIV)? Once again there have been many theories. After carefully studying SIV and HIV, it seems that the first people to be infected with HIV were people who hunted chimpanzees for food. While hunting, cutting up and eating the chimpanzees, SIV crossed over into the human body and changed into HIV. Perhaps this happened because some people ate meat that was not properly cooked. Or chimpanzee blood with SIV entered the human body through cuts in people's skin.

This is not the first time a disease has crossed from 1 species to another. For example, bubonic plague crossed from rats to humans in the 14th century killing 1 in 3 people in Europe.

Diseases can also move from humans to animals. In 1989 tourists in Rwanda infected gorillas with measles and 6 gorillas died. Currently scientists are worried about avian or bird flu from Asia crossing over to humans and causing a global flu epidemic.



An old drawing that shows bubonic plague in the 14th century.



WORKBOOK NOTES



DISCUSSION POINTS

In a group talk about the following questions and see if you can answer them.

1. Is it possible for diseases to move between animals and people?

Yes. This happened in the 14th century in Europe when fleas from rats infected humans with the bubonic plague. In another case, in 1989 measles crossed from tourists and infected gorillas in Rwanda. SIV crossed from chimpanzees to humans and became HIV.

2. What other virus are scientists worried may cross from animals to humans?

Scientists are worried that bird flu (avian flu) might cross from birds to humans and cause a global epidemic.

History of the HIV pandemic

Episode 1, Chapter 2



From looking at old blood samples (blood that is taken by a medical worker for tests) and medical records, it has been possible to see how HIV spread from West Africa to other parts of the world.

Old blood samples that were tested for HIV many years later show that a man from the Democratic Republic of Congo was infected with HIV as early as 1959. The first HIV infections in the United States happened in the 1970s, but no-one knew this at the time. By 1980 HIV had spread to every continent besides Asia, but it was only identified as a new disease, called AIDS, in 1981. In 1983 HIV was identified as the cause of AIDS.

How do we know HIV causes AIDS?

Episode 1, Chapter 2



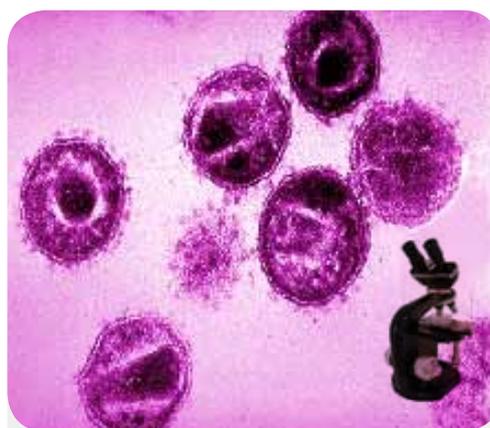
So how was AIDS discovered? In the 1970s in America doctors started to notice that there were more and more cases of a skin cancer called Kaposi's Sarcoma (KS). This was strange because before this time only older people used to get it and now it was found in young homosexual men. The only other time KS was found was in people whose immune system was suppressed, as happens when people are treated for cancer. At the same time, an increase in the number of people who had an uncommon kind of lung infection called Pneumocystis carinii pneumonia (PCP) was also noticed. Usually, the immune system fights PCP which is why it is uncommon. PCP is usually only seen in people whose immune system has been weakened. Doctors and other people began to notice and talk about these illnesses, but still didn't know what caused them. But the doctors did notice that all these patients had very weak immune systems.

At first it seemed this new illness only affected homosexual men, but soon afterwards drug users in Britain were also found to have it. Then the illness was found in people from Haiti and also in people with a disease called haemophilia. Haemophiliacs suffer from a condition where they cannot stop bleeding if they are cut, which means they often need to be given blood or have blood transfusions. In Uganda, people with very weak immune systems were found with an illness which was called 'slim' because it caused extreme weight loss and then death.

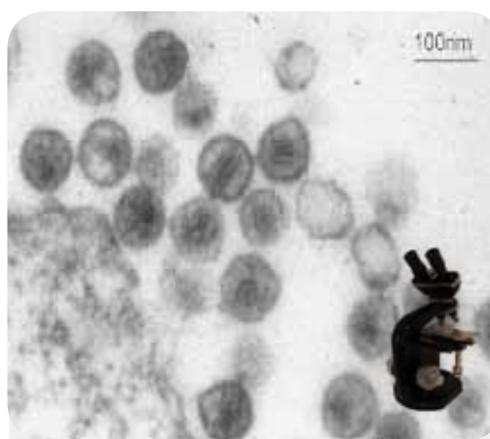
In 1981, as more and more people from different groups and different parts of the world were found with very weak immune systems and illnesses like KS, PCP and 'slim', it was decided that the name of this new illness should be AIDS. AIDS stands for Acquired Immunodeficiency Syndrome.

In May 1983, scientists in France said that they had found a new virus which they believed might be the cause of AIDS. A year later, American scientists also said that they had found the virus that caused AIDS. When these 2 viruses were closely looked at it was proven that they were the same virus. It was agreed that this virus caused AIDS. This virus had different names at first, but in the end was called HIV.

**HIV is a virus
that causes AIDS.**



This is a photo of HIV taken through a microscope.



This is a photo of SIV taken through a microscope.

AIDS stands for acquired immunodeficiency syndrome.

Acquired This means it is something you get infected with and are not born with.

Immune This is because people with AIDS have very weak immune systems which cannot fight infections.

Deficiency This means that something is not working properly or is lacking or without. In the example of AIDS, it means that the immune system is not working properly.

Syndrome A syndrome is when many different symptoms and opportunistic infections or illnesses attack a person at the same time.



DISCUSSION POINTS

In a group talk about the following questions and see if you can answer them.

1. When did AIDS become known as a new kind of illness? Explain how this happened.

In 1981 AIDS was the name given to an illness with the symptoms of a very weak immune system and a combination of other diseases such as KS, PCP or extreme weight loss.

2. When did people discover HIV causes AIDS?

In 1983 HIV was found and identified as a new virus in a laboratory in France. These scientists could prove that this virus caused AIDS.

3. What is the difference between HIV and AIDS?

HIV is a virus that weakens the human immune system. AIDS is when a person with HIV is seriously ill because they have many illnesses at the same time which their immune systems cannot fight.



WORKBOOK NOTES



A red blood cell seen under a microscope.

History of the HIV pandemic

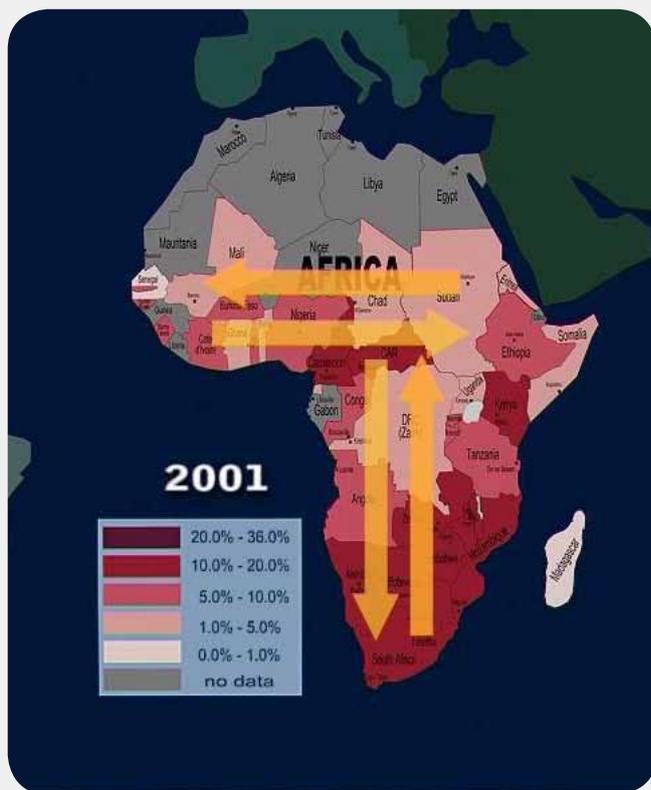
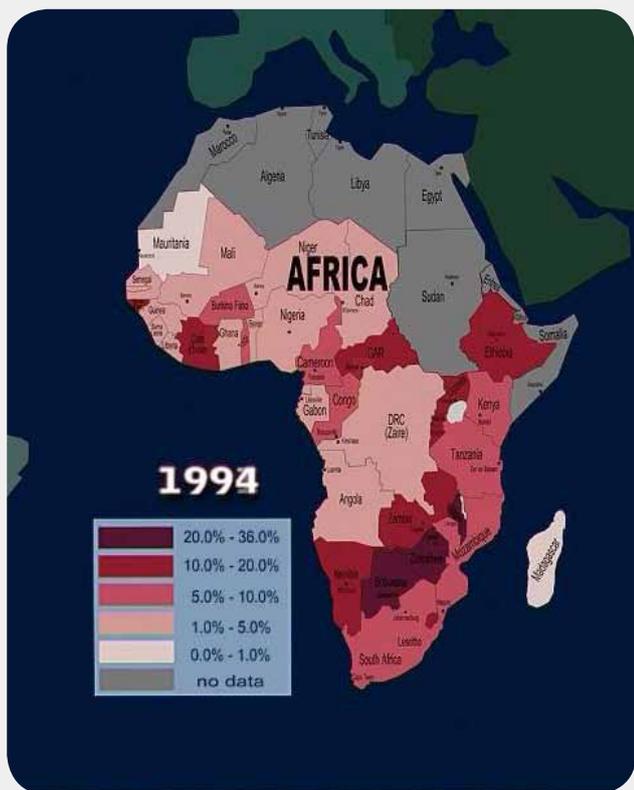
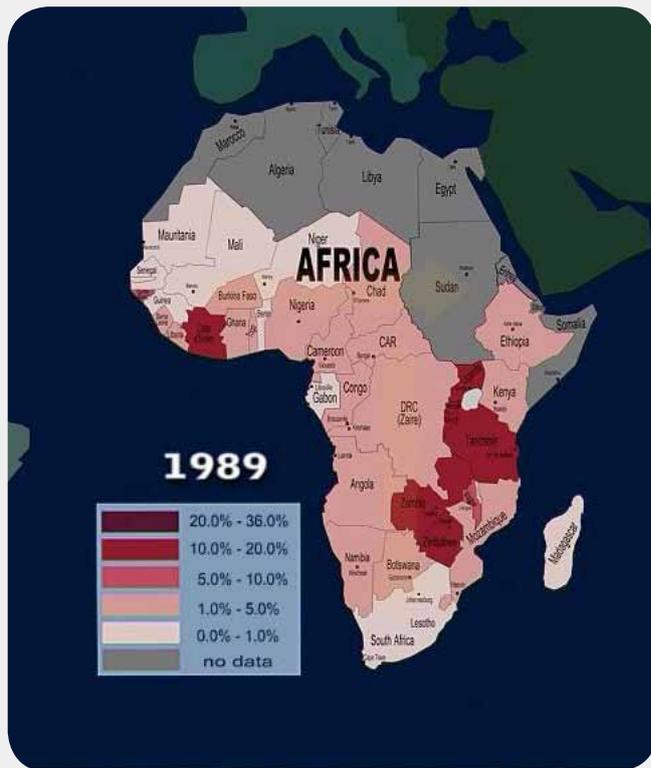
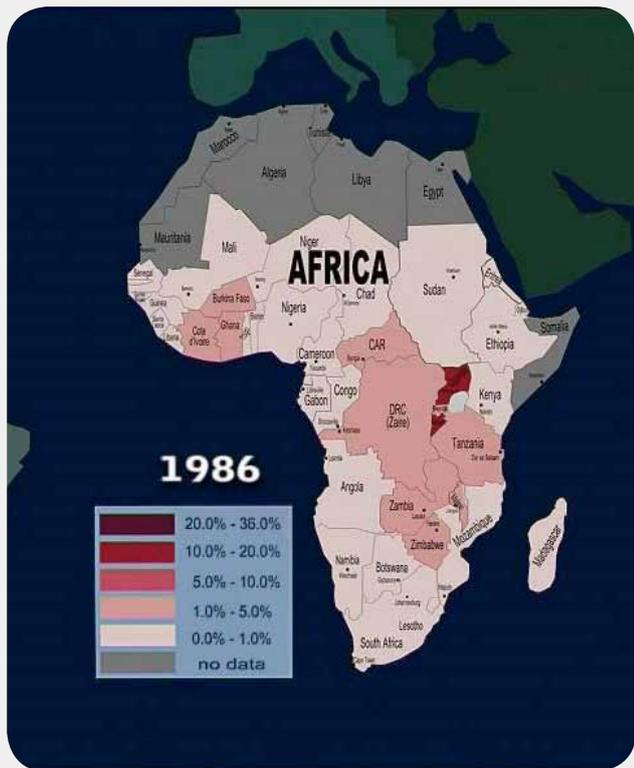
Episode 1, Chapter 2



At first HIV spread slowly in Africa, but the epidemic moved faster from the late 1980s onwards. The movement of people along trucking routes and of refugees fleeing wars pushed the epidemic from central Africa further south. Soon sub-Saharan Africa was the worst affected region or place in the world with the highest number of people living with HIV. 67% of all HIV positive people in the world live in sub-Saharan Africa. In 2007 75% of all AIDS deaths happened in this part of the world (UNAIDS, 2008). According to UNAIDS, in 2009 there were an estimated 5.6 million South Africans living with HIV. This makes South Africa's HIV epidemic the largest in the world.



WORKBOOK NOTES



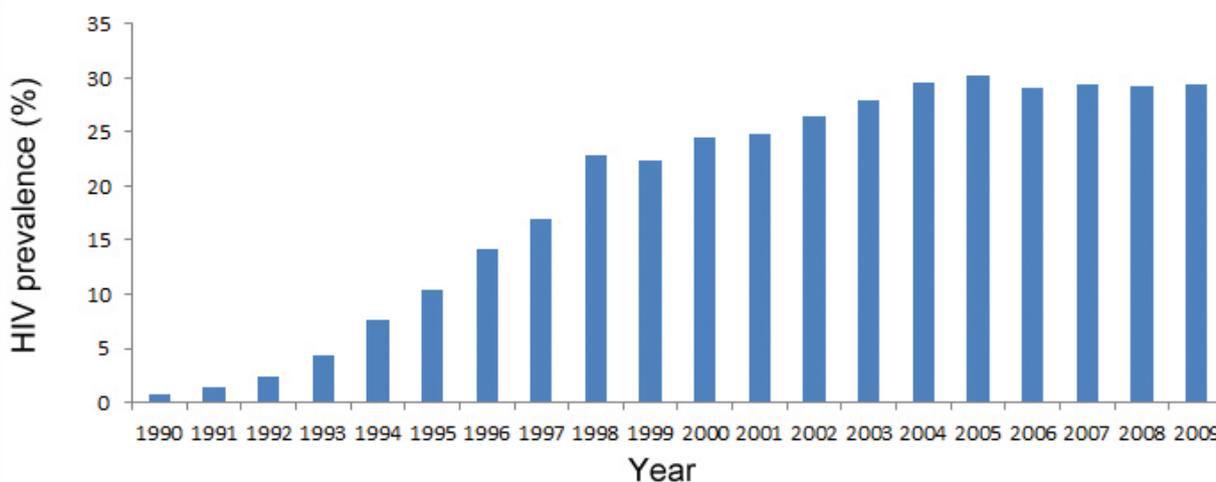
These 4 maps show the spread of HIV in Africa. The dark red shows where there are a lot of people living with HIV/AIDS. The darker the colour the more people and the higher the number of people infected with HIV.

Number of people living with HIV in South Africa



Statistics from UNAIDS (2010) estimate that 17.8% of the population in South Africa, between the ages of 15 and 49 years, are HIV positive. This can be more in some age groups. For example, the 2009 HSRC survey estimated that almost 1 in 3 women between the ages of 25-29 are HIV positive and that over 25% of men, between the ages of 30-34, are HIV positive.

In 2005 approximately 5 million people were living with HIV in South Africa. By the end of 2009, 5.6 million people were living with HIV. In 2011, the South African Department of Health reported that 1.4 million people were receiving ARVS, but many more still need to access treatment. Not all South Africans needing treatment are receiving it.



National HIV prevalence trends among antenatal clinic attendees, South Africa, 1990 to 2009

Some of you may have heard the words 'epidemic', 'prevalence' and 'incidence'. These words are often used to talk about HIV and how it spreads.

An **epidemic** is when a very large number of people suffer from a disease or illness at a particular time. It is not only the number of people that decides if a disease is an epidemic. An epidemic is when there are more cases of a disease than expected in a region.

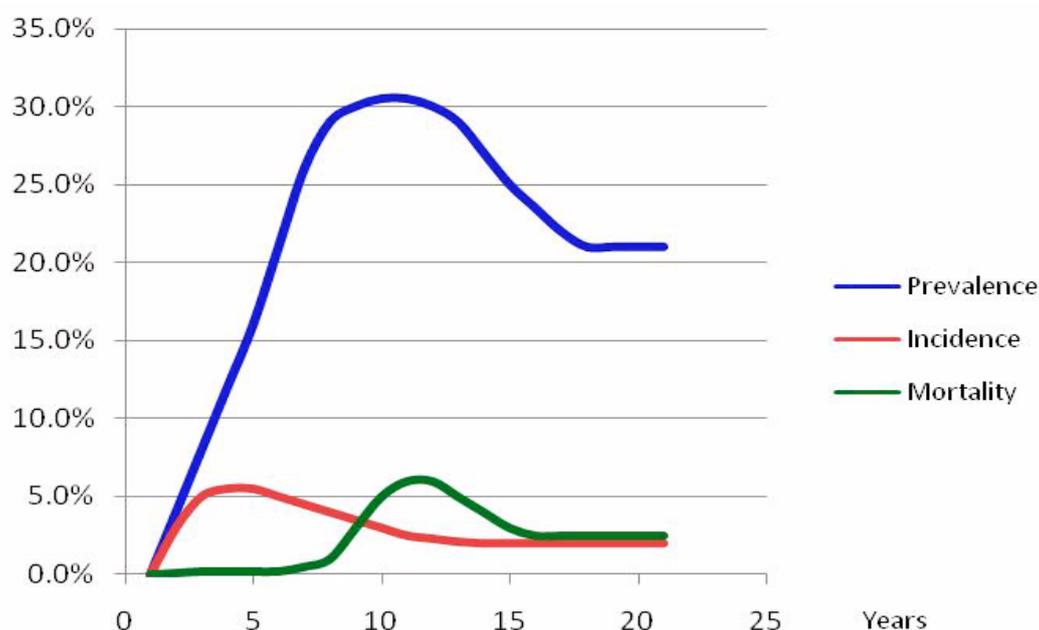
Prevalence is a measure of the proportion of cases of an illness in a population at a particular time. Prevalence is calculated at one point in time. For example, we can say HIV prevalence in South Africa in 2008 is estimated to be 11%. Prevalence is always a percentage. A generalised HIV epidemic is when HIV prevalence among pregnant women is consistently more than 1% (UNAIDS/WHO, 2002). This means that the HIV epidemic is found in the general population and not only in small groups of people who are at higher risk of HIV infection, such as commercial sex workers. We can see how serious the epidemic is in South Africa, because the antenatal prevalence level is over 29%, which is much higher than the 1% which defines a generalised epidemic.

In 2009 there were 5.6 million people living with HIV in South Africa

Incidence is a measure of only the new cases (people newly infected with HIV) during a given period. Incidence is calculated over a period of time, such as 12 months. If we want to see if prevention education is changing people's behaviour and having a positive effect on stopping the spread of HIV/AIDS, we could look at the incidence rates and see if they have gone down.

Prevalence tells us the proportion of people in the population who are living with HIV. This proportion changes based on 2 factors - the number of new infections and the number of deaths of people with HIV/AIDS.

- If new infections increase and the death rate remains the same, prevalence goes up.
- If new infections increase by 10,000 per year and the death rate increases by 10,000 per year, prevalence remains stable.
- If new infections remain stable, and the death rate increases by 10,000 per year, then prevalence goes down.
- If new infections go down by 5,000 per year and the death rate remains stable, prevalence goes down.
- If new infections go down by 5,000 per year and the death rate decreases by 5,000 per year (for example, if more people are on ART), prevalence remains stable.



Here is a graph that shows how prevalence and incidence work. Mortality means how many people have died because of HIV/AIDS.

As the graph shows, at the beginning of the epidemic prevalence increases rapidly, and there is a very low death rate (because of the long latent period of HIV infection). Prevalence then peaks (reaches its highest point), levels off (stays the same) and comes down. This is because new infections go down in an epidemic where death rates stabilise.

Different kinds of HIV

You have already learnt a lot about where HIV came from. You have also heard that HIV comes from a family of viruses called retroviruses. Viruses change all the time so that they can survive. When viruses change it is also called mutation or adaptation. This means that there are different kinds or types of HIV.

HIV TYPES 1 AND 2

There are 2 types of HIV: HIV 1 and HIV 2.

HIV 1 is the most common and it is found all over the world. It has many sub-types. It is also the most aggressive form of HIV which means it spreads more easily.

HIV 2 is found in parts of West Africa. It has few sub-types and is much less aggressive.

HIV SUB-TYPES

HIV 1 is divided into groups called sub-types. The most common sub-types are B and C.

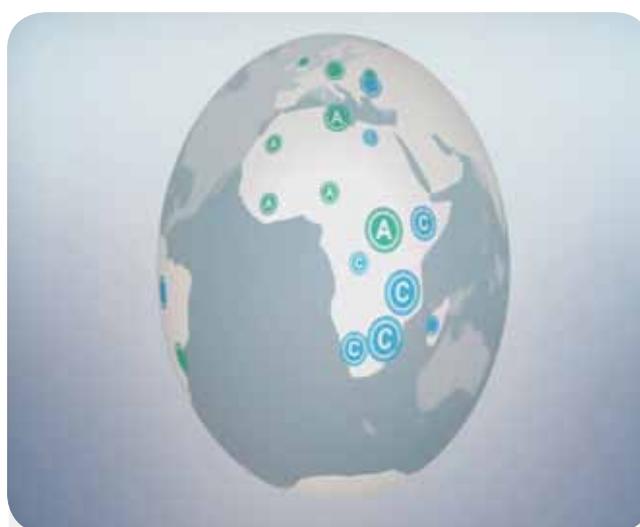
Sub-type B is most common in North America, Europe and Australia.

Sub-type C is most common in Africa and India. It has caused the worst epidemics, and is responsible for half the world's infections.

In Southern Africa, most people are infected with sub-type C. People in Northern Africa are mostly infected with sub-type C and A.

There are many differences between the HIV in different people's bodies.

These different kinds of HIV are called different strains. It is because there are different strains that it is so important to avoid being infected more than once (being re-infected). This means that even if you and your partner are HIV positive you must use a condom every time you have sex. This is to prevent re-infecting each other with different strains or kinds of HIV.



Map showing different subtypes in Africa.

**Use a condom
to protect yourself from being
infected with different
sub-types and strains
of HIV.**



DISCUSSION POINTS

In a group talk about the following questions and see if you can answer them.

1. What family of viruses does HIV come from?

HIV comes from a family of viruses called retroviruses.

2. What are the most common sub-types?

The most common sub-types are B and C.

3. What is the type and sub-type of HIV found most often in South Africa and Southern Africa?

HIV 1 and sub-type C is most common in South Africa and Southern Africa.

4. Why are 2 HIV positive people still advised to use condoms when they have sex?

Even if both people have HIV, they still have to use condoms because they could re-infect each other with different sub-types of HIV which will make them sick.



Congratulations on completing the first chapter of the Health Literacy Manual! In this chapter we have learnt about the history of HIV/AIDS. We have learnt that HIV is a virus that causes AIDS. We have discovered that HIV is the result of another virus called SIV crossing from chimpanzees into humans. We have talked about the different types of HIV and the HIV sub-types. We have seen how HIV has spread to different parts of the world. We have also looked at how HIV affects South Africa. In the next chapter we will learn about the human body and how it works. This will help us when we start to look at how HIV infects our bodies, why it makes us sick and how we can treat and take care of ourselves if we are HIV positive.



BEFORE WE END OFF

Make sure all questions have been answered. It is important that you understand the following key points:

1. HIV is a virus that attacks and weakens the human immune system.
2. HIV causes AIDS.
3. AIDS is a stage in HIV disease when a person's immune system is so weak that they get many illnesses at the same time.



WORKBOOK NOTES



MULTIPLE CHOICE QUESTIONS

Name :

Circle the correct answer for each question. You can only choose 1 answer for each question.

1. SIV (Simian Immunodeficiency Virus) is found in:

- a) Humans
- b) Cats
- c) Apes
- d) Dogs

2. SIV entered humans and became HIV, because:

- a) People had sex with monkeys.
- b) People hunted chimpanzees for food.
- c) People used chimpanzee blood as medicine.
- d) People are being punished.

3. HIV can be found in:

- a) Cats
- b) Apes
- c) Humans
- d) Only women

4. Which of the following statements is true?

- a) HIV only affects homosexual men.
- b) HIV is a retrovirus.
- c) HIV comes from America.
- d) HIV only affects intravenous drug users.

5. A syndrome is:

- a) A serious illness.
- b) When someone has many illnesses at the same time.
- c) When someone does not have enough food.
- d) A disease found in people's blood.

6. AIDS (Acquired Immunodeficiency Syndrome) is:

- a) When someone with HIV is very sick with many different illnesses.
- b) When someone is bewitched.
- c) A disease that only women get.
- d) When someone who is HIV negative gets sick.

7. The largest number of people living with HIV live in:

- a) Europe
- b) Sub-Saharan Africa
- c) India
- d) West Africa

8. Which of the following causes AIDS?

- a) Poverty
- b) Bad nutrition
- c) Too much sex
- d) HIV

9. Which of the following statements is true?

- a) HIV was made in a laboratory in Europe.
- b) HIV was made to kill African people.
- c) HIV is a virus that weakens the immune system.
- d) HIV does not exist.

10. Which of the following statements is true?

- a) HIV is a bacteria.
- b) HIV is a virus.
- c) HIV is a fungus.
- d) HIV is a syndrome.



WORKBOOK NOTES

A large area for writing notes, consisting of 20 horizontal dashed orange lines on a light gray background.