

## 17

## CHRONIC DISEASES

### Key points:

1. Most chronic diseases are environmentally related and can be prevented by a healthy lifestyle.
2. High blood pressure, diabetes and obesity are major health problems in South Africa.
3. Chronic diseases are responsible for a growing number of deaths worldwide.

Chronic diseases are long term manageable diseases. Chronic diseases generally cannot be prevented by vaccines or cured by medication, nor do they just disappear. They require long term management and treatment throughout a person's life. Most chronic diseases can be fatal if left untreated. The most common kinds of chronic diseases are:

- High blood pressure (hypertension)
- Obesity
- Lung disease
- Diabetes
- Cancer

Globally, many of these diseases are environmentally related. Our environment includes where we live, what work we do, what we eat, how much exercise we do and so on. This means that chronic diseases are related to how we live our lives and can be managed by lifestyle changes. For example, losing weight and getting fit will reduce high blood pressure. A healthy lifestyle not only helps people who have chronic diseases, it can also help prevent chronic diseases. A healthy lifestyle includes eating a balanced diet, doing exercise and not smoking and not drinking too much alcohol.

Chronic diseases are a major cause of death and disability around the world. In 2005 it was estimated that 60% of all deaths in the world were caused by chronic diseases (WHO, 2005). This means that globally more people die of chronic illnesses than infectious diseases such as HIV, malaria and TB. 80% of chronic diseases are found in low and middle income countries, like South Africa (WHO, 2005).





## ABOUT THIS CHAPTER

The aim of this chapter is to learn about chronic diseases and how they can be managed.

### This chapter covers:

- What are chronic diseases?
- Hypertension
- High Cholesterol
- Diabetes
- Obesity and overweight
- Asthma
- Cancer
- Chronic disease prevention



**Welcome to Chapter 17** where we are going to talk about chronic diseases. Chronic diseases are very common in South Africa. You may even know someone with a chronic disease, such as high blood pressure or diabetes. The good news is that most chronic diseases can be prevented and a lot can be done to control them.

Chronic diseases, especially diabetes, obesity and hypertension, affect many South Africans, including HIV positive people. With ARVs, many HIV positive people are living longer so they are also affected by chronic diseases, which they may have had before they got infected with HIV. Often these chronic diseases are only picked up after they test HIV positive, because they are going to the clinic more regularly. It is important to know how chronic diseases can affect your health, because most of the time you can do something to reduce your chances of developing a chronic illness. In 2002, an estimated 28% of deaths in South Africa were caused by chronic diseases (WHO, 2002).

People used to think that chronic diseases only affected richer countries, because about 20-30 years ago these kinds of illnesses were not often found in poorer countries in Africa, Asia and South America. With globalisation and industrialisation many people in poorer countries are now at risk of chronic diseases. This is because people in these countries have stopped eating their traditional foods and live more urban lifestyles.



*As more people move to cities, their lifestyles change and they are at risk of chronic diseases.*

The main causes of chronic diseases are poor diet and not enough exercise. This means that chronic diseases can affect poor and rich people. But poor people throughout the world are at increased risk of chronic diseases because they live harder lives with little money for food and other basic needs are often not met. They also have higher levels of risk behaviour, unhealthy living conditions and limited access to good healthcare. So even though chronic diseases are often caused by our lifestyle, we need to understand that not everyone has control over their lifestyles, because they are poor and cannot always choose what they eat and how they live their lives.

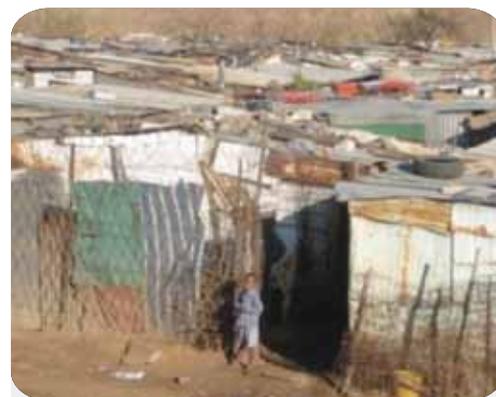
For example, many poor South Africans don't eat enough fruit and vegetables because food like pap and bread is cheaper and keeps them full for longer and their money can go further. But having a balanced diet is not only about money, it is also about education. If people are more aware of how diet affects their health they are more likely to try and eat different foods and cut back on foods that are not good for them. Eating refined carbohydrates (white mielie meal, white bread), along with too much sugar and fat, is 1 of the main causes of chronic diseases, such as obesity, diabetes and high blood pressure. Even if you do not have a lot of money to spend on food, there are things you can do to improve your diet, like choosing brown bread instead of white bread.

About 80% of heart disease, strokes and diabetes can be prevented by:

- Having a healthy diet
- Doing regular exercise
- Not smoking

Obesity is a major cause of heart disease and is also linked to the increase in Type 2 diabetes. In 2005 77% of South African women and 51% of men were overweight (WHO, 2005). The number of overweight people is expected to increase because of urbanisation and people eating unhealthy foods that are high in sugar, salt and fat. In South Africa, many poor people are overweight. Eating unhealthily affects people from all parts of society.

While poverty can increase people's risk of developing chronic diseases, these diseases also make families poorer. A major cause of household poverty is the severe illness or death of the breadwinner in the family. In South Africa, we have become aware of how HIV has affected households and how the death or illness of family members in the household has made the family unable to afford basics like food and fuel for cooking. A similar thing can happen if someone in the family is ill or dies because of a chronic disease. The medical expenses for the ill person, as well as needing someone (who could earn money) to take care of them makes the family even poorer. In this way chronic diseases can make families even poorer.



*Poor people are at increased risk of chronic disease.*



*Brown bread is much better for your health than white bread.*



## DISCUSSION POINTS

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

### 1. Why are poor people at increased risk of getting chronic diseases?

Poor people throughout the world are at increased risk of chronic diseases because they live harder lives with little money for food and other basic needs are often not met. They also often have unhealthy living conditions, limited access to good healthcare and cannot always choose what they eat and how they live their lives.

### 2. Name 3 chronic diseases that can mostly be prevented by eating a healthy diet.

Heart disease, diabetes and obesity can all be prevented by eating a healthy diet.

# What are chronic diseases?

Chronic diseases are also sometimes called ‘non-communicable’ or ‘lifestyle’ diseases. ‘Non-communicable’ means that the disease is not infectious. The reason chronic diseases are sometimes called ‘lifestyle diseases’ is because most chronic diseases are caused by how we live our lives – the food that we eat, if we smoke or drink and if we do exercise.

Chronic diseases are diseases that need to be constantly controlled using medication or other things, like diet. It is far easier to prevent getting a chronic disease, then trying to treat it. Most of the time there is no cure for a chronic disease. Once a person develops a chronic disease, they have to spend the rest of their lives managing it.

**In South Africa, the most common chronic diseases are:**

- Hypertension (high blood pressure)
- Diabetes
- Obesity

Hypertension and obesity most often lead to heart disease and diabetes.

## SIMILARITIES AND DIFFERENCES BETWEEN HIV AND OTHER CHRONIC DISEASES

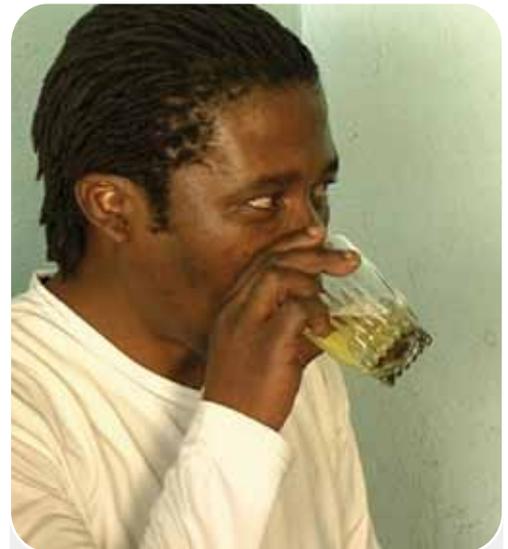
There are some similarities between HIV and chronic illnesses, such as taking medication for the rest of your life. But there are also some important differences.

### Similarities:

- Like other chronic diseases, HIV cannot be cured and you will need to take medication for the rest of your life to control it.
- Like chronic diseases, HIV is also influenced by environmental factors. For example, people who do not live together in stable families, because they are off looking for work on mines and farms, are more likely to have more partners and become exposed to HIV infection. People who live in informal settlements are also more likely to be exposed to HIV because the socio-economic environment means that people are poor and more likely to have many partners to meet financial needs. There are also high levels of alcohol abuse and gender violence in poor socio-economic areas.

### Differences:

- HIV is an infectious disease, which means it can be passed on from one person to another. We have already learnt that HIV is passed on by sex, and any other contact with bodily fluids like blood.
- Chronic diseases are not infectious (communicable) and are usually the result of lifestyle choices and environmental factors.



*Drinking too much alcohol puts you at risk of chronic disease.*



*Eating fruit and vegetables is one of the easiest ways to help prevent chronic diseases.*

**Most chronic diseases can be prevented by having a healthy lifestyle**

Living a healthy lifestyle, such as eating a balanced diet, doing exercise, not smoking and not drinking too much alcohol, is important for everyone. But these lifestyle choices are even more important for people with chronic diseases and HIV, because a healthy lifestyle can help a person live a longer and better quality life. There is a lot of medical evidence that suggests that a healthy lifestyle actually prevents chronic illnesses, especially heart disease, diabetes and obesity. Some people living with HIV may also have a chronic disease, such as diabetes.

### CHRONIC DISEASE AND GENETICS

Some chronic diseases are shown to run in families. This means that if someone in your family has a chronic disease, you could be at increased risk of getting the disease because you get the genes from your family. Your genetics decide many things, like how you look, how tall you grow, the colour of your eyes and also things like your health. For example, if your father had high blood pressure, you are at increased risk of getting high blood pressure. The same goes for asthma, cholesterol, cancer and diabetes. But this does not mean that if someone in your family has a chronic disease you will automatically get it. Apart from genetics, you usually need to have another factor, like being overweight or eating a poor diet, before you develop the illness. So leading a healthy lifestyle is still the most important thing you can do to help prevent getting a chronic illness.



*Exercise is very important for keeping healthy.*



## DISCUSSION POINTS

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

### 1. What are some other names for chronic diseases?

Chronic diseases are also sometimes called 'non-communicable' or 'lifestyle' diseases.

### 2. Why do you think chronic diseases are called lifestyle diseases?

Chronic diseases are called lifestyle diseases because they are often caused by how we live, such as the food that we eat and how much exercise we do.

### 3. Can chronic diseases be cured?

Most of the time chronic diseases cannot be cured, but they can be treated and controlled with medication and other changes like diet and increased exercise.

### 4. Are chronic diseases infectious?

No, chronic diseases are not infectious, because they cannot be passed on from 1 person to another.



## WORKBOOK NOTES

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# Hypertension

## WHAT IS HYPERTENSION?

Hypertension is also called **high blood pressure**. Blood pressure is a way of measuring the force (pressure) that the blood puts on the walls of the arteries as it is pumped through the body. You might want to look at Chapter 2 to remind yourself about arteries and the circulation system. You can feel this pressure easily as the pulse at your wrist or on your throat.

It's a good idea to be tested for hypertension at your clinic.

High blood pressure is bad for your health because it damages the arteries that bring blood to the heart, brain, kidneys and other parts of the body. These health risks not only affect people with high blood pressure, but also affect anyone who has raised blood pressure. Raised blood pressure means that your blood pressure is higher than it should be. Raised blood pressure greatly increases your risk of:

- Heart disease (heart attack)
- Stroke
- Kidney failure and other diseases.

One of the main challenges for people who have hypertension is that they don't necessarily feel unwell. We all know that if you don't feel sick, it is hard to take medication every day or to continue to go to the clinic for check-ups. But because hypertension is a chronic disease, it needs to be managed and controlled, or else it can be fatal. About 3.9 million people die every year from hypertension and other heart conditions (WHO, 2003).

## WHAT CAUSES HYPERTENSION?

Hypertension is mainly a lifestyle disease, which means that it is caused by how people live. Sometimes people prefer to say that there are 'risk factors', instead of 'causes' of hypertension. Risk factors are things that increase your risk of developing hypertension.

### The main causes of or risk factors for hypertension are:

- Eating an unhealthy diet
- Drinking too much alcohol
- Not exercising enough

These lead to **obesity** which is when someone is very overweight. Being overweight puts a lot of strain on your heart and also means that you probably don't exercise enough. If you are overweight you have an increased risk of developing hypertension. Globally, nearly 2 out of 3 stroke cases and half of heart disease cases are caused by high blood pressure (WHO, 2003).

### Other causes of hypertension:

Hypertension is caused by many different things. Apart from lifestyle factors, like diet and exercise, your chances of developing hypertension are higher if you have a lot of stress in your life, or if there is a history of hypertension in your family. If you have a parent or brother or sister who has hypertension it is a good idea for you to check your blood pressure, because hypertension can be linked to genetics. This means that there is something in your DNA which causes you to be more likely to have hypertension and this can be passed on from parents to children. It is a good idea for everyone to check their blood pressure from time to time especially once you are older than 40 years. If you smoke cigarettes or have diabetes you are also at increased risk of developing hypertension.



*If you are overweight you are at increased risk of hypertension.*

### HOW HYPERTENSION IS MEASURED

Hypertension is measured through taking blood pressure. Blood pressure is recorded as 2 numbers, such as 120/80. The larger number indicates the pressure in the arteries as the heart squeezes out blood during each beat. This is called the **systolic blood pressure**. The lower number indicates the pressure as the heart relaxes before the next beat. This is called the **diastolic blood pressure**. There is no 'ideal' blood pressure reading. The following figures for clinic blood pressures can be used as a guide:

- Normal blood pressure – less than 120/80
- High-normal – between 120/80 and 140/90
- High – equal to or more than 140/90
- Very high – equal to or more than 180/110.



*Smoking tobacco puts you at risk of hypertension and other chronic diseases.*

Your blood pressure will vary at various times of the day. Stress can also cause blood pressure to be high at a particular point with it going lower naturally later on. 1 high reading does not mean you have hypertension. A health worker will normally monitor your blood pressure over time to see if you have high blood pressure. High blood pressure usually does not give warning signs. You can have high blood pressure and feel perfectly well. The only way to find out if your blood pressure is high is to have it checked regularly.

### What are the symptoms of hypertension?

A major challenge with hypertension is that most people do not experience any noticeable symptoms. Most people only find out they have hypertension if they go to the doctor for a check-up or if they have had hypertension for a very long time. In advanced cases of hypertension people might feel dizzy, nauseous, have headaches or trouble sleeping.

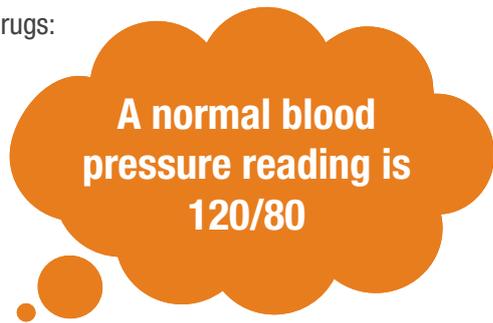
### What to do if you have hypertension

If you think you may have high blood pressure go to the clinic and get tested. If you do have high blood pressure, the health workers will most likely give you medication. There is very effective medication for reducing blood pressure. Depending on how serious your hypertension is, there are different treatment options. The health worker will decide what treatment is best for you. You will also need to return to the clinic for check-ups where they will check if your blood pressure has improved or not.

### Medication for hypertension

Medication for hypertension can be divided into 4 different kinds (or classes) of drugs:

- Diuretics (also called water tablets)
- Beta and alpha-beta adrenergic blockers (also called beta-blockers)
- ACE inhibitors and angiotensin receptor blockers
- Calcium channel blockers



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- **Diuretics**

Diuretics (water tablets) help your body to get rid of sodium (salt) and water. Hydrochlorothiazide is most commonly used. Diuretics are often the first line of drug treatment for hypertension.

- **Beta-blockers**

Beta-blockers (Beta and alpha-beta adrenergic blockers) work by making your heart beat more slowly and less forcefully or by helping your blood vessels to open up. Some examples of beta-blockers are Tenormin, Lopresor and Minipress.

Diuretics and beta-blockers are usually less expensive than other blood pressure medication. These medicines are known to reduce the risks of hypertension, such as heart attacks and strokes. They have also been used for many years and so the side-effects are well-known.

- **ACE inhibitors and angiotensin receptor blockers**

These medicines (such as Capoten, Tritace, Renitec) help open up your blood vessels. But about 20% of people who take them develop a dry cough and need to switch to a different kind of drug. Don't stop taking the medication without seeing your doctor. These medications are believed to be especially effective in patients with diabetes and kidney disease.

- **Calcium channel blockers**

Calcium channel blockers such as AdalatXL and Norvasc help open up the blood vessels and reduce blood pressure. If your doctor decides that you need to take these medicines it is important to take the 'long-acting' calcium channel blockers and not the 'short-acting' drugs which do not work as well.

## **ADHERENCE**

It is very important to take your medication every day as prescribed. You also need to return for check-ups because you may need to change your medication if it is not working for you. With all chronic disease, including HIV, it is very important to take your medication at the right time every day. This is not easy. We are used to taking medication when we are sick. But when we are feeling well it is hard to remember to take it. The trick with all chronic diseases is to take your medication every day even though you are feeling well. With daily medication and life style changes you can stay well for a long time. It is when people stop taking their medication that problems develop. Many people have heart attacks which could have been avoided if they had taken their hypertension medication every day.

Apart from taking your medication properly, you also need to make changes to your lifestyle. If you are overweight, you should take steps to lose weight. You could decide to go on a special diet, or you can simply start by

- Doing 30 minutes of exercise a day
- Reduce the amount of sugar and fat you eat
- Start eating smaller portions of food
- Eat more fruit and vegetables

### **Reduce salt**

You will also need to cut back on how much salt you eat. A good idea is to remove the salt, Aromat and other seasonings from the table when you eat. You should also avoid processed foods because they are often high in salt and sugar. Processed foods are foods that are highly refined, such as white bread and white sugar, biscuits, sweets, fast food, cakes etc.



*It is important to return to the clinic for your check-ups.*



*If you have high blood pressure you should cut down on the amount of salt that you eat.*

### Choose unprocessed foods

It is much better to eat food that is closer to its original form, like whole wheat bread or brown sugar. You should also reduce the amount of junk food you eat, such as chips and sweets and fizzy drinks. All fast food is bad for your health because it is highly refined, has high salt and sugar and is also often deep-fried and very fatty.

You should aim to have a diet with low fat, high fibre and lots of fruit and vegetables. This means that you should reduce the amount of red meat that you eat and rather get protein from beans or fish. High fibre food includes less processed grains (like whole wheat bread, oats, bran etc) and also fruits and vegetables. Fruits and vegetables have a lot of nutrients and vitamins and also help 'detox' the body, which means that they get rid of things in the body that are not good for your health. If possible, you should also try to reduce the amount of alcohol you drink to no more than 2 glasses of beer or wine a day. You should also stop smoking.



*Fast food is highly processed and is bad for your health.*

Your clinic should provide you with information about your condition. Here is a list of things you can reasonably expect from your clinic visits and some things you should think about doing:

- Ask for your blood pressure reading at every visit so you can see how you are doing.
- Always tell any medical practitioner (nurse, doctor and pharmacist) about your hypertension and what medication you are taking. If you visit a traditional healer, you should also tell them you have hypertension and are taking medication. Some traditional medicines may increase blood pressure.
- Ask questions if you have any concerns about strokes or heart attacks.
- You should know the name of your medication and the strength of the dose.
- You may be asked to return the medication containers at every clinic visit, even if they are empty.



## DISCUSSION POINTS

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

### 1. What diseases does hypertension often cause?

Having raised blood pressure greatly increases your risk of heart attack, stroke, kidney failure and other diseases.

### 2. Why is it a good idea to check your blood pressure if someone in your family has high blood pressure?

High blood pressure can be linked to genetics (DNA) which means that it can be passed down to you from your family. If you have a family history of hypertension you are at increased risk of developing it.

### 3. What are the symptoms of hypertension?

Most of the time there are no hypertension symptoms, but if it is very serious people can feel nauseous, dizzy or have headaches and trouble sleeping.

### 4. What kind of a diet should you aim to have if you have high blood pressure?

If you have hypertension you should aim for a diet with high fibre, low fat and sugar and lots of fruit and vegetables.



## WORKBOOK NOTES

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# High Cholesterol

High cholesterol is a condition that also causes heart disease. Cholesterol is a fatty substance found in the blood and in the organs and in the nerves. Cholesterol is made by the liver and only becomes bad for your health when you have high cholesterol which is above the normal amount you should have. There is also 'good cholesterol' that does not put you at risk of heart disease and 'bad cholesterol' that blocks the arteries and causes heart disease. Your total cholesterol measurement should be below 5 mmol/l. A cholesterol reading of over 6 mmol/l means you should visit a doctor and may need medication.

- mmol/l stands for millimoles per litre which is a special measurement for cholesterol.

You might have high cholesterol because you have a family history of high cholesterol or because of your lifestyle. High cholesterol and hypertension are similar in some ways and both cause heart disease. The reason high cholesterol is bad for your health is because it starts to block the arteries by making them narrower and harder. When cholesterol blocks your arteries it makes it harder for the heart to pump the blood around your body. If you have narrow, hard arteries you are at increased risk of heart disease. More than 5.5 million South Africans are at risk of heart disease because of high cholesterol.

## What causes high cholesterol?

High cholesterol is most often linked to either a family history of the condition or to lifestyle. So if you have a parent or a brother or sister who has high cholesterol you should go to the clinic to check if you have high cholesterol. Like hypertension, high cholesterol can be caused by being overweight, which most likely means that you have a diet high in fats and don't exercise enough. Diabetes can also increase your risk of high cholesterol.

## What to do if you have high cholesterol?

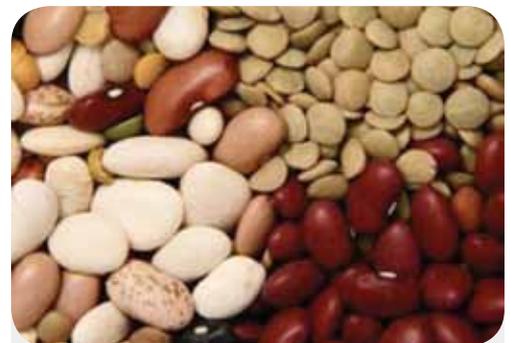
Cholesterol lowering medication is expensive and can have side effects so it is better to try lower your cholesterol through lifestyle changes first. There are many different kinds (classes) of drugs that can be used to treat to cholesterol including statins, fibrates, resins and niacin. Within in each of these kinds of different drugs there are different brand names. It is best to speak to your doctor to help you decide what kind of medication you should go on. Your doctor might give you a single drug or a combination of different cholesterol medications.

You can control your cholesterol by eating foods that are better for you. A lot of research has been done to try and find out what is better to eat if you have high cholesterol. The following foods are just recommendations and the most important thing is to eat a balanced diet without too much fat and sugar.

If you have high cholesterol you should think of cutting back on some fats (animal and dairy products) and rather replacing these fats with healthier options. For example, olive oil and soft tub margarines are better for you than butter. There are also olive oil margarines or 'lite' margarines that have reduced fat and salt. The Flora 'pro-active' margarine is specially made for reducing cholesterol levels.

Eating dry or cooked legumes (beans, lentils, peas, soya) is very good for cholesterol and your general health. You should try to eat legumes at least 4 times a week, if not everyday. You should also rather choose fat-free dairy products than full-cream milk or yoghurt or cheeses. All fruit and vegetables can help to lower cholesterol. Common fruit and vegetables such as oranges (and other citrus), guavas, cabbage, broccoli, peppers, pumpkin, sweet potatoes, butternut, carrots and spinach are all especially good. Always try and eat 5 portions of fruit and vegetables everyday.

Common unprocessed grains are whole wheat breads, brown rice, bran and oats which are very good for lowering cholesterol. Eating fish is also recommended. You should also cut back on how much red meat you eat and not have more than 4 eggs a week.



*Beans are a very good, cheap source of protein.*



*Unprocessed grains like oats are very good at lowering cholesterol.*



# Diabetes

In the last 20 years there has been a huge increase in the number of people worldwide who have diabetes. It is estimated that in 1985, about 30 million people globally had diabetes. Now there are about 177 million people affected with diabetes worldwide. The majority of these people are affected by Type 2 diabetes and over 60% live in developing countries like South Africa (WHO, 2003). This number is expected to grow so that by 2030 there will be about 366 million people living with diabetes. About 4 million South Africans are diabetic. Once you are diabetic you cannot cure the condition, you can only manage it.

You might ask why there is such a huge increase in diabetes cases around the world. The main reason is because of globalisation and the move from rural to urban lifestyles. Diabetes is a lifestyle disease which means that it is caused by an unhealthy diet, not getting enough exercise and being overweight. Traditionally people around the world used to live healthier lifestyles, where they ate locally grown and unrefined foods and did plenty of exercise in their day-to-day lives. As more and more people are moving to cities, they are now leading unhealthy lifestyles that put them at increased risk of chronic diseases.



## DISCUSSION POINTS

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

**1. Why is there an increase in diabetes?**

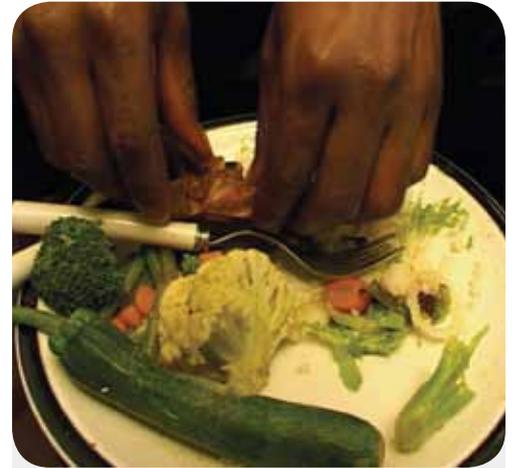
There is an increase in diabetes because more and more people around the world are living urban lifestyles and eating an unhealthy diet and not getting enough exercise.

**2. What Type (kind) of diabetes do most people in the world have?**

Most people in the world have Type 2 diabetes.

**3. Can diabetes be cured?**

Diabetes cannot be cured. It can be treated and controlled.



*Eating a balanced diet helps prevent diabetes Type 2.*

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## WHAT IS DIABETES?

Diabetes is when the body has high blood sugar (glucose) levels. This happens when the pancreas (an organ in our bodies) does not produce enough **insulin** or when the body cannot use the insulin that it makes. Insulin is a hormone that controls the body's blood sugar levels. Diabetes causes acute (severe) hyperglycaemia and hypoglycaemia.

- **Hyperglycaemia** is when the body has too much sugar.
- **Hypoglycaemia** is when there is too little sugar in the blood.

With diabetes there are also long-term health complications and the body becomes damaged, especially the nerves and the blood vessels. Diabetes is a self-managed condition and so it is very important for patients to have as much knowledge as possible. Their family should also be educated about diabetes in case the person becomes unconscious and cannot help themselves by getting sugar (glucose) into their body. If a person is diabetic they will have to monitor their glucose (blood sugar) and make sure that it remains at the right level.

There are 2 kinds of diabetes and it is important to know which kind you have because they are treated in different ways. You can also prevent the 1 kind of diabetes with lifestyle changes.

- **Type 1 diabetes:** People with this kind of diabetes are usually born with diabetes and their pancreas does not make enough insulin. People with Type 1 diabetes need daily injections of insulin to survive.

Common symptoms of Type 1 diabetes are: excessive thirst; feeling hungry all the time; excessive urination; weight loss for no reason; struggling to breathe; changes in vision; feeling sleepy or very tired.

- **Type 2 diabetes:** This used to be called 'adult-onset' or 'sugar' diabetes because people usually develop this kind of diabetes because of having a poor diet with too much sugar or refined foods. The reason Type 2 diabetes used to be called 'adult onset diabetes' is because it used to only affect adults, but now that more children are overweight they are also at risk of Type 2 diabetes.

Most people in the world have Type 2 diabetes. People with Type 2 diabetes can sometimes manage their condition by changing their lifestyles, but most of the time they will also need to take medication. Sometimes they might even need insulin.

Many people with Type 2 diabetes have no symptoms and so they are diagnosed only after they have had diabetes for many years. They may have some similar symptoms to diabetes Type 1, but the symptoms are usually much less obvious. Early detection of Type 2 diabetes is very important because it can help save people's lives and also help control the condition so that they can live a normal life. If you are overweight or obese and have hypertension you are at increased risk of developing Type 2 diabetes.



## DISCUSSION POINTS

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

### 1. What happens to the body when someone is diabetic?

The body does not produce enough insulin or cannot use the insulin in the body which means that blood sugar levels are out of control. This results in blood sugar levels that are too high or too low.

### 2. What hormone in the body helps control the body's blood sugar levels?

Insulin helps control blood sugar levels.

### 3. What are the main differences between Type 1 and Type 2 diabetes?

People are born with Type 1 diabetes, while Type 2 diabetes is usually the result of lifestyle, such as a bad diet. Type 1 diabetes needs to be controlled by injecting insulin, while Type 2 diabetes is usually controlled by medication and lifestyle changes only.

### 4. What Type of diabetes is the most common?

Type 2 diabetes is much more common than Type 1 diabetes.

## WHAT CAUSES DIABETES?

As we have just learnt, there are 2 kinds of diabetes and they are caused by different things. People are born with Type 1 diabetes so there is nothing that can be done to try and prevent it. But they still need to manage it every day - by checking their blood sugar levels and being sure to take their insulin at the correct time.

Type 2 diabetes is mostly a lifestyle chronic disease. Type 2 diabetes is mostly caused by being overweight and eating a bad diet. If you are overweight it means that you don't do enough exercise and probably eat too much or have an unhealthy diet that has a lot of fat, sugar and starch and not enough fruit and vegetables. As we already know, if you are overweight you are at increased risk of having high blood pressure. Type 2 diabetes is very common in South Africa because many people are overweight and eat poor diets which have a lot of refined carbohydrates (white bread, pap) and lots of sugar.

## WHAT ARE THE SYMPTOMS OF DIABETES TYPE 2?

In the early stages many people, especially those who are older, don't have any symptoms. If there are symptoms, it usually means that you have had diabetes for a long time. These symptoms include feeling weak or not wanting to move and do things. You might also have blurred vision, repeated skin or genital infections (such as thrush) or wounds that don't heal quickly. You might also be overweight or underweight and be very thirsty most of the time and need to urinate much more than usual. If you have any of these symptoms you should visit your nearest clinic as soon as possible. Diabetes is a major cause of blindness, amputation and kidney failure if it is diagnosed too late. The sooner you find out you have diabetes the better. Some people who have Type 2 diabetes may also have hypertension.



*Refined carbohydrates like white bread increase your chances of developing Type 2 diabetes.*



*A symptom of diabetes is feeling thirsty most of the time.*



## DISCUSSION POINTS

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

**1. If you have diabetes symptoms, what does it usually mean?**

If you have diabetes symptoms it often means that you have had diabetes for a long time.

**2. What are some of the symptoms of diabetes?**

Symptoms include feeling weak, blurred vision, repeated skin or genital infections, wounds that don't heal, being thirsty most of the time and needing to urinate a lot. If you are overweight or underweight, you might also have diabetes.

**3. What are the risks of diagnosing diabetes very late?**

If diabetes is diagnosed late, it can cause blindness, lead to amputation of limbs and also kidney failure.

**4. What do hypertension and Type 2 diabetes have in common?**

They are often both caused by being overweight (obese), eating refined white meal, fast foods, drinking excessively and smoking. There may also be a genetic (inherited) factor which is made worse by diet and lifestyle.

## WHAT TO DO IF YOU HAVE DIABETES

If you are diagnosed with Type 2 or Type 1 diabetes you should be going to your clinic and getting medication to control the condition. Type 1 diabetes is controlled with medication and so people who have it need to learn how to inject themselves with insulin.

Type 2 diabetes is treated in 3 ways:

- Diet
- Exercise
- Medication

Most often diet and exercise alone bring down the blood sugar levels to manageable levels. Sometimes medication is needed. Medication helps the body metabolise (absorb) the glucose (sugar) in the food that you eat. There are different drugs or medicines used to treat Type 2 diabetes. It is important to understand that the medication needs to be used together with diet and lifestyle changes and cannot be used on its own. The main kinds of drugs used to treat Type 2 Diabetes are:

- **Sulphonylureas** (Daonil, Glyben, Diamicon, Glucomed, Minibiab, Amaryl)
- **Metformin** (Glucophage, Rolab-metformin)
- **Meglitinides** (Starlic, Novonorm). These are newer and more expensive drugs and are used together with Metformin
- **Thiazolidinediones** (Actos, Avandia) This is a new class (kind) of drug that helps overcome insulin resistance

If you have diabetes, lifestyle changes are the most important thing you can do to help your health and improve your quality of life. Eating a healthy diet and doing exercise is essential for treating diabetes, especially for Type 2 diabetes. You cannot rely on medicine to improve your health.

If you are overweight, you should make a plan to lose excess weight and start doing regular exercise. You should stop smoking and limit your alcohol intake to not more than 2 drinks a day. It is better to stop drinking alcohol completely.

A healthy diet is very important for managing diabetes because it is a condition that is connected to the insulin and sugar levels in your body. You should ideally have 3 meals per day. If you are on insulin it is better to have 5 small meals a day. You should reduce the fat and salt in your diet and increase fibre in your diet by eating fruit and vegetables and unrefined grains and carbohydrates. For example, it is much better to eat oats or whole wheat bread than to eat processed carbohydrates like white bread.

## INFECTION CONTROL FOR USED NEEDLES

It is best to return all needles and syringes to the clinic where they burn them up at a very high temperature. If you cannot return your needles and syringes to the clinic, then wrap them up carefully before putting them in the rubbish bin.



*If you are overweight and diabetic you should lose weight.*



*Regular exercise is important for keeping healthy.*

**Type 2 diabetes is treated through diet, exercise & medication (if needed)**

## HYPOGLYCAEMIA AND HYPERGLYCAEMIA

It is also important to know the symptoms of hypoglycaemia (when your body runs out of sugar) and also hyperglycaemia when your blood sugar levels are too high. Your family should also be educated so that they can help you if you become **hypoglycaemic** or **hyperglycaemic**.

**HYPERGLYCAEMIA** - Signs and symptoms of hyperglycaemia:

- Extreme thirst
- Dry skin and dry mouth
- Very tired
- Nausea and vomiting

Hyperglycaemia happens when there is no, or not enough, insulin in the blood, or the insulin in the blood is not working properly. It is important to manage your blood sugar levels by eating regularly and not eating too much. If you have Type 1 Diabetes you should also make sure that you do not skip an insulin dose. The clinic or your doctor will discuss how to manage your blood sugar levels by taking your medication, doing the right amount of exercise, drinking enough water and eating the right foods.

**HYPOGLYCAEMIA** - Signs and symptoms of hypoglycaemia:

- Sweating
- Nervousness
- Feeling faint or weak
- Hunger
- Irritable
- Headache
- Confusion
- Convulsions (having a fit)
- Changes in personality
- Coma (become unconscious)
- Visual changes  
(blurred vision, seeing spots etc)

If the person with diabetes has any of these signs and symptoms they should immediately have 2-4 teaspoons of sugar mixed with a little water or milk. They should then eat some slowly digestible carbohydrates (brown bread) and protein to help restore their blood sugar levels. If the person becomes unconscious they should be taken to a clinic or hospital as quickly as possible where they will immediately be given injections of sugar (dextrose) solution which should restore their blood sugar levels. Once they have recovered enough and are conscious, they should then eat and drink. If you are diabetic you should also think of wearing a Medic Alert Disc that says 'Diabetes – give sugar if confused.'

If someone is diabetic they could develop other health conditions as a result. Foot problems are fairly common and up to 80% of foot problems can be prevented by taking care of your feet (DOH, 1998). You should have your feet professionally examined by a doctor once a year. You should wash your feet daily, dry them and keep them dry in clean socks or stockings. If you see any swelling or redness you should visit the clinic. You should avoid getting cuts, cracks, blisters or scratches on the feet because these can become infected. You should not cut your toenails too short and should try not to wear socks or shoes that restrict the blood flow in your feet. If you get corns or calluses go to your clinic for a check-up and don't cut or treat them at home.

Your eyesight can also become damaged by not controlling your diabetes. You should go for eye check-ups every year and make sure you take your diabetes medication correctly. Diabetes can also damage your kidneys.



*If someone has low blood sugar, give them 2-4 spoons of sugar mixed with a little water or milk.*



*If discovered too late, diabetes can lead to amputation (Photo credit, WHO 2005).*



*If you do not control your diabetes you can also damage your eyesight.*



## DISCUSSION POINTS

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

### 1. What are some of the changes you should make if you have diabetes?

If you are overweight, you should lose weight. You should stop smoking and drinking. You should try and eat 3 meals a day and if you have diabetes Type 1 it is even better to have 5 small meals a day. You should reduce fat and salt in your diet and increase fibre by eating more fruit and vegetables and whole grain foods.

### 2. What should a diabetic do if they become hypoglycaemic (low blood sugar)?

You should eat 4 teaspoons of sugar mixed with a little water or milk. After this you should eat something. If the person has become unconscious they should be taken to a clinic/hospital as quickly as possible so that they can be injected with a sugar solution.

### 3. What other health problems can be caused by diabetes?

Diabetes can cause foot problems leading to amputation, as well as result in loss of eyesight and kidney damage.

## PREGNANCY AND DIABETES

If you are diabetic it is very important that you do not have any unplanned pregnancies. If you are diabetic an unplanned pregnancy could be very dangerous for your health and also the development of the unborn child. If you fall pregnant and your diabetes is not properly controlled it is highly possible that your unborn child will develop abnormalities. If you are diabetic and would like to have a child, you should speak to your doctor. Pregnancies should be planned when the mother has had controlled blood sugar and insulin levels for at least 3 months before falling pregnant.

If a woman is still planning to have children, contraceptive tablets or the contraceptive injection are recommended. Intra-uterine copper contraceptive devices (IUDs) should not be used because of possible risk of infection. If the person with diabetes does not want to have any children, a vasectomy for men or a tubal ligation for women ('having the tubes tied') is suggested.

Many women do not know they have diabetes, and others could develop diabetes during their pregnancies because of changes in the way their body processes carbohydrates. If you discover that you are diabetic during your pregnancy, it is called 'gestational diabetes'. Although gestational diabetes usually disappears after pregnancy, about 30% of women who have gestational diabetes will develop permanent diabetes later. This is why it is very important to test pregnant women for diabetes and educate them properly.



*If you are diabetic it is important to plan your pregnancy.*



## DISCUSSION POINTS

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

### 1. Why is it important to prevent an unplanned pregnancy if you are diabetic?

If you are diabetic and fall pregnant it could be very dangerous for your health and the development of the unborn baby.

### 2. What needs to be under control before a diabetic woman plans to fall pregnant?

Blood sugar levels and insulin levels need to be controlled for at least 3 months before a diabetic woman plans to fall pregnant.

### 3. What is 'gestational diabetes'?

Gestational diabetes is when a woman develops diabetes during pregnancy.



## Obesity and Overweight

More than 1 billion adults are overweight worldwide and, of these, about 300 million are obese (WHO, 2003). Obesity is often found in countries where there is also under-nutrition (not enough food). Obesity is when someone is very overweight. Obesity and being overweight affects all parts of society, including the rich and the poor and people of all ages. More and more people around the world are eating foods that have a lot of sugar and fat, but are nutrient-poor. Food with a lot of sugar and fat might give you energy, but you also need food with nutrients and vitamins to keep you healthy. This change in diet and also not getting enough exercise has led to more and more people becoming overweight and obese.

In South Africa, many people who are poor are also overweight or obese. This is because of the kind of food that they eat. Often poor people do not choose to spend their money on fruit and vegetables because these foods do not keep them full for as long as carbohydrates like bread or pap. While it is very important to have carbohydrates in your diet, if you only eat carbohydrates then this is a problem. Apart from carbohydrates, you should also eat 3-5 servings of fruit and vegetables a day, and proteins (beans, meat, fish etc). A balanced diet means that you eat a mixture of foods from different food groups.

Many South Africans also have too much sugar and fat in their diets. While sugar, carbohydrates and fats are all part of a balanced diet, the problem is that now people are eating only these things and eating more than they should. In a balanced diet you should eat only a little sugar and fat and try choose unrefined carbohydrates (wholegrain) and not highly processed starch like white bread.



*More and more children are overweight and obese (Photo credit, WHO 2005).*



### DISCUSSION POINTS

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

**1. Why are more and more people becoming overweight or obese?**

More and more people are becoming overweight and obese because they are eating foods with a lot of fat and sugar and not exercising enough.

**2. Can poor people be overweight or obese?**

Yes, poor people can be overweight, because they often eat foods that are high in carbohydrates, fat and sugar. An unbalanced diet and not enough exercise can make people overweight.

**3. How much fat and sugar should we eat in a balanced diet?**

In a balanced diet we should eat only a little fat and sugar, but this does depend on how much exercise you do, because if you do a lot of exercise you use up the sugar and fat in your body.

### WHY IS OBESITY OR BEING OVERWEIGHT BAD FOR YOUR HEALTH?

Being obese or overweight greatly increases your chances of chronic diseases, such as heart disease, hypertension, stroke, diabetes and some kinds of cancer. Non-fatal, but serious health problems caused by obesity are difficulty breathing, sore joints, skin problems and infertility. The chances of developing Type 2 diabetes and hypertension both increase dramatically if you are overweight. 15 years ago, diabetes used to only affect older adults. Today more and more children are obese and developing Type 2 diabetes. About 85% of people with diabetes have Type 2 and of these 90% are obese or overweight so we can see that obesity puts you at very high risk of developing Type 2 diabetes.

Being overweight also increases the risk of cancer of the breast, colon, prostate, kidney and gallbladder. Osteoarthritis (aching in the joints and difficulty moving) is also often caused by being overweight and seriously compromises your health and ability to move around with ease, especially as you get older.



## DISCUSSION POINTS

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

**1. What is the most serious health concern for overweight or obese people?**

If you are overweight or obese you are at high risk of developing a chronic disease.

**2. What kinds of chronic diseases are you at increased risk of getting if you are overweight or obese?**

If you are overweight or obese you have an increased risk of heart disease, hypertension, stroke, diabetes and some kinds of cancer.

**3. What other health problems can you experience if you are overweight or obese?**

You can struggle to breathe, have sore joints, skin problems and infertility if you are obese or overweight.

### WHAT IS THE DIFFERENCE BETWEEN OBESITY AND BEING OVERWEIGHT?

According to the WHO at least 1 in 3 adults worldwide are overweight and 1 in 10 people are obese. Another worry is that more and more children are overweight. To work out if someone is overweight we work out their **Body Mass Index (BMI)**. A body mass index is the weight in kilograms divided by the square of the height in meters ( $\text{kg}/\text{m}^2$ ).

If a person has a BMI of more than  $25 \text{ kg}/\text{m}^2$ , they are overweight and if their BMI is over  $30 \text{ kg}/\text{m}^2$ , they are obese. If someone has a BMI less than  $18 \text{ kg}/\text{m}^2$  they are underweight. But these are just guidelines and people can usually tell if they are carrying extra weight. A BMI is used mainly by health professionals to make decisions about a person's health.

Remember that weighing yourself is not the only way to work out if you are putting on or losing weight. A lot of people who start exercising more to lose weight don't always lose kilograms. This is because when we exercise our bodies will develop muscles and lose fat. Muscle weighs more than fat and so sometimes it is misleading to only use a scale to measure if you are losing fat and getting healthier. You can also measure your waist and hip size. Many people lose fat around their hips and middle as they get fitter.

Carrying extra weight is not good for your health. The more extra weight you carry the worse it is for your health and the more difficult it is to lose weight and to exercise. The risk of chronic disease also changes depending on where the fat sits on the body. For example, if you have a lot of extra weight around the stomach or middle of your body your chances of developing Type 2 diabetes is higher than if you carried weight elsewhere on your body. But in the end any extra weight is not good for you.



*Eating unhealthily makes you put on weight.*



*You can measure your waist to see if you are losing weight.*



*30 minutes of walking 5 days a week can improve your health.*



## DISCUSSION POINTS

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

**1. What measure is used by health professionals to work out if you overweight or obese?**

The Body Mass Index (BMI) is used by health professionals to work out if you are overweight or obese.

**2. What is the difference between being overweight and being obese?**

Being obese means you are seriously overweight. In medical terms, if your body mass index (BMI) is more than 25 kg/m<sup>2</sup> you are overweight and if your BMI is over 30 kg/m<sup>2</sup> you are obese.

**3. Apart from weighing yourself, what other measurements can you use to see if you are losing weight?**

Apart from weighing yourself you can also measure around your waist and hips to see if you are losing weight.

**4. What particular chronic disease do you risk developing if you have extra weight around your stomach and middle?**

If you carry extra weight around your middle or stomach you are at increased risk of developing Type 2 diabetes.

### WHAT TO DO IF YOU ARE OVERWEIGHT OR OBESE

Obesity is a lifestyle disease which means that you can both prevent becoming overweight, as well as help improve your health by changing the way you live. Everyone has what is called their 'natural weight' which is when they are healthy and have the right weight for their height. In today's world there is a lot of pressure to be thin like the models we see in magazines and on TV. It is unhealthy to be too thin. It is important to think of your shape and be realistic about what is a healthy weight for you. Different cultures also have different ideas of beauty and what is a 'normal' weight. Your clinic will be able to work out your body mass index (BMI) and help you decide if you are overweight and if you should think of losing weight to improve your health.

About 60% of the world's population do not get enough physical activity. As countries have become more industrialised and more people are now living in cities, more people are doing non-physical work like desk jobs. More people use cars, trains, buses and taxis to get to work and fewer people walk to get from place to place. People, who live in poor urban areas that often also have a lot of crime, are less likely to walk or ride bicycles for exercise because they don't feel safe on the streets.

But there are still things you can do to make sure you get more exercise in your daily life. Studies have shown that just 30 minutes of moderate exercise (like walking fast enough to sweat) 5 days a week makes a big difference to your health (WHO, 2003). Perhaps you can start a walking or running group in your area. It is more likely that you will go for regular walks or runs if you are doing it together with other people. You will also feel safer in a group of people. Another thing is to get a dog that needs to be taken for walks every day.

**Being overweight puts you at risk of chronic diseases such as Type 2 diabetes**



*Find a kind of exercise that you enjoy, like running or walking.*

## REDUCE UNHEALTHY FOODS, INCREASE HEALTHY ONES

As more people live and work in urban areas, their diet changes and they eat food with more fats and sugars. To have a healthy diet you do not need to cut out all fat and sugar. Vegetable fats and oils are usually better for your health than animal fats. Beans are an excellent source of protein and it is better for you to only eat red meat once a week.

It is also better to get sugar from fruit, and not from eating sweets and chocolate. We should all eat 3-5 servings of fruit and vegetables per day. A serving is equal to an apple or fruit that size or a fist-sized amount of vegetables or fruit. Potatoes, samp, rice and other carbohydrates do not count as vegetables.

Healthy behaviours that help you to lose weight include:

- Eating more fruit and vegetables
- Eating more nuts, beans and whole grains (whole grain bread instead of white bread)
- Doing at least 30 minutes of exercise per day
- Not eating fatty, sugary foods
- Moving from saturated animal-based fats to unsaturated vegetable-oil based fats



*You can also grow your own vegetables or join a community garden.*



## DISCUSSION POINTS

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

### 1. Why are more and more people not getting enough exercise?

In the last 30 years more and more people are now living in urban areas and no longer living in rural areas. As people move to cities they do less exercise than they used to do in the country.

### 2. How much exercise do you have to do to improve your health?

This really depends on the individual, but if you do 30 minutes of moderate exercise like walking fast enough so you sweat, you can make a difference to your health. But this is a minimum amount of exercise and many people do much more than this.

### 3. What kind of foods should we have 5 servings of each day?

We should have 5 servings a day of fruit and vegetables.



## WORKBOOK NOTES

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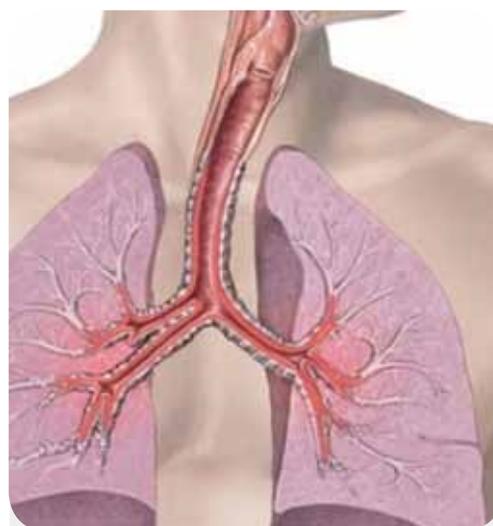
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## Asthma

About 300 million people suffer from asthma worldwide (WHO, 2003). Asthma is the most common chronic disease to affect children. Asthma affects people in all countries in the world and over 80% of asthma deaths take place in low and lower-middle income countries. Asthma is often not diagnosed and is under-treated around the world. Asthma affects a person's ability to work or enjoy an active and fulfilling life.

### WHAT IS ASTHMA?

Asthma is a chronic disease that affects a person's ability to breathe easily. Someone with asthma will have regular and recurrent attacks of breathlessness and wheezing where they will struggle to breathe. Some people could have an asthma attack a couple of times a day or several times in a week. For some people their asthma attacks are more common after doing physical exercise or at night. Many people who have asthma as children 'grow out' of asthma and stop experiencing it once they become adults.



Here we can see the bronchial tubes (airways) that help us breathe.

During an asthma attack the lining of the bronchial tubes swell up making the airways narrower and limiting the amount of air going into and out of the lungs. This lack of oxygen makes the person having the attack gasp for air to try and get more air into their lungs. Even though asthma is not responsible for as many deaths as other chronic diseases, it has a serious impact on the lives of people who have asthma by making it difficult to sleep at night, being tired during the day, not being able to do physical activity and staying away from school and work.



### DISCUSSION POINTS

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

**1. What does asthma do to your body?**

If you have asthma it is difficult to breathe easily.

**2. What happens when someone has an asthma attack?**

When someone has an asthma attack their bronchial tubes swell up making it more difficult to get air going into and out of the lungs.

**3. What impact does asthma have on a person's life?**

Asthma makes it difficult for people to sleep at night and so they are tired during the day. It also makes it difficult for them to do exercise and to work or go to school.

**Asthma makes it  
difficult to breathe**

## WHAT CAUSES ASTHMA?

The causes of asthma are not completely understood, but you are at increased risk of getting asthma if someone in your family has it. This means that asthma can be genetically linked which means that if your family has a history of asthma, you are at increased risk of having it. If you live in an environment with a lot of pollution and other things in the air that can irritate your airways, you are also more likely to develop asthma. Other things that can cause asthma are:

- House dust
- Pet hair
- Pollens
- Moulds
- Tobacco smoke
- Chemicals in the workplace
- Air pollution

So we can see that asthma is often caused by things that we breathe in. People who live in industrialised cities with high levels of air pollution are at high risk of getting asthma. But apart from breathing in things in the air, other things that can trigger asthma are cold air and exercise or being very angry or upset. Some medication can also give you asthma so it is always a good idea to tell your doctor if you have asthma before he prescribes you medication.



*Air pollution causes asthma.*



## DISCUSSION POINTS

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

### 1. What puts you at increased risk of getting asthma?

You are at increased risk of asthma if someone in your family has asthma. You are also at risk if you live in a place with a lot of pollution or things in the air that you can breathe in that irritate your airways.

### 2. Apart from things in the air, what else can give you an asthma attack?

If you breathe in cold air or do exercise you can get an asthma attack. You can also get an asthma attack if you get very emotional or upset. Some medicines can also give you asthma.

## WHAT TO DO IF YOU HAVE ASTHMA

Asthma cannot be cured, but it can be managed. You can still enjoy a good quality of life if you have asthma. Asthma can be controlled with medication and also by making sure that you do not have a lot of things in your environment that can give you asthma.

Medication for asthma can be divided into different kinds: 'controllers' and 'relievers'. 'Controllers' are medicines that make a protective layer in your airways and help prevent asthma attacks. These medicines need to be taken every day and it takes about 2 weeks to start to feel a difference. The 'controller' medicine, which is mostly given to people as inhalers, are steroids. You will need to go to a doctor to get a steroid inhaler. Examples of the different steroid medication that can be inhaled to control and prevent asthma are: beclomethasone, budesonide, ciclesonide and fluticasone.

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Steroids can also be taken in pill form (orally). There are also other medicines that are not steroids and that can help control asthma. These medicines are called 'Leukotriene receptor blockers' (such as montelukast and zafirlukast) and 'long acting Beta agonists' (such as formoterol and salmeterol).

Apart from medicine that controls and prevents asthma attacks there are also medicines that are 'relievers' which means that they help the symptoms of an asthma attack. Relievers are also called 'bronchodilators' because they open (dilate) the airways (bronchi). Relievers are mostly given as inhalers. Some inhaled relievers are: fenoterol, ipratropium, salbutamol, terbutaline and tiotropium. Relievers can also be given orally in pills, syrups or capsules. You will need to go to your doctor who will help give you the best kind of medicine to control and relieve your asthma.

It is important to remember that controllers need to be taken every day. Relievers are used for emergency relief when the person has an asthma attack and should not be used every day because they do not help the underlying problem to go away.

If you get asthma you could be given short-term medication to control the symptoms (closing up of the air ways). You could also be given long-term medication that you take everyday to make sure that the bronchial tubes do not get swollen (inflamed) and that helps to prevent symptoms.

Most people use a combination of medication and also make sure that their environment is free from things that make them get an asthma attack. For example, you might need to make sure that the house is cleaned more regularly, or that you cover your nose and mouth if you do any sweeping yourself. You might also need to keep pets outside the house. If you work in a place with lots of chemicals or dust in the air, you should speak to your boss about moving to a different area or perhaps taking on a different job.



*Many people with asthma use an inhaler to control their asthma.*



## DISCUSSION POINTS

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

### 1. Can asthma be cured?

No, you cannot cure asthma, but you can control it and also some people 'out grow' it once they become adults.

### 2. What can you do to control asthma?

You can take medication to make sure that the airways do not close up and make it difficult to breathe. You can also try and make sure that your environment has less dust, animal hairs, chemicals and other things that you can breathe in.



## WORKBOOK NOTES

# Cancer

Cancer is responsible for a growing number of illnesses and deaths around the world. About 7.1 million people die each year from cancer (WHO, 2003). About 20 million people are living with cancer and 60% of these people live in the developing world (WHO, 2003). So we can see that cancer occurs throughout the world but it does affect poorer countries more, where health care is often difficult to access.

## WHAT IS CANCER?

Cancer is a word used to describe many different kinds of diseases, where the cells reproduce out of control. Cancers affects different parts of the body, such as the stomach, colon, lungs, mouth, breasts, cervix and prostate. Leukaemia is a kind of cancer that attacks the blood and bone marrow.

## WHAT CAUSES CANCER?

All cancers are believed to be caused by a person coming into contact with carcinogenic things (agents) through what they eat, drink, breathe in or are exposed to in their home and work environment. The things that you do in your daily life, such as smoking tobacco, what you eat and how much exercise you do, all play a role in putting you at higher or lower risk of getting cancer. Tobacco is the single biggest cause of cancer (WHO, 2003). Being overweight or obese greatly increases your chances of developing cancer. Some studies have shown that eating a lot of preserved and/or red meat also increases your risk of cancer in the colon and rectum. Drinking a lot of alcohol has also been shown to increase the risk of throat, mouth, liver and breast cancers.



## DISCUSSION POINTS

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

### 1. What is cancer?

Cancer is when the cells in the body reproduce out of control. Cancer is a word used to name lots of different diseases where the cells reproduce in an out of control way.

### 2. What causes cancer?

Cancer is believed to be caused by lots of different things. For example, tobacco smoking is the biggest cause of cancer, but being overweight and eating too much of some things is also believed to increase your chance of getting cancer.

## HOW TO REDUCE YOUR RISK OF GETTING CANCER

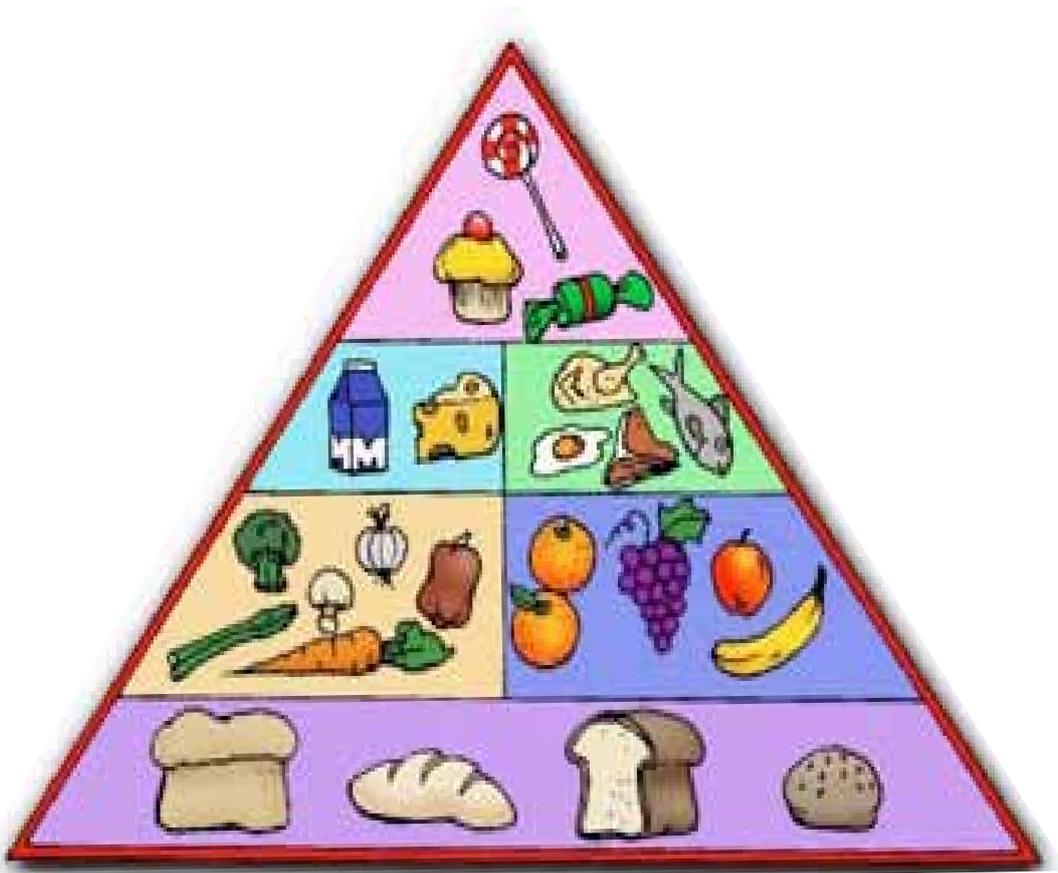
A healthy diet and regular physical exercise are shown to significantly reduce your chances of developing cancer. Diets with lots of fruit and vegetables may also reduce the risk of cancer. As you can see, the kinds of lifestyle changes for preventing cancer are very similar to preventing other chronic diseases, such as diabetes and obesity.

This is both good and bad news. The bad news is that if you are unable to make changes to your diet, cannot give up smoking or limit how much alcohol you drink, and don't do enough exercise, then you are at increased risk of getting a number of different chronic diseases. But the good news is that if you decide to start living a healthier lifestyle, you will help decrease your risk of many chronic illnesses at the same time.

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*A balanced diet includes a mixture of different foods.*

**Congratulations on completing this chapter on chronic diseases!** We have learnt a lot about the most common kinds of chronic diseases and how to prevent them. Remember prevention is so much better than treatment! There is no cure for chronic diseases so let's take control of our lives and start living a healthier lifestyle today!

As we have learnt about each chronic disease, we have also learnt about what to do if you have the illness and also the things that put you at risk of developing the chronic disease. Most of time, the same message comes through:

- Eat a balanced diet with unprocessed carbohydrates (grains), lots of fruit and vegetables and reduce the amount of fat and sugar you eat
- Exercise regularly (at least 30 minutes every day)
- Do not smoke cigarettes
- Limit the amount of alcohol you drink (or stop completely)
- Watch your weight and keep fit
- Go for medical check-ups for hypertension, cholesterol and diabetes once a year





## MULTIPLE CHOICE QUESTIONS

Name : .....

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

1. Which of the following statements is true?

- a) Chronic diseases are infectious.
- b) Chronic diseases are increasing around the world.
- c) Chronic diseases are only found in rich countries.
- d) Chronic diseases are only found in Africa.

2. Which of the following is not a chronic disease?

- a) Diabetes
- b) HIV
- c) Hypertension
- d) Cancer

3. Which 1 of the following things does not help control chronic diseases?

- a) Medication
- b) Eating a balanced diet
- c) Exercise
- d) Washing every day

4. Which 1 of the following diseases is the same as hypertension?

- a) Stress
- b) Obesity
- c) High blood pressure
- d) High cholesterol

5. Which of the following does not reduce your risk of chronic disease?

- a) Eating fruit and vegetables every day
- b) Eating red meat every day
- c) Eating whole grains
- d) Eating less sugar and fat

6. Which of the following statements is the most accurate?

- a) Being overweight is when you weigh more than 60kg.
- b) Being overweight is when you weigh more than 80kg.
- c) Being overweight is when you weigh more than you should for your height.
- d) Being overweight is when you are heavier than you want to be.

7. Which of the following chronic diseases can you be born with?

- a) Diabetes Type 2
- b) Hypertension
- c) Diabetes Type 1
- d) Obesity

8. Which of the following health problems cannot be caused by diabetes?

- a) Loss of eyesight
- b) Kidney disease
- c) Loss of hearing
- d) Amputation

9. Which of the following does not cause asthma?

- a) Warm air
- b) Cold air
- c) Dust
- d) Air pollution

10. What is the single biggest cause of cancer?

- a) Fatty foods
- b) Smoking tobacco
- c) Alcohol
- d) Sugar



## WORKBOOK NOTES

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