Federal Democratic Republic of Ethiopia
Ministry of Health

Non-Communicable Diseases, Emergency Care and Mental Health Part 1 Chronic diseases and emergencies

Blended Learning Module for the Health Extension Programme

HEAT
Health Education and Training
HEAT in Africa

unicef
unite for children

The Open University

AMREF
Better Health for Africa

Federal Democratic Republic of Ethiopia
Ministry of Health

The Ethiopian Federal Ministry of Health (FMOH) and the Regional Health Bureaus (RHBs) have developed this innovative Blended Learning Programme in partnership with the HEAT Team from The Open University UK and a range of medical experts and health science specialists within Ethiopia. Together, we are producing 13 Modules to upgrade the theoretical knowledge of the country's 33,000 rural Health Extension Workers to that of Health Extension Practitioners and to train new entrants to the service. Every student learning from these Modules is supported by a Tutor and a series of Practical Training Mentors who deliver the parallel Practical Skills Training Programme. This blended approach to work-place learning ensures that students achieve all the required theoretical and practical competencies while they continue to provide health services for their communities.

These Blended Learning Modules cover the full range of health promotion, disease prevention, basic management and essential treatment protocols to improve and protect the health of rural communities in Ethiopia. A strong focus is on enabling Ethiopia to meet the Millennium Development Goals to reduce maternal mortality by three-quarters and under-5 child mortality by two-thirds by the year 2015. The Modules cover antenatal care, labour and delivery, postnatal care, the integrated management of newborn and childhood illness, communicable diseases (including HIV/AIDS, malaria, TB, leprosy and other common infectious diseases), family planning, adolescent and youth reproductive health, nutrition and food safety, hygiene and environmental health, non-communicable diseases, health education and community mobilisation, and health planning and professional ethics.

In time, all the Modules will be accessible from the Ethiopian Federal Ministry of Health website at **www.moh.gov.et**; online versions will also be available to download from the HEAT (Health Education and Training) website at **www.open.ac.uk/africa/heat** as open educational resources, free to other countries across Africa and anywhere in the world to download and adapt for their own training programmes.

Dr Kesetebirhan Admasu

State Minister of Health

Ethiopian Federal Ministry of Health

Acknowledgements

Non-Communicable Diseases, Emergency Care and Mental Health is the last of 13 Blended Learning Modules for the Ethiopian Health Extension Programme. Together with the practical skills training sessions that accompany each of the supported self-study texts, this programme will upgrade the Health Extension Workers who complete the curriculum to Health Extension Practitioners at Level-IV of the Ethiopian Occupational Standards. The upgrading programme is sponsored by the Ethiopian Federal Ministry of Health (FMOH) and the Regional Health Bureaus (RHBs). The FMOH gratefully acknowledges the receipt of funding for this programme from the Ethiopian Office of UNICEF (the United Nations Children's Emergency Fund), The Open University UK, the Alan and Nesta Ferguson Foundation Trust UK, and AMREF (the African Medical and Research Foundation).

This Module on *Non-Communicable Diseases, Emergency Care and Mental Health* is in two parts and was produced by a team of Ethiopian experts, who were trained and supported by experts in blended learning pedagogy from the HEAT (Health Education and Training) Team for Africa at The Open University UK. The contributors of original material are:

Ms Shitaye Astawes, Ethiopian Centre for Disability and Development

Dr Abebaw Fekadu, Addis Ababa University

Dr Charlotte Hanlon, Addis Ababa University

Dr Haddis Solomon, Amanual Hospital, Addis Ababa

Dr Yared Tilahun, Tikur Anbessa Hospital, Addis Ababa

Dr Samuel Workneh (Module Academic Coordinator), Addis Ababa University

The Academic Editors of *Non-Communicable Diseases, Emergency Care and Mental Health* are Dr Basiro Davey, Deputy Director (Ethiopia), HEAT Team at The Open University UK, Dr Rosa Hoekstra, Lecturer in Psychology in the Department of Life Sciences, and Wayne Taylor, Lecturer in Effective Practice in Youth Justice, Faculty of Health and Social Care, with contributions from Ali Wyllie, also from the Faculty of Health and Social Care, all at The Open University UK. The illustrations in colour were drawn by Dr Radmilla Mileusnic at The Open University. The black and white illustrations were drawn by Ato Tefere Wondimagegnehu, Ethiopian Federal Ministry of Health. The other members of the HEAT Team are:

Lesley-Anne Long, HEAT Programme Director

Alison Robinson, HEAT Programme Coordinator

Dawn Partner, HEAT Senior Production Assistant

Jessica Aumann, HEAT Programme Assistant

Ali Wyllie, HEAT Lead eLearning Adviser

We acknowledge the vital contributions of the Programme Coordinators within Ethiopia:

Ato Mohammed Hussein Abeseko, UNICEF Ethiopia and the Federal Ministry of Health

Ato Tedla Mulatu, AMREF Ethiopia

The cover design for *Non-Communicable Diseases, Emergency Care and Mental Health* is by Chris Hough and Glen Darby, Learning and Teaching Solutions, The Open University UK. The cover photographs are reproduced with the permission of Dr Basiro Davey, Department of Life Sciences at The Open University.

The opinions expressed in this Module are those of the authors and do not necessarily reflect the views of any of the donor organisations whose generous support made the production of *Non-Communicable Diseases, Emergency Care and Mental Health* possible.

Contents

Continued in Part 2

Introduction to the *Non-Communicable Diseases, Emergency Care and Mental Health* Module

The national health strategy for Ethiopia emphasizes the provision of effective health promotion and disease prevention services at the community level. Substantial progress has been made in recent years in expanding coverage of community health services and reducing infant and child mortality rates in the country. The prevention and control of major communicable diseases, such as HIV/AIDS, tuberculosis and malaria has also received considerable attention and action. The significant progress in tackling the major communicable diseases, however, can potentially be spoiled by the steady rise in the burden of chronic physical and mental diseases within Ethiopia, and elsewhere in the developing world.

As deaths from infection decline and people live longer, so their vulnerability to the chronic non-communicable diseases of old age increases. Chronic conditions such as cardiovascular diseases, diabetes, obstructive lung disease and cancers are on the increase all over the world, but particularly in low- and middle-income countries. For example, more than half of the 8 million deaths from cancers every year and over 80% of the 17 million deaths from heart disease and strokes now occur in developing countries. Also increasing across the world are the numbers of deaths and injuries from traffic accidents and violence: over 90% of the 1.3 million traffic-related deaths and 20-30 million serious injuries from collisions with a vehicle occur in developing countries; the poorer parts of the world are also disproportionately affected by injuries requiring emergency care as a result of other accidents and interpersonal violence. Mental health conditions are also responsible for high levels of mortality and disability, accounting for 8.8% of the deaths and 16.6% of the total burden of disease in low- and middle-income countries.

Taking these trends into consideration, the Ethiopian Federal Ministry of Health has included this Module on *Non-Communicable Diseases, Emergency Care and Mental Health* in the education and training of its Health Extension Practitioners, who provide health promotion and diseases prevention services throughout the rural areas of the country. In addition to addressing chronic conditions such as cardiovascular diseases, diabetes, cancers, and lung disease, Part 1 of this Module also covers oral disease, cataracts and injuries to the eyes and ears, and the provision of first-aid life supportive care for emergencies such as head injuries and abdominal obstruction. Part 2 focuses on the immediate and longer-term effects of common mental health problems such as depression, psychosis, and substance abuse, and the early detection and community support for adults and children whose lives are affected by mental disorders. The aim is to focus equal attention and action to improve the mental health and wellbeing of community members as on sustaining their physical health. The Module ends by discussing community-based rehabilitation of some common physical and mental disabilities. Effective diagnosis, treatment, referral and prevention of all these non-communicable conditions is vital to reducing the death and disability rate, which in turn reduces the burden on the national economy, individuals, families and the local community.

Study Session 1 Cardiovascular Diseases

Introduction

This study session is the first in the Module on *Non-Communicable Diseases, Emergency Care and Mental Health*. Part 1 of the Module describes some important physical diseases and impairments, and the emergency care that you may be called upon to give to someone with a life-threatening condition. Part 2 covers the mental health issues that you may meet in your community. Although this first study session deals with one particular group of physical illnesses (the cardiovascular diseases), it introduces several themes that are shared by all **chronic** (long-term) **conditions**, including diabetes, cancers, lung diseases, visual impairment, deafness and other physical disabilities. As you will see, all of these conditions can affect the patient's mental health.

Cardiovascular diseases are a major problem all over the world, including in developing countries such as Ethiopia. They are in the top three killers in almost every country. In this study session you will learn about cardiovascular diseases, beginning with the function and composition of blood, the anatomy and physiology of the heart and the blood vessels, the pulse, and the blood pressure. We will then describe the major cardiovascular diseases (hypertension and heart failure), and the community approach to decreasing the risks of these conditions. Finally we describe how you can help people with cardiovascular diseases by advising them about their diet.

Learning Outcomes for Study Session 1

When you have studied this session you should be able to:

1.1 Define and use correctly all of the key words printed in **bold**. (SAQs 1.1 and 1.2)

1.2 Briefly describe the function and composition of blood. (SAQ 1.1)

1.3 Describe the basic anatomy and physiology of the heart at a level sufficient to support your understanding of cardiovascular diseases in your community. (SAQ 1.2)

1.4 Know how to measure the pulse and blood pressure. (SAQs 1.3 and 1.4)

1.5 Describe the signs and symptoms of hypertension and heart failure, and the risk factors for these conditions. (SAQs 1.4 and 1.5)

1.6 Describe the management of hypertension and heart failure that you will provide for your community, including supportive care for stress and depression, and recommended diet. (SAQs 1.4 and 1.5)

1.1 Function and composition of blood

We begin this study session by describing the function of blood. The blood is considered by some to be the very essence of life itself. Before modern medicine, blood was viewed as magical. Today, blood still has enormous importance in the practice of medicine. Clinicians examine it more often than any other tissue when trying to determine the cause of a disease or a disorder.

In an adult human, blood accounts for approximately 7–9% of body weight. So for a person weighing 70 kg, some 5 to 6 litres of blood circulate around the body. The blood transports nutrients, oxygen and waste molecules from one place to another within the body.

Every living cell needs a continuous supply of oxygen and nutrients, and a means to remove waste products. Performing these needs is the primary function of the blood.

1.1.1 Blood cells and plasma

The blood cells all have medical names, but in this module we will use the names that will mean more to your clients. But for your own information, the medical name for red blood cells is *erythrocytes* and for white blood cells it is *leukocytes*.

Blood is a fluid comprising red blood cells (see Figure 1.1), several types of white blood cells and small fragments of blood cells called **platelets**, which are involved in the blood clotting process. These cells are all suspended in yellowish or straw-coloured liquid called **plasma.** The **red blood cells** contain a protein called **haemoglobin,** which is red in colour and contains a lot of iron. The haemoglobin picks up oxygen as the blood passes through the lungs and distributes it around the body.

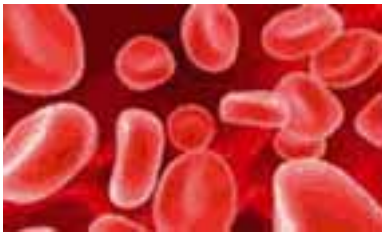


Figure 1.1 Diagram of a group of red blood cells. Notice their unusual shape.

■ What do you think is the main function of the red blood cells?

□ To transport oxygen and deliver it to the body's tissues. It is the haemoglobin in the red blood cells that plays a central role in delivering oxygen to the tissues of the body.

White blood cells are cells of the immune system involved in defending the body against infectious diseases. The number of white blood cells increases whenever someone is infected by disease-causing bacteria or viruses; the increase in number shows how seriously the disease is being fought against by the white blood cells.

The number of red blood cells and white blood cells and the concentration of haemoglobin is an important indicator of a person's health. The levels can be determined from a blood sample analysed at the higher health facilities, including counting the cells by looking at them with a microscope. Table 1.1 shows the typical values for a healthy person.

Table 1.1 Blood analysis data.

Blood component	Healthy values
Red blood cells	Male 4.3–5.9 × 10^{12}/litre Female 3.5–5 × 10^{12}/litre Or approximately 300 to 600 million red blood cells in every 1 ml of blood plasma
White blood cells	3.8–9.8 × 10^{9}/litre Or approximately 400 to 1,000 million white blood cells in every 1 ml of blood plasma
Haemoglobin	Male 13.8–17.5g/decilitre Female 12.1–15.3g/decilitre Every 1 ml of blood contains between 1–2 grams of haemoglobin

10^{12} is a mathematical abbreviation for 1,000,000,000,000.

One decilitre is one-tenth of a litre (the same as 100 ml).

1.2 Anatomy and physiology of the heart

The heart is the source of power, the pump that drives blood through the network of blood vessels throughout the body. Together the heart and blood vessels form the **cardiovascular system**. In fact, the heart consists of two pumps that serve two separate systems of blood vessels: the **pulmonary circulation**, which goes through the lungs, and the **systemic circulation**, which goes through the rest of the body (see Figure 1.2).

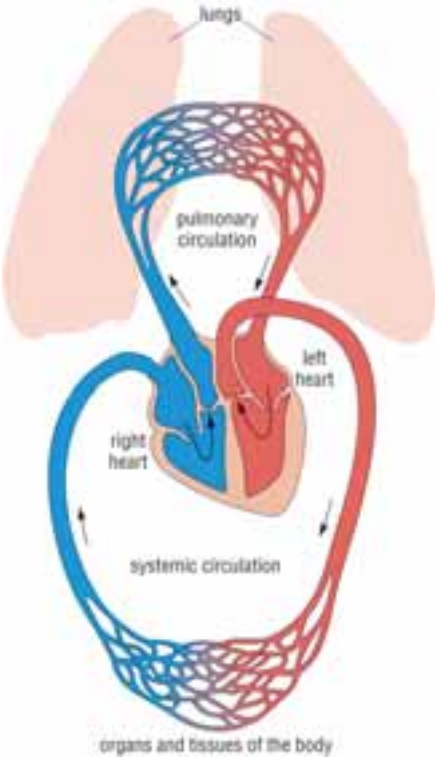


Figure 1.2 The pulmonary circulation to the lungs and the systemic circulation to the rest of the body.

1.2.1 The circulation of blood

The heart is a large four-chambered muscular bag on the left side of the chest. In order to appreciate how the heart works, remind yourself of the primary function of the cardiovascular system: to deliver oxygen and nutrients and to remove carbon dioxide and other waste products. When you breathe in, the lungs are filled with air, of which about 21% is oxygen. To collect this oxygen, the blood has to be pumped through the lungs by the heart.

Oxygenated blood (blood rich in oxygen) from the lungs, which is bright red because oxygen has bound to the haemoglobin, returns to the heart and is then pumped around the body to supply the tissues. Blood returning from the body to the heart is rich in waste products such as carbon dioxide and is short of oxygen. This oxygen-depleted blood (dark red in colour) is termed **deoxygenated blood** and is pumped through the lungs again to release carbon dioxide and, of course, to collect more oxygen.

The design of the heart and associated blood vessels ensures that blood going to the lungs is kept separate from that going around the body. The heart prevents the mixing of oxygenated blood with deoxygenated blood by using two separate but parallel circuits of blood vessels: the pulmonary circulation and the systemic circulation.

Because of its four-chamber design, the heart can serve both circuits at once, using its two pumps to simultaneously push blood from one circuit through one half of its structure and blood from the other circuit through its other half (see Figure 1.3).

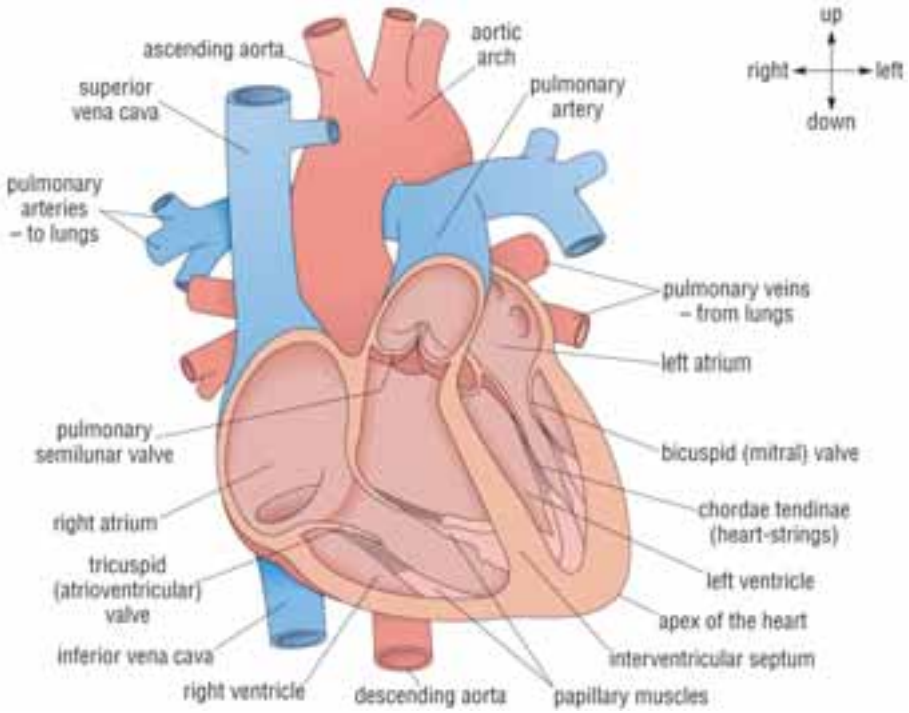


Figure 1.3 Anatomy of the heart.

The muscular part of a heart is called the **myocardium** ('myo-' means 'muscle' and '-cardium' means 'of the heart'). The heart muscles are very special because they keep beating (contracting and relaxing) spontaneously throughout our whole lives without any conscious decision from us to make them beat.

As you can see from Figure 1.3, the heart is shown in cross-section, illustrating the position of the atria, ventricles and major veins and arteries. The left and right sides of the heart are separated by a muscular wall (called the *septum*), and each side is divided into a small chamber, the **atrium** (plural, atria), and a larger chamber, the **ventricle** (plural, ventricles). The atria are connected to the ventricles via a valve that ensures a one-way flow of blood. Deoxygenated blood returns from the body through two main 'great' veins, the **inferior** and **superior vena cava** (superior means 'at the top' and inferior means 'at the bottom' as you can see from their positions in Figure 1.3).

The atrium is a thin-walled chamber that expands with little resistance as the blood enters. Blood from the right atrium flows down into the right ventricle, through the tricuspid valve. You can imagine the valve operating in a manner similar to a swing door that only opens in one direction. When blood enters the right atrium, the valve opens and blood flows into the right ventricle. When the ventricles contract, the back pressure of the blood forces the valve to close to prevent any backflow of blood into the atria.

1.2.2 The heartbeat

What is a heartbeat? In the previous section we have been using the terms pumping, beating and contracting of the heart. You have learnt also that the heart is a muscular organ which beats all the time in our life. If you want to hear how your own heart beats you could use your stethoscope, or place your ear against the left side of someone else's chest around the nipple on the left side in men and under the left breast in women. The heart has got a special property to beat in a coordinated manner, and a normal heart beats between 60–80 beats per minute.

1.2.3 The blood vessels

There are five types of blood vessels (see Figure 1.4):

1 **Artery** (plural arteries) is subjected to higher blood pressure than any other vessels and the blood flow in them 'pulses', meaning that the blood pressure and the rate of blood flow vary with the pumping action of the heart. Arteries have layers of muscular and elastic tissue in their walls, which allows the vessels to expand with the contraction of the heart, and contract again as the heart refills with blood.

2 Arterioles are smaller vessels that distribute the blood into the network of capillaries (capillary beds). They too have layers of muscle in their walls; this is very important, because it controls how much blood goes into the capillaries.

3 **Capillaries** are the smallest blood vessels in the body, having an internal diameter hardly larger than the diameter of a single red blood cell.

4 Venules collect blood from the capillary networks. The blood pressure in these vessels is low, and they do not pulse.

5 **Veins** are the larger collecting vessels. They may run deep in tissues such as muscles, or superficially, just beneath the skin. Veins have valves to prevent the blood from running backwards or pooling.

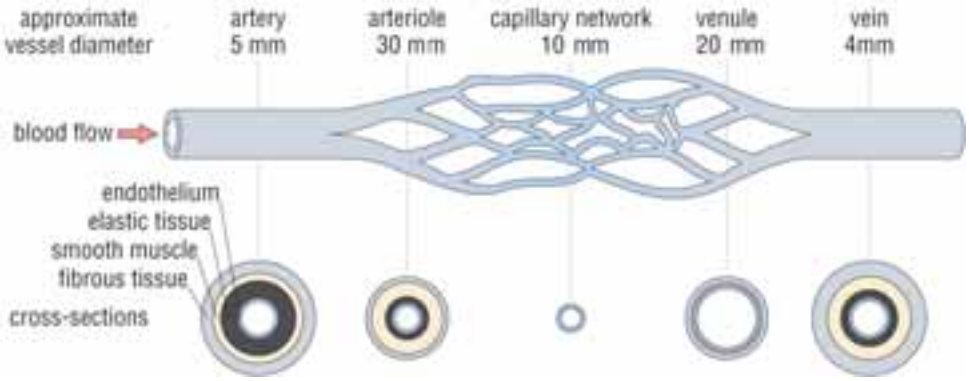


Figure 1.4 Diagrams of the different types of blood vessels.

1.2.4 The pulse

The pulse is a pressure wave of the heart that travels along the arteries and arterioles every time the left ventricle contracts and forces blood out. It can be felt where an artery can be pressed against a bone. You can do this most easily by feeling the big artery on the left or right side of the neck, or the artery in the wrist (see Figure 1.5). The pulse rate measured at the wrist is about 60 to 80 beats per minute. If the pulse rate is less than 60 beats/minute, the pulse is considered to be 'slow', and if it is more than 80 beats/minutes it is considered to be a fast pulse.

Figure 1.5 Pressure points where you can feel the pulse.

1.2.5 Blood pressure (BP)

Figure 1.6 A healthworker measuring blood pressure. (Photo: Basiro Davey)

Blood pressure (BP) refers to how hard the blood is pushing on the major blood vessels as it is pumped around the body by the heart. It is measured in millimetres (mm) of mercury (a liquid silver metal, which has the chemical symbol Hg), so blood pressure measurements are expressed as a number followed by mmHg. The technique of measuring blood pressure (Figure 1.6) was described first in the *Antenatal Care* Module, Study Session 9, and you have learned it in your practical skills training. Figure 1.7 reminds you how to measure the blood pressure at two points in time: when the heart contracts and when it relaxes.

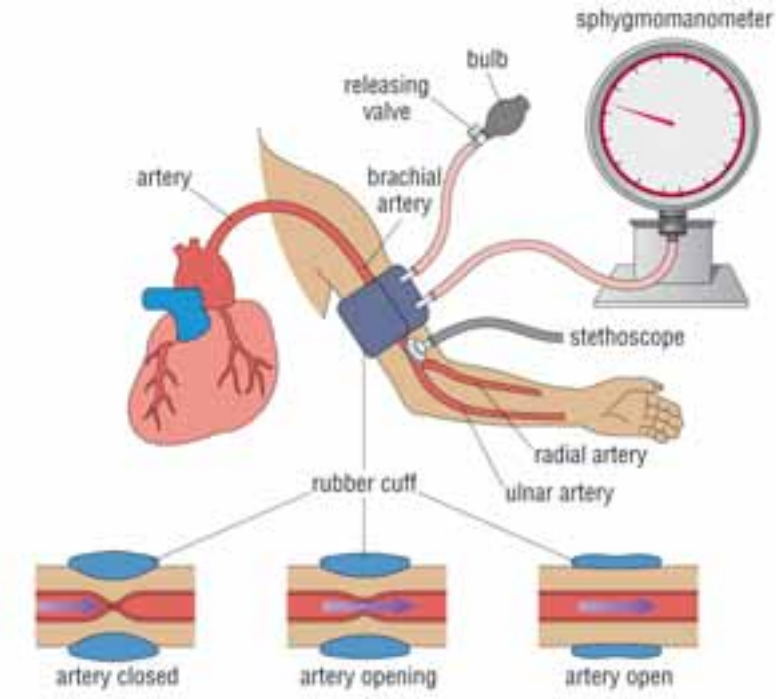


Figure 1.7 The pressure in the cuff is increased until the blood flow stops, and then the flow gradually returns as the cuff is slowly deflated. This enables you to measure the blood pressure when the artery is closed by pressure from the cuff, and when the artery is fully open.

A blood pressure measurement is two numbers written one above the other. The top number tells you the **systolic pressure**, which is the pressure at the moment the heart beats and pushes blood into the body. The bottom number tells you the **diastolic pressure** when the heart relaxes between each beat so it can refill with blood. Healthy blood pressure stays at or above 90/60 mmHg, but should not reach as high as 140/90 mmHg.

1.3 What are cardiovascular diseases (CVDs)?

Cardiovascular diseases (CVDs) are major health problems all over the world. They are a group of diseases that involve the heart and the blood vessels (arteries and veins).

If there is an interruption of blood supply due to diseases of the vessels taking blood to the heart, the heart might be seriously damaged due to lack of oxygen and nutrients to fuel its muscular contractions. Medically this damage is referred to as a **heart attack**. If the same type of situation happens in the brain, and lack of oxygen disrupts the normal function of the brain, this is referred to as a **stroke**.

Heart attacks and strokes are usually **acute** life-threatening events ('acute' means they start suddenly and rapidly get worse). They are mainly caused by a blockage that prevents blood from flowing to parts of the heart or brain, which are seriously damaged by the lack of oxygen. The most common reason for the blockage is a build-up of fatty deposits (called *plaques*) on the inner walls of the blood vessels that supply the heart or brain. Strokes can also be caused by bleeding from a blood vessel in the brain or from blood clots blocking an artery.

1.3.1 What are the risk factors for cardiovascular diseases?

The most important risk factors for heart disease and stroke are unhealthy diet, physical inactivity and tobacco use. These are called **behavioural risk factors** because they are due to people's behaviour; these factors are responsible for about 80% of cardiovascular diseases.

The effects of unhealthy diet and physical inactivity may show up in individuals as raised blood pressure, raised blood glucose, raised blood fats (lipids), and being overweight or obese – all of which make a heart attack or stroke more likely.

- Can you explain why?

- High fat, high sugar diets, being overweight and obesity lead to the build up of the fatty deposits (plaques) inside blood vessels that eventually block them, causing a heart attack or stroke.

Unhealthy diet is one direct cause of CVDs but there are also indirect reasons why people might be unable to eat healthily, or avoid stress and other direct causes of CVDs. These are the social, economic and cultural conditions of people's lives, especially poverty and stress.

As a Health Extension Practitioner you should advise your community members to engage in regular physical activity, avoid tobacco use, choose a diet rich in fruit and vegetables and avoiding foods that are high in fat, sugar and salt, and maintain a healthy body weight. You might say that rural people exercise all the time in the fields and fetching water; their diet has very little fat or sugar, and they are usually thin. So why are they at risk of heart disease? The reason is *stress* factors in the lives of people who have few resources. And if rural people move into towns, the other risk factors for CVDs increase.

1.3.2 Heart failure

Heart failure is when the heart cannot pump efficiently and is unable to generate sufficient blood flow to meet the demands of the body for oxygen and nutrients, either at rest or during exercise.

Acute heart failure occurs rapidly, typically as a result of heart attack. Chronic heart failure occurs more slowly, building up through time due to disease of the heart or blood vessels leading from the heart.

Symptoms of heart failure

A person with heart failure is usually short of breath even when sitting still; they breathe faster than normal and may 'gasp' for breath if they do anything that requires strength or movement. They often cannot sleep without using many pillows because, if they lie down, the blood that cannot be pumped away from the heart collects in the vessels in the chest, which makes them even more breathless. They also complain of tiredness and weakness.

If you come across a person with the symptoms of heart failure, refer him or her to the nearest health centre as soon as possible.

■ Can you suggest why people with heart failure gasp for breath and feel tired and weak?

□ The weak heart cannot supply the body with the oxygen it needs, so the person breathes quickly to try to suck more oxygen into their lungs. They feel tired and weak because there isn't enough oxygen or nutrients being pumped around the body.

1.3.3 Hypertension (high blood pressure)

High blood pressure is medically known as **hypertension**. There are many causes of hypertension, including kidney diseases, narrowing of the aorta (the biggest artery leaving the heart), diabetes, the excessive use of alcohol and some medical drugs. However, in most cases of hypertension the cause remains unknown and this is called *essential* hypertension.

■ Can you name any other causes of hypertension from a previous Module?

□ Pre-eclampsia and eclampsia were described in the *Antenatal Care* Module.

Risk factors for hypertension

Having a high level of fat (cholesterol) in the blood, old age, poor nutrition, being overweight or obese, excessive alcohol intake, diabetes, taking oral contraceptive pills for many years, being physically inactive and, most importantly, being a cigarette smoker – are all risk factors for hypertension. Most of these factors are preventable by teaching the community to change their behaviour to healthier ways.

■ What could a person *stop* doing in order to reduce their risk of developing hypertension?

□ He or she could stop smoking cigarettes, stop over-eating and drinking excessive amounts of alcohol, and (for women) stop taking oral contraceptive pills and change to another method of birth control after a few years.

■ What could a person *start* doing in order to reduce the risk?

□ He or she could start eating a healthier diet, start losing weight if already obese, and start taking more exercise.

Signs and symptoms of hypertension

A person with hypertension might come to you with complaints of headaches, blurring of vision, chest pain, nose bleeds and restlessness. You should measure their blood pressure to see if it is high. Refer to Table 1.2 to see the normal and abnormal blood pressure values.

In your Health Post you are supposed routinely to check the blood pressure of your clients, using the blood pressure apparatus supplied to you. Whenever the systolic pressure is greater than 140 mmHg and the diastolic pressure is greater than 90 mmHg, it is advisable to refer the person to the nearest health centre for further evaluation. See Table 1.2 to determine the category of hypertension.

Table 1.2 Blood pressure levels for adults

Category	**Systolic (mmHg)**	**Diastolic (mmHg)**	**Advice**
Normal	Less than 120	Less than 80	None
Pre-hypertension (before hypertension starts)	120–139	80–89	You should advise people with hypertension to make changes in what they eat and drink, to be physically active, and lose extra weight. If your client also has diabetes, refer him or her.
Hypertension	140 or higher	90 or higher	This person has high blood pressure. Refer him or her to a higher health facility.

1.4 Community approaches to decrease the risk of cardiovascular diseases

In the community you are working in, the risk of CVDs could be reduced by advising people to reduce the salt intake in their diet, since excessive salt could cause hypertension. They should also avoid or stop smoking.

1.4.1 Action by individuals

People should also be advised to minimise the stress in their lives for three reasons. Firstly, stress is often associated with an increase in health-damaging behaviours. It is possible that people under stress might smoke more, drink more alcohol, chew *khat*, indulge in comfort eating and neglect any potentially protective physical activity – all of which increase their risk of developing a CVD. Secondly, there may be direct links between physiological changes that are associated with stress, such as the release of certain hormones – adrenalin and corticosteroids, for example – that might directly affect the heart as the arteries that bring oxygen to the heart muscle. Thirdly, people under stress might neglect to seek appropriate medical attention. Understanding the above will help you in resolving your clients' cardiovascular problems.

1.4.2 Action at national and community level

In prevention of cardiovascular diseases, the habits of people within a population can, to some extent, be controlled by the actions of their government. The best example of this, particularly in relation to cardiovascular diseases, is the way in which various governments attempt tobacco control.

The most common types of government activity are through the use of taxation, by banning smoking in public places, by banning tobacco advertising and by choosing to finance health education campaigns. As a community health worker you should think of a project within your *kebele* to promote smoking reduction and decrease salt intake.

1.4.3 Dietary approach to stop hypertension (DASH)

An important approach to reducing hypertension is called DASH – Dietary Approach to Stop Hypertension. It advises people that high blood pressure can be controlled if you take the following steps:

- Maintain a healthy weight.
- Be moderately physically active on most days of the week.
- Follow a healthy eating plan, which includes foods lower in salt.
- If you drink alcoholic beverages, do so in moderation.
- If you have high blood pressure and are prescribed medication, take it as directed.

1.5 Mental health and chronic illness

When you are caring for somebody who has a chronic (long-term) life-threatening non-communicable disease, such as a cardiovascular disease, it is also important to think about their mental health. You will learn about mental health and mental illness in detail in Part 2 of this Module. However, you may not have thought about the stress experienced by a person who is living with a CVD, or another chronic illness, such as diabetes, cancer, a chronic respiratory disease, or a disability such as blindness, deafness or physical paralysis. Having one of these conditions is stressful for patients and their families, and their mental health can suffer. You should bear in mind that:

- People with a chronic illness may become sad or depressed about their condition. This can sometimes develop into a mental health problem, e.g. deep depression and suicidal thoughts, especially if they are in pain or their normal life is severely impaired by their illness.
- On the other hand, people with a severe mental illness are at increased risk of developing cardiovascular diseases or diabetes due to the stressful nature of their disordered mental state.
- Undetected and untreated depression can make chronic illness worse:
    - Depression can interfere with a person taking their medication correctly and making important lifestyle changes, like improving their diet.
    - Partly as a result of this, when depression AND chronic illness are present together, patients will be more impaired, they will not respond so well to treatment, and they may be at greater risk of dying from their chronic illness.

Therefore, detecting and treating depression and other mental health complications of chronic illness can improve the quality and the quantity of life for people with CVDs and other chronic illnesses.

In conclusion

Now that you know a lot about cardiovascular diseases, we can move on in the next session to teach you about diabetes. Dietary approaches to prevention are very similar in both conditions and diabetes is a risk factor for cardiovascular diseases, so the two are interrelated. Mental health problems can also result from the stress of managing diabetes.

Summary of Study Session 1

In Study Session 1, you have learned that:

1 Cardiovascular diseases are a major cause of death and morbidity all over the world.

2 Blood transports oxygen, nutrients and other substances such as hormones around the body to where they are needed, and it removes waste products, including carbon dioxide.

3 Blood consists of a liquid called plasma, containing suspended red blood cells, which carry oxygen attached to haemoglobin; white blood cells, which fight infection; and platelets, which help in blood clotting.

4 The heart and blood vessels (arteries, arterioles, capillaries, venules and veins) form the cardiovascular system.

5 The heart pumps blood around the pulmonary circulation through the lungs (collecting oxygen and releasing carbon dioxide in the breath), and around the systemic circulation through the rest of the body. It has four chambers, which separate the oxygenated blood returning from the lungs and the deoxygenated blood returning from the rest of the body.

6 The pulse refers to the pressure wave that travels along the arteries and arterioles every time the left ventricle of the heart contracts; measuring the pulse rate in the major arteries can be an indicator of an abnormal heartbeat.

7 Blood pressure measurements produce two numbers: the systolic pressure measured when the heart contracts and the diastolic pressure measured when the heart relaxes. The measurement is in mmHg.

8 Cardiovascular diseases include heart attack, when diseased blood vessels serving the heart muscle starve it of oxygen and nutrients; stroke, when lack of oxygen reaching the brain causes brain damage; heart failure, when the heart cannot pump efficiently; and hypertension (high blood pressure).

9 The risk factors for cardiovascular diseases include being overweight, old age, poor nutrition, smoking, lack of exercise and excessive alcohol intake.

10 Community approaches to reducing the risk of cardiovascular diseases include supporting people to lose weight, live a less stressful lifestyle and give up smoking, for example by using DASH – the dietary approach to stop hypertension. Reducing salt intake also helps to reduce hypertension.

11 Chronic illnesses such as CVDs increase the risk of patients developing mental health problems; and people with mental health problems have a greater risk of developing a CVD or other chronic, non-communicable disease.

Self Assessment Questions (SAQs) for Study Session 1

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 1.1 (tests Learning Outcomes 1.1 and 1.2)

Which of the following statements is *false?* In each case, say what is incorrect.

A In an adult human, blood accounts for approximately 7–9% of total body weight.
B A person weighing 70 kg has got 10–15 litres of blood circulating around the body.
C The primary function of the blood is to transport oxygen nutrients and as a means to remove waste products from the tissues.
D Red blood cells contain a protein called haemoglobin, which is red in colour and contains a lot of iron.
E Haemoglobin picks up oxygen as it passes through the heart and distributes it around the body in the blood.

SAQ 1.2 (tests Learning Outcomes 1.1 and 1.3)

Look back at Figures 1.2 and 1.3. What would happen if there was a hole in the wall that separates the two ventricles of the heart? How would this affect a baby born with such a hole in its heart? (This sometimes happens.)

SAQ 1.3 (tests Learning Outcome 1.4)

Where can you feel the pulse most easily in an adult? Write down the normal ranges of pulse and blood pressure in a healthy resting adult.

SAQ 1.4 (tests Learning Outcomes 1.4, 1.5 and 1.6)

Read Case Study 1.1 and then answer the questions that follow it.

Case Study 1.1 Mr Tilahun's story

Mr Tilahun is a 60-year-old farmer who asked you to visit him because he has begun to feel very breathless, even when he is lying in bed at night. He also feels tired and weak all the time. He was taking medication for hypertension for the past several years, but he used his last tablets three weeks ago and has not been to the health centre to get more.

(a) What do you check first when you see Mr Tilahun?
(b) What do you think is the most likely cause of his symptoms?
(c) What measures would be appropriate for good management of his condition?

SAQ 1.5 (tests Learning Outcomes 1.5 and 1.6)

Read the following case study and then answer the question at the end:

Case Study 1.2 Mrs Yared's story

Mrs Yared is a Health Extension Practitioner in a rural community. She notices that a lot of older people are having raised blood pressure when she gives them a health check.

- What health education messages should she give to help to reduce the risk of cardiovascular diseases in her community?

Study Session 2 Diabetes Mellitus

Introduction

Diabetes is currently becoming a common problem in developing countries like Ethiopia, at a time when the burden of diabetes is rising very quickly in wealthier countries. **Chronic diseases** such as diabetes, heart disease, cancers and chronic respiratory diseases are by far the leading causes of mortality in the world, representing 60% of all deaths.

Chronic diseases are those that develop slowly, get progressively worse unless they are treated effectively, and cause long-term health problems.

In this study session you will learn about diabetes, the parts of the body involved, and the signs and symptoms that will allow you to recognise if someone in your community is suffering from the disease. You will also learn how to recognise the different types of diabetes and their risk factors, as well as how to educate the community to reduce these risks.

Learning Outcomes for Study Session 2

When you have studied this session, you should be able to:

2.1 Define and use correctly all of the key words printed in **bold**. (SAQs 2.1, 2.2, 2.3, 2.6 and 2.7)

2.2 Describe how the pancreas, liver and muscles, and the hormones insulin and glucagon, are involved in regulating blood glucose levels. (SAQs 2.1, 2.2 and 2.5)

2.3 List the signs and symptoms of diabetes and distinguish between Type 1, Type 2 and gestational diabetes. (SAQs 2.1 and 2.3)

2.4 Describe the test that you would do to confirm a diagnosis of diabetes. (SAQ 2.4)

2.5 List the risk factors for diabetes. (SAQs 2.5 and 2.7)

2.6 Explain how to interpret the Body Mass Index (BMI) and its significance for diabetes. (SAQ 2.6)

2.7 Describe the basic features of diabetic self-care and a suitable diet for someone with diabetes. (SAQs 2.1, 2.5 and 2.7)

2.1 What is diabetes mellitus?

Diabetes mellitus is a condition in which the level of **glucose** (the simplest type of sugar) in the blood is poorly controlled, so that sometimes it rises too high and at other times it falls too low. Both these extremes can have serious consequence, for the diabetic person. Later in this study session we will explain how glucose is normally regulated and how it goes wrong in diabetes. People with diabetes mellitus are usually very thirsty, so they drink a lot of fluids and as a consequence they produce large amounts of urine. There is another type of diabetes, called *diabetes insipidus*, but it is very rare. Diabetes insipidus shares the name ‘diabetes’ because it also results in the production of large quantities of urine, but this has nothing to do with how the body manages glucose. This study session will focus only on diabetes mellitus, and from this point that is what we mean when we mention ‘diabetes’.

Diabetes mellitus has been known for thousands of years, having been described by the Ancient Egyptians and the Romans. The word ‘mellitus’ comes from the Latin word for ‘honeyed’ – meaning ‘sweet’.

Diabetes mellitus, therefore, describes a condition that produces 'sweet urine' (Figure 2.1). This production of sweet urine occurs as a result of a high glucose level in the blood, which results in glucose leaking into the urine when the kidneys filter the blood to remove impurities.

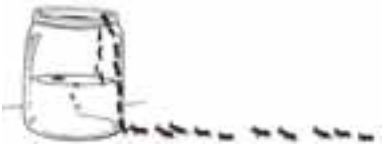


Figure 2.1 Ants are attracted to sugar in the urine of someone with diabetes.

■ Describe a simple way to test urine or a sign of diabetes.

□ Anyone can test their own urine by urinating into a clean container like a pot or a cup, and leaving the container outside. If ants climb into the container (Figure 2.1), there is probably sugar in the urine. (Did you remember this from your study of the *Antenatal Care* Module? It was in Study Session 9, Figure 9.14).

2.2 How the body regulates blood glucose levels

Understanding how the body controls and uses glucose in a normally healthy person will help you to understand what happens when diabetes develops. First we will briefly introduce the main cells, tissues and hormones involved in glucose regulation.

2.2.1 Hormones in glucose regulation

10 ml is called a 'decilitre' (dcl); blood glucose levels are usually expressed in mg/dcl of blood.

The main role of glucose in the body is like fuel in a car: glucose is a source of energy in human beings. When you are in good health the body controls the level of blood glucose and doesn't allow this to become very high or very low. The normal range is 75–115 mg (milligrams) of glucose in every 10 ml of blood. Glucose control is due to the action of hormones.

Hormones are signalling substances produced by collections of cells, called **endocrine glands**, which release their hormones into the blood. **Cells** are the tiny building blocks of the body, which can only be seen through a microscope. In the human body there are many different types of cell doing many different tasks. Hormones are carried around the body in the blood and on that journey they interact with whichever 'target tissue' is receptive to their signals. There are many different hormones acting throughout the body. *Insulin* and *glucagon* are the two most important hormones involved in the control of blood glucose levels. Other examples of hormones that you encountered in the *Antenatal Care* Module are the male and female reproductive hormones: testosterone, progesterone and oestrogen.

2.2.2 The pancreas

The pancreas is a 'leaf-shaped' organ found deep inside the abdomen. The **abdomen** is the part of the body between the chest and pelvis. The abdomen contains such organs as the stomach, liver, spleen, pancreas, intestines and other structures (see Figure 2.2).

Alpha and beta are the first two letters in the Greek alphabet; they can also be written as the Greek symbols α and β.

The pancreas has a short connecting tube (the pancreatic duct, see Figure 2.3), which opens into the small intestine so that pancreatic juices can help with the process of digestion (as you learned in the *Nutrition* Module). Specialised cells in a part of the pancreas called the islets of Langerhans (after its discoverer) produce the hormones insulin and glucagon. The beta cells produce insulin and the alpha cells produce glucagon. When the body is healthy these two hormones help to keep the amount of glucose in the blood at the right level. If the pancreas is severely damaged or removed by operation, the production of insulin and glucagon will stop and diabetes will result.

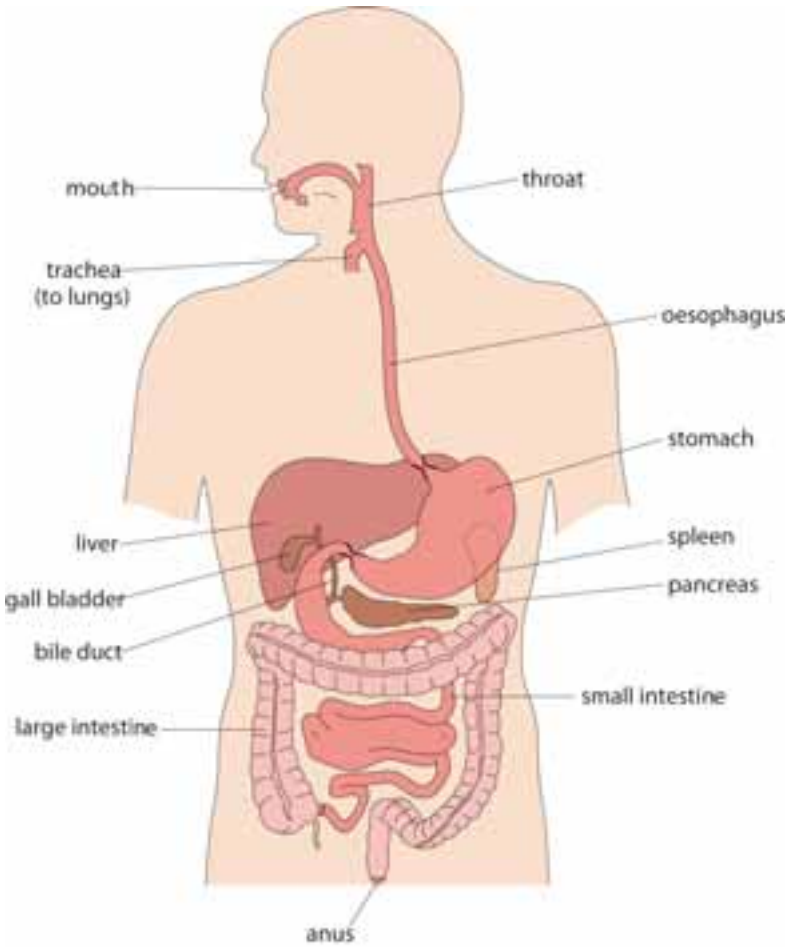


Figure 2.2 The **digestive tract** (or **gastrointestinal system**) is the tube-like passage from the mouth, through the stomach and intestines to the anus, together with the organs that connect with it (e.g. the liver and pancreas). (Source: The Open University, 2006, *Living with Diabetes*, Figure 2.1)

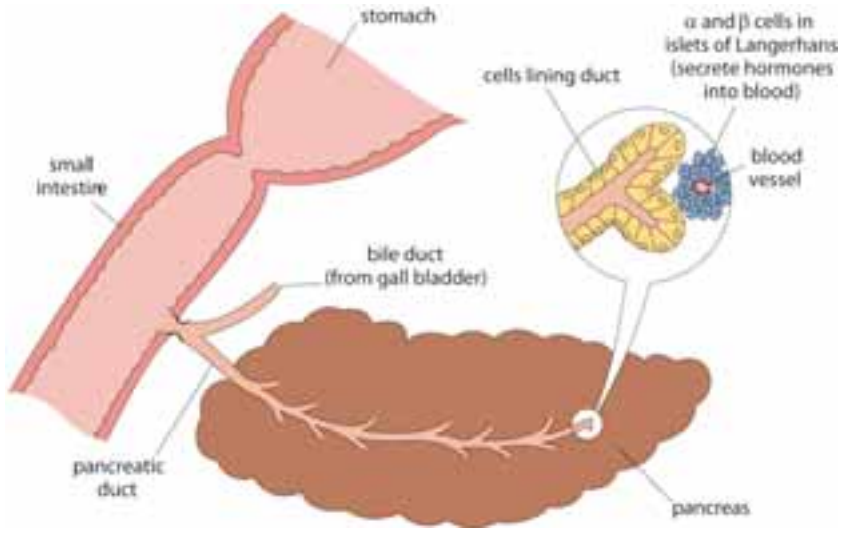


Figure 2.3 Cells in the islets of Langerhans in the pancreas produce insulin and glucagon. (Source: The Open University, 2006, *Living with Diabetes*, Figure 2.2)

2.2.3 Insulin and its role in glucose regulation

Insulin has many functions, but its main role is to help glucose enter into the body's cells, so they can use it as a fuel for all the processes that need energy. The pancreas releases insulin into the blood when we eat a meal.

■ Can you suggest why this timing is important?

□ As we digest our food, the level of glucose in the blood rises as it is absorbed from the intestines. It makes sense for insulin levels also to rise in response to the increase in blood glucose.

Insulin not only enables glucose to be transported into the cells that need it as a source of fuel, and it also prevents the glucose level in the blood from rising too high when we eat a sugary meal. It acts on the liver, muscles and body fat, stimulating them to take up *excess* glucose and store it, and it stops stored glucose from being released from these tissues when the level in the blood is already too high.

■ Between meals and overnight the insulin level in the blood falls. If this did not happen, what would be the effect on the blood glucose level, and why?

□ It would become too low, because insulin would go on stimulating the body's cells to take up glucose from the blood and to store it in the liver, muscles and body fat.

So, adjustments in the amount of insulin released by the pancreas regulate the blood glucose level to stay within the tight range that the body needs to function normally. In a person with diabetes mellitus, problems in insulin production result in poor regulation of blood glucose, with serious effects, as you will see later in this study session.

2.2.4 Glucagon

The action of the hormone glucagon works in the opposite direction to insulin. **Glucagon** causes the blood glucose level to *rise* if it has fallen too low. It does this by stimulating the liver, muscles and body fat to release their stored glucose back into the blood.

You may wonder why the body needs a hormone to increase glucose levels. Besides regulating the blood glucose level so that it does not rise too high, the body also needs to be protected from glucose levels that are too low. The brain does not function properly if glucose levels in the blood drop even a small amount below normal, and if they drop further still the person becomes confused and eventually becomes unconscious. Brain damage and eventually death results if the brain is starved of glucose for a long period.

2.3 Digestion of the main food groups

The glucose in the blood is one of the most important breakdown products from a wide range of the foods we eat in our diet. In this section, we briefly summarise the significant points about digestion and the main food groups, so you understand how to counsel a person with diabetes about selecting a suitable diet for their condition. The main food groups are:

- **Proteins** such as meat, fish, egg yolk and soya products
- **Fats** such as butter and oil, and within foods such as cheese, cream and fatty meat

- **Carbohydrates** such as *injera*, bread, potatoes, rice and cereals, as well as within sugary foods and drinks
- **Vitamins and minerals** (such as vitamin A and iron) are found in many foods, especially in fruits and vegetables.

The foods that we eat are broken down as they pass through the digestive tract (look back at Figure 2.1) by chemicals known as enzymes. **Enzymes** are chemical substances produced by cells in the body, which cause a particular chemical reaction to happen while not being changed themselves. They are particularly important in digestion. The enzymes that are released into the stomach and intestines cause the breakdown of food into the tiny molecules of which it is constructed.

Figure 2.4 summarises the digestion of the main food groups by digestive enzymes. Notice that they break down proteins into *amino acids*, carbohydrates into *glucose*, and fats into *fatty acids*. These smaller components can then be absorbed through the wall of the small intestine and transported in the blood to various parts of the body to provide energy. The level of glucose in the blood is altered by what and how much we eat.

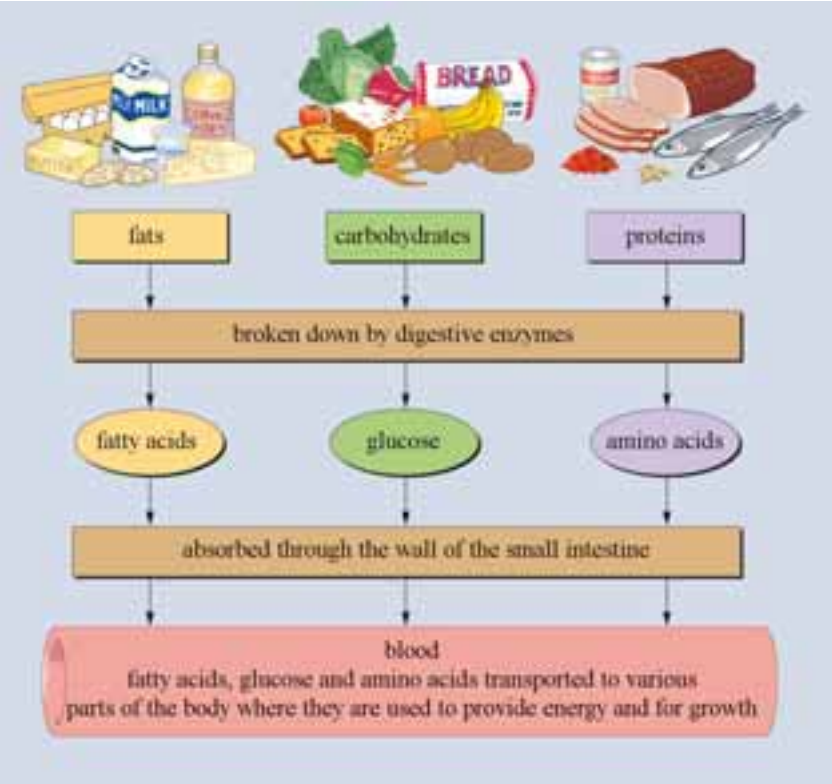


Figure 2.4 Diagram showing how food is broken down into smaller units and then absorbed through the wall of the small intestine and into the blood. (Source: The Open University, 2006, *Living with Diabetes*, Figure 2.3)

■ Which food item do you think will result in more glucose in the digestive tract: a carbohydrate-rich meal or a protein-rich meal?

□ If you eat a meal that is mainly carbohydrate, your digestion will produce more glucose.

Next we will discuss the importance of the liver and muscles in controlling blood glucose levels.

2.3.1 The liver in glucose regulation

The liver is a large and important organ, with many functions, which lies across the top and towards the right of the abdomen (look back at Figure 2.2). As you already know, it is important in helping to control glucose levels, by storing excess glucose and releasing it back into the blood when the level falls too low. Insulin stimulates the liver to take up glucose and change it into **glycogen**, a substance made of chains of glucose units stuck together. You can think of glycogen as a storage form of glucose.

If there is plenty of glucose in the blood, the body makes glycogen to use later, at times when glucose is scarce. For example, to keep the blood glucose level constant in the body overnight (when one is not eating), the liver slowly releases glucose from its glycogen stores. After a meal when there is plenty of glucose in the blood, the liver stores glucose as glycogen again. Similarly, when you exercise and need additional fuel, the liver can slowly release glucose to provide energy.

2.3.2 The muscles in glucose regulation

There are different sorts of muscles in the body and they have different functions. **Skeletal muscles** are the ones used for movement, for example in your arms and legs. The *involuntary muscles* are the ones over which we have no conscious control, for example the muscles in the walls of the stomach and intestines that move food through the digestive tract.

Like the liver, skeletal muscles store glucose as glycogen and are able to use glucose as a fuel. Insulin stimulates muscles to take up glucose. When the muscles are active (for example, while exercising), the absorbed glucose is used to fuel muscular activity.

2.3.3 Fats and diabetes

Fats in the body have an important role in diabetes. Being overweight or obese increases the health risk for people who are already diabetic, and it is a significant risk for developing diabetes in later life. We say more about this later. The breakdown of fats in the body as an alternative source of fuel to glucose is more likely to occur in people with diabetes, because their cells cannot take up glucose easily when insulin levels are low. When fats are broken down to be used as fuel, one of the side-effects is the production of small molecules called *ketones*. They can build up to dangerously high levels in a person with diabetes, making the blood too acid (the condition is called *ketoacidosis*), and the person's breath has a distinctive 'fruity' smell.

Ketoacidosis is pronounced 'kee-toh-assid-oh-siss'.

2.4 Symptoms and signs of diabetes

A person who has untreated diabetes is likely to complain of symptoms like feeling thirsty all the time, drinking a lot of water and passing large amounts of urine, weight loss (some patients describe a feeling of emptiness in the stomach and wanting to eat frequently), and tiredness. The person may report that at times they have felt faint or dizzy and may even have 'blacked out' (become unconscious). This can happen if the blood glucose levels fall too low to support normal brain function.

If you detect sugar in a person's urine you should suspect diabetes and refer them to the nearest higher level health facility.

If you do a urine dipstick test and find evidence of sugar, this is a strong sign of diabetes because some of the excess glucose in the blood is filtered out by the kidneys and passes into the urine.

- Can you suggest another sign of diabetes, which you might be able to detect on the breath of a diabetic person?

- When the level of ketones rises in the blood of a person with diabetes, their breath has a distinctive 'fruity' smell.

Another sign of uncontrolled diabetes that has gone on for a long time is numbness in the fingers and toes, or gradual loss of vision. This is because persistently high levels of glucose damage the delicate blood vessels (capillaries) serving the extremities and the eyes, so they become starved of oxygen and nutrients and can no longer function normally.

2.5 Classification of diabetes

There are several types of diabetes, including two that are common: Type 1 and Type 2. Worldwide, about 90% of people with diabetes have Type 2 and about 10% have Type 1. Gestational diabetes accounts for very small numbers of cases during pregnancy. We will look at each type in turn.

2.5.1 Type 1 diabetes

Type 1 diabetes was previously called insulin-dependent diabetes. This is because in people with Type 1 diabetes their pancreas fails to produce enough insulin due to the destruction of the cells that make insulin. Without enough insulin, glucose cannot enter the tissues and cells, and so the blood glucose level rises damagingly high. People with Type 1 diabetes are dependent on taking insulin every day – either in tablet form or injecting it.

Although there is plenty of glucose in the blood, it cannot enter the tissues and, because of this, it cannot be used as a fuel source. Instead, the body breaks down fats and protein to use as fuel. As a result, the person often loses weight very rapidly due to loss of fluid, an inability to use glucose as a fuel, loss of muscle as protein is broken down, and loss of glucose in the urine. A person with Type 1 diabetes should never stop taking their insulin, even when they are unwell and not eating. Type 1 diabetes can develop at any age, although it most commonly begins in children and young adults.

2.5.2 Type 2 diabetes

Type 2 diabetes was previously called non-insulin-dependent diabetes, because the pancreas still produces insulin, though the amount reduces over time. The main problem is that the body cells become increasingly resistant to the action of insulin, so it does not stimulate the cells sufficiently to take up glucose from the blood. Symptoms such as thirst and passing large amounts of urine may be absent. Type 2 diabetes may be present for many years before a diagnosis is made, because some people have few symptoms or take no notice of them, e.g. they may not see their thirst or getting up at night to pass urine as a problem. Having Type 2 diabetes for several years before a diagnosis is made can mean that complications of diabetes, which take years to develop, may already be present at the time of diagnosis.

Over-eating and lack of exercise are two particularly important factors thought to be contributing to the rapidly increasing numbers of people worldwide with Type 2 diabetes. Although it is most often a condition that develops in adults, particularly those aged over 40 years, it is beginning to be diagnosed in younger adults and even in teenagers who are obese.

The amount of insulin that is produced in someone with Type 2 diabetes often decreases over a period of years, and eventually insulin treatment is required. Treatment generally starts with changes in the amounts and types of food eaten and an increase in physical activity, before progressing to tablets and then onto insulin injections.

2.5.3 Gestational diabetes

A pregnant woman can develop diabetes in pregnancy, due to chemical changes in her body. This is known as **gestational diabetes** (also known as pregnancy-induced diabetes). The common symptoms are the same as for Type 1 and Type 2 diabetes (thirst, frequent urination), but she may also complain of itching and an unpleasant smell coming from her vagina due to infection, and wounds that are slow to heal.

Gestational diabetes commonly goes away after the baby is delivered, but you should be aware that a few mothers will have undiagnosed Type 2 diabetes, or have developed coincidental Type 1 diabetes. Also, having had a diagnosis of gestational diabetes, a woman is more likely to develop diabetes in future pregnancies and is also more likely subsequently to develop Type 2 diabetes. During the pregnancy, the woman should be treated for diabetes by changes to her diet and exercise, with or without prescribed insulin.

2.6 Injecting insulin

As a community health worker you are expected to teach people with diabetes how to inject themselves with insulin if it is ordered by a doctor. In Study Session 4 of the *Immunization* Module you learned about giving **subcutaneous injections** (see Figure 2.5a), i.e. an injection where the tip of the needle penetrates just below the skin into the fatty layer beneath. Insulin is injected subcutaneously using a short fine needle. The usual sites for injection are the thighs, hip area, abdomen or outer arms (Figure 2.5b).

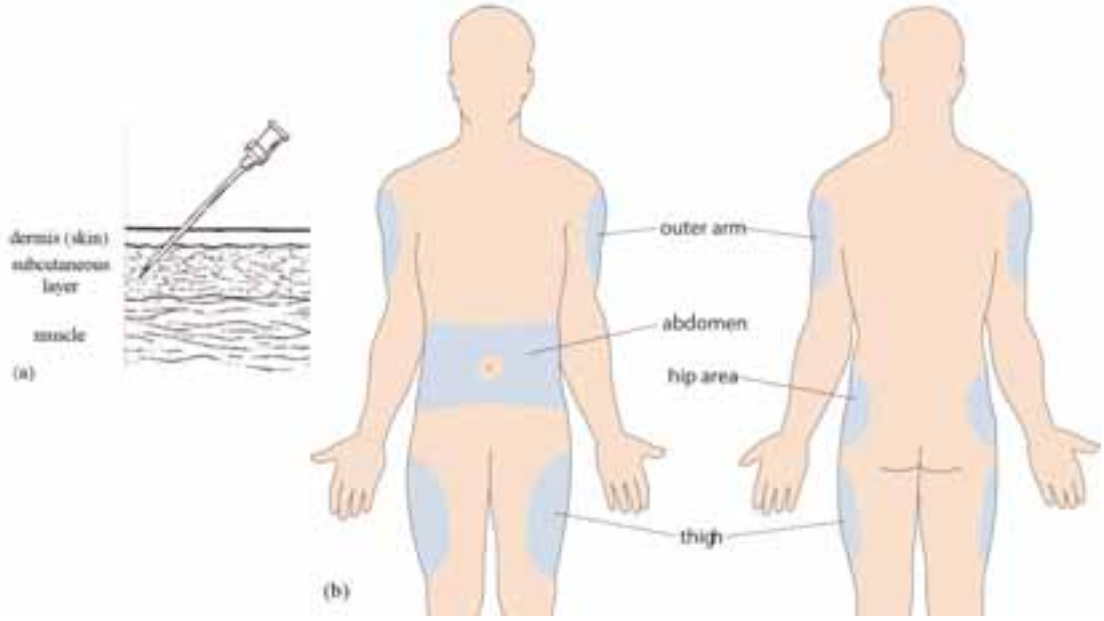


Figure 2.5 (a) Diagram showing the penetration of a subcutaneous needle for injecting insulin. (b) Preferable injection sites for insulin. (Sources: (a) WHO/UNICEF, 2009, *Immunization in Practice Modules for Health Workers*; (b) The Open University, 2006, *Living with Diabetes*, Figure 4.2)

2.7 Risk factors for diabetes

It is important to have a good understanding of the **risk factors** associated with diabetes, that is, the circumstances that make it more likely that diabetes will develop. Knowing these risk factors can help you make a diagnosis, especially of Type 2 diabetes, and introduce treatment at an early stage. The main risk factors for Type 2 diabetes are listed below:

Note that even if all the risk factors are present in the same person it doesn't mean that they will certainly develop diabetes.

- A family history of diabetes (genetic factors).
- Being overweight or obese; the distribution of body fat also appears to be important, with fat around the abdomen seen as more of a risk than fat hips.
- Lack of exercise.

There is some indication that a virus infection in early childhood might lead to Type 1 diabetes in some cases; the theory is that the virus in some way causes the person's own immune system to destroy the insulin-producing cells in their pancreas.

2.7.1 Body Mass Index (BMI)

As mentioned above, being overweight is a risk factor for developing Type 2 diabetes. However, simply weighing someone may not accurately determine if they are overweight.

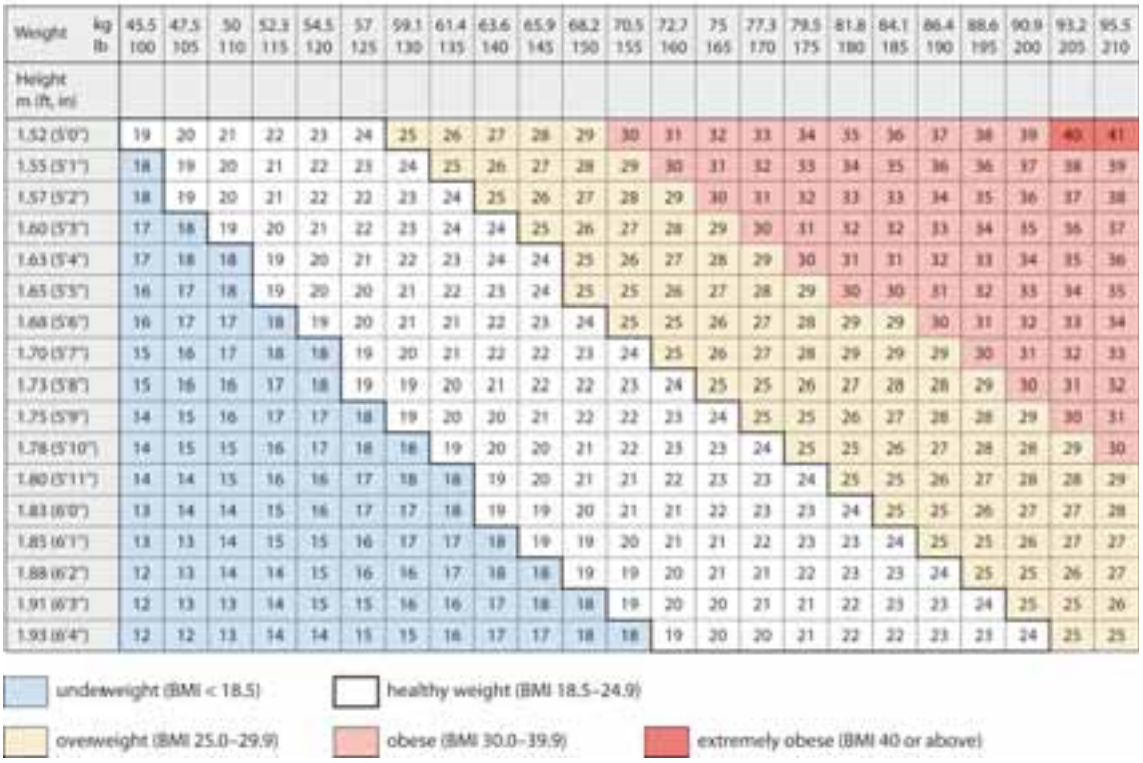
■ Explain how it is possible for one person who weighs 80 kg to be obese, and another person who also weighs 80 kg to be a healthy weight.

□ The key point is their difference in height. One may be taller and assessed as an average weight for their height, whereas the other is assessed as obese because they are much shorter.

The relationship between weight and height is determined by calculating the person's **Body Mass Index** (**BMI**). Your BMI is defined by your weight in kilograms divided by your height in metres and the result is divided again by your height in metres.

BMI is an indicator of how healthy a person's weight is. Figure 2.6 (on the next page) is a chart that will help you to calculate a person's BMI and to use this to determine whether they are a healthy weight, underweight, overweight, obese, or extremely obese.

Directions: Find your weight in kilograms (or pounds) along the top of the table and your height in metres (or ft and inches) along the left-hand side. Your BMI is the value at the point in the table where they intersect. **NB The chart does not apply to athletes, children, pregnant or lactating women.**



Weight kg / lb	45.5 100	47.5 105	50 110	52.3 115	54.5 120	57 125	59.1 130	61.4 135	63.6 140	65.9 145	68.2 150	70.5 155	72.7 160	75 165	77.3 170	79.5 175	81.8 180	84.1 185	86.4 190	88.6 195	90.9 200	93.2 205	95.5 210
Height m (ft, in)																							
1.52 (5'0")	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
1.55 (5'1")	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	36	37	38	39
1.57 (5'2")	18	19	20	21	22	22	23	24	25	26	27	28	29	30	31	32	33	33	34	35	36	37	38
1.60 (5'3")	17	18	19	20	21	22	23	24	24	25	26	27	28	29	30	31	32	32	33	34	35	36	37
1.63 (5'4")	17	18	18	19	20	21	22	23	24	24	25	26	27	28	29	30	31	31	32	33	34	35	36
1.65 (5'5")	16	17	18	19	20	20	21	22	23	24	25	25	26	27	28	29	30	30	31	32	33	34	35
1.68 (5'6")	16	17	17	18	19	20	21	21	22	23	24	25	25	26	27	28	29	29	30	31	32	33	34
1.70 (5'7")	15	16	17	18	18	19	20	21	22	22	23	24	25	26	27	28	29	29	29	30	31	32	33
1.73 (5'8")	15	16	16	17	18	19	19	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	32
1.75 (5'9")	14	15	16	17	17	18	19	20	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31
1.78 (5'10")	14	15	15	16	17	18	18	19	20	20	21	22	23	23	24	25	25	26	27	28	28	29	30
1.80 (5'11")	14	14	15	16	16	17	18	18	19	20	21	21	22	23	23	24	25	25	26	27	28	28	29
1.83 (6'0")	13	14	14	15	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28
1.85 (6'1")	13	13	14	15	15	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27
1.88 (6'2")	12	13	14	14	15	16	16	17	18	18	19	19	20	21	21	22	23	23	24	25	25	26	27
1.91 (6'3")	12	13	13	14	15	15	16	16	17	18	18	19	20	20	21	21	22	23	23	24	25	25	26
1.93 (6'4")	12	12	13	14	14	15	15	16	17	17	18	18	19	20	20	21	22	22	23	23	24	25	25

Figure 2.6 Body Mass Index chart. (Source: The Open University, 2006, *Living with Diabetes*, Figure 4.9)

■ Mr Aseged is 1.70 m tall and weighs 68 kg. Mr Abera is also 1.70 m tall but weighs 93 kg. Use Figure 2.6 to estimate their BMI. What does the BMI of each man indicate about the risk of developing Type 2 diabetes?

□ Mr Aseged's BMI is 23, so he is a healthy weight for his height, which does not increase his risk of developing Type 2 diabetes. However, Mr Abera's BMI is 32, which means he is obese and therefore at increased risk of becoming diabetic.

2.8 Self-care and diet for someone with diabetes

How can you support the people with diagnosed diabetes in your community? If they are already taking insulin or other drugs to treat their condition, you should advise them to take their medication regularly. Everyone with diabetes, regardless of treatment, should:

- attend regular medical checkups
- be aware of possible wound infection if they hurt themselves and seek urgent treatment if this occurs
- always wear shoes that fit correctly; wounds, blisters or sores on the feet can lead to tissue damage that is difficult to heal
- have an eye test once every year to check for early signs of eye damage
- always include exercise as a routine part of their lifestyle
- attend health education classes (if they are available) for people with diabetes to learn about self-care.

2.8.1 Maintaining a healthy diet

Maintaining a healthy diet is one of the most important aspects of treatment for diabetes. Table 2.1 summarises the recommended diet for a person with diabetes, but it is also the healthy balanced diet that everyone would benefit from eating.

Table 2.1 Recommended diet in diabetes.

Foods	**Can be eaten in moderate amounts**	**Limited to small occasional amounts**
Carbohydrates	Complex (starchy) carbohydrates should be the main part of any meal, e.g. *injera*, bread, other cereals, rice, potatoes, etc. Starchy carbohydrates are broken down slowly into sugars, so the glucose levels in the blood rise slowly.	Foods containing sugar are not encouraged, particularly if the person needs to lose weight, because sweet foods are energy-rich and 'fattening'. Sugary foods and drinks can put up blood glucose levels very quickly and have very little or no nutritional value.
Fats	Fats, such as those in olive oil and avocados, are good for maintaining a healthy weight. Grilling, baking and steaming cooking methods produce less fattening foods than frying.	Fats should be limited to help control body weight, especially 'hard' fats such as butter and animal lard.
Proteins	Protein is found in meat, fish, eggs, nuts, pulses and dairy products, and is recommended in a healthy diet.	Avoid 'fatty' sources of protein such as fatty meat, or a lot of egg yolks.
Vitamins, minerals and fibre	Fruits and vegetables are an excellent source of dietary fibre, vitamins and minerals; try to eat five portions of fruit and vegetables each day, e.g. 'gommen' or kale, cabbage, carrots, spinach, tomatoes, mangoes.	Fruit contains sugar and tends to increase blood glucose levels. People are often surprised at this because fruit is a healthy eating option.
Salt	A small amount of salt daily is all that is needed; this can mostly be obtained from fresh natural foods.	Most people eat more salt than is required by the body; food should be tasted before salt is added, if necessary, at the table. Limiting salt intake can help decrease blood pressure.

You will learn more about all aspects of diets in the *Nutrition* Module.

Summary of Study Session 2

In Study Session 2, you have learned that:

1 Diabetes is a condition in which the level of glucose in the blood is poorly regulated; it is often too high, but may also fall too low.

2 Becoming very thirsty, drinking a lot and producing large amounts of urine are symptoms of diabetes; sugar in the urine is a diagnostic sign.

3 Insulin and glucagon are hormones produced by cells in the pancreas, with opposite actions, which regulate blood glucose levels within a narrow range.

4 Foods are broken down in the digestive system, and nutrients, including glucose, are absorbed into the blood and transported around the body; glucose is used as a fuel for cellular activity.

5 Excess glucose is converted into glycogen and stored in the liver, muscles and body fat; it is released back into the blood if glucose levels begin to fall.

6 Diabetes is classified as Type 1 (insulin-dependent), Type 2 (non-insulin-dependent) and gestational (pregnancy-induced) diabetes.

7 Family history of diabetes, being overweight, and lack of exercise are among the main risk factors for Type 2 diabetes.

8 Body Mass Index (BMI) is calculated using a chart in which weight and height are used to determine whether a person is a healthy weight for their height. A high BMI is a risk factor for diabetes.

9 A person with diabetes should be advised to take their medicine regularly, attend follow-up medical examinations, actively participate in learning about self-care, maintain a healthy diet, and engage in regular physical exercise.

Self-Assessment Questions (SAQs) for Study Session 2

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering the following questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Supporting Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of the Module.

SAQ 2.1 (tests Learning Outcomes 2.1, 2.2 and 2.6)

Which of the following statements is *false*? In each case, explain why it is incorrect:

A Diabetes is a condition in which the blood glucose level is always too high.

B Diabetes is becoming more common in developing countries like Ethiopia.

C Excess glucose is stored in the liver until it is needed.

D Insulin stimulates the liver to release stored glucose when the body needs more fuel.

E Exercise is not recommended for people with diabetes because it depletes the low level of glucose in their blood.

SAQ 2.2 (tests Learning Outcomes 2.1 and 2.2)

Match each internal organ named in List A in Table 2.2 with the correct description in List B.

Table 2.2 Internal organs and their functions.

A	B
Pancreas	Stores glucose in the form of glycogen and slowly releases glucose from its glycogen stores
Liver	Produces many substances including hormones like insulin and glucagon
Digestive tract	Used for movement, e.g. in the arms and legs
Skeletal muscles	Breaks down foods into smaller nutrients which can be absorbed into the blood

SAQ 2.3 (tests Learning Outcomes 2.1 and 2.3)

Mr Tajebe is a 65-year-old man who developed diabetes two years ago. His condition is controlled by diet alone at the present time. What type of diabetes does he have? Explain the reasons for your answer.

SAQ 2.4 (tests Learning Outcomes 2.3 and 2.4)

List the main symptoms of diabetes that a typical patient could describe to you. How would you test for a diagnostic sign of diabetes?

SAQ 2.5 (tests Learning Outcomes 2.2, 2.3, 2.5 and 2.7)

Which of the following statements is *false*? In each case, explain why it is incorrect.

A Type 1 diabetes might be caused by a virus infection.
B A family history of diabetes increases the risk of developing diabetes.
C People who eat a lot of rice are at high risk of developing diabetes.
D Glucagon is the form in which excess glucose is stored in the body.

SAQ 2.6 (test Learning Outcomes 2.1, 2.5 and 2.6)

Mrs Aster is 1.6 metres tall and weighs 75 kg. What is her BMI and how would you categorise her weight? Is she at increased risk of developing diabetes?

SAQ 2.7 (tests Learning Outcomes 2.1, 2.3 2.5 and 2.7)

You are asked to produce a poster on reducing the risk of developing Type 2 diabetes. What points do you make on your poster?

Study Session 3 Cancers

Introduction

This study session is about cancers – a complex group of more than 100 non-communicable diseases. **Cancers** are characterised by the rapid creation of abnormal cells which grow beyond their usual boundaries, invading adjoining parts of the body and spreading to other organs. Cancers can develop in any part of the body. Over 11 million new cases of cancer are diagnosed every year around the world and at least 25 million people are currently living with the disease. In 2008, cancers were responsible for about 7.6 million deaths worldwide, accounting for 13% of all deaths in that year – more than the total dying from HIV/AIDS, tuberculosis and malaria combined.

The World Health Organization (WHO) estimates that over 70% of all cancer deaths are in low- and middle-income countries. This is mainly because specialist equipment for cancer diagnosis and treatment, and anti-cancer drugs, are very expensive and many poorer countries cannot afford enough for their populations. In Ethiopia there are no official data on cancer rates, but hospital reports suggest that cancer of the female cervix may be the leading type, followed by breast cancer.

In this study session you will learn how cancers develop from normal cells, the effects of cancers on the human body and the risk factors for cancer. Then we will focus on screening for breast and cervical cancer, and conclude with palliative care for a person who is dying with advanced cancer.

Learning Outcomes for Study Session 3

When you have studied this session, you should be able to:

3.1 Define and use correctly all of the key words printed in **bold**. (SAQs 3.1, 3.2, 3.4, 3.5 and 3.6)

3.2 Explain what cancer is, describe how normal cells become cancer cells and summarise their effects on the human body. (SAQs 3.1, 3.2 and 3.3)

3.3 Describe the main risk factors for cancers and the main strategies for preventing them. (SAQ 3.4)

3.4 Describe the signs and symptoms of breast cancer and cervical cancer, and explain how to educate women in your community on early detection of these cancers and what actions they should take. (SAQ 3.5)

3.5 Describe the main features of palliative care for the person who is terminally ill with advanced cancer. (SAQ 3.6)

3.1 Cells and cancer

As the definition of cancers in the Introduction stated, cancers are characterised by the rapid creation of abnormal cells. So we have to begin this study session by reminding you about what cells are and how new cells are created. All living organisms, including bacteria, protozoa, fungi, plants and animals, are organised into distinct functional and structural units termed **cells**. The outer surface of every cell is a **cell membrane** that separates the inside of the cell from the external environment. Inside the cell membrane is a jelly-like fluid (the **cytoplasm**, or *cytosol* in modern biology textbooks), and tiny structures with specific functions arranged in a particular way.

A diagram of a typical cell found in the human body is shown in Figure 3.1.

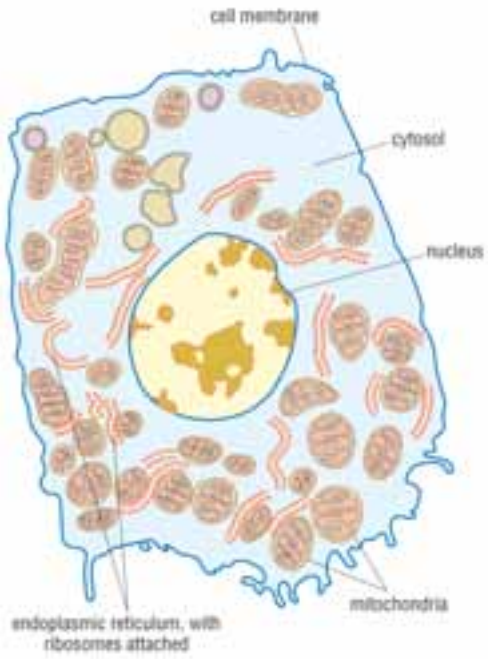


Figure 3.1 Drawing of a human cell with its internal structures. (Source: The Open University, 2008, *Understanding Cancers,* SK123, Figure 2.7a, p.30)

The largest structure in any cell is usually the **nucleus**, which contains most of the DNA in the cell. **DNA** (deoxyribonucleic acid) is a complex large chemical, which contains the genes of the individual. **Genes** are structures that determine what type of cells will develop, how they function, and how the cells in an organism are arranged, nourished, stimulated and protected in the body. Most human cells have one nucleus, but muscle cells have more than one and red blood cells have none at all. Other important structures in the cell create new molecules (e.g. proteins needed for cell growth) and others break down fuel molecules (e.g. glucose) absorbed from the surrounding environment. Cells would not be able to survive without generating energy from nutrients brought to them in the blood to fuel all the processes that go on inside the cell.

What is the difference between a normal cell and a cancer cell, in terms of cellular structures? The short answer is not much is different. Almost always the only important difference is that the nucleus is larger and may be somewhat irregular in cancer cells. The difference is not so much in their appearance, but in how cancer cells behave.

3.2 What is a cancer?

Cancers can develop in any part of the body, but they are more common in some organs than in others. For example, the top five organs in which fatal cancers developed worldwide in 2008 were:

- lungs (1.4 million deaths)
- stomach (740,000 deaths)
- liver (700,000 deaths)
- colon and rectum (610,000 deaths)
- breast (460,000 deaths).

Each of these cancers began when a single normal cell in the organ (e.g. a breast) began to divide uncontrollably, forming a solid mass of new cells (Figure 3.2). A lump of new cells growing in an inappropriate location is known as a **tumour** (the general public often calls it a 'growth'). The original mass of cells is called the **primary tumour** to distinguish it from any 'break-away' tumours that may form later, if cells from the primary tumour escape and spread to other parts of the body.

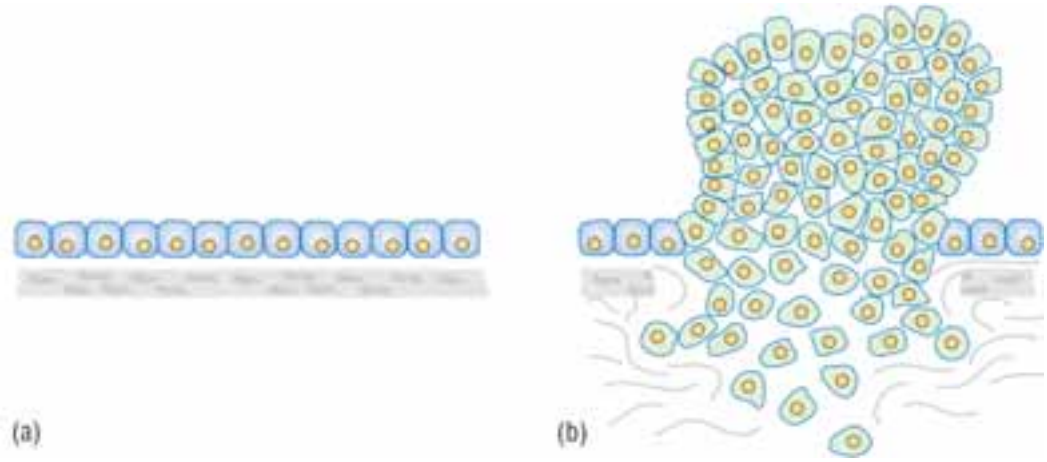


Figure 3.2 (a) Cells in the body are usually well organised into tissues and do not grow beyond their normal boundaries. (b) Cancer cells grow uncontrollably, forming a mass with undefined boundaries. (Source: The Open University, 2008, *Understanding Cancers,* SK123, Figure 2.1, p.22)

Tumours can be either 'benign' or 'malignant' and this has a crucial impact on the person's chances of survival. Most **benign tumours** are rarely life-threatening, though some may grow very large over a long time and eventually interfere with the functioning of a vital organ, such as the liver, heart or brain. A **malignant tumour** is the medical name for a *cancer.* Some cells in a malignant tumour break away from the original primary mass of cells and spread around the body, carried in the blood stream or lymphatic vessels. The malignant cells become lodged in distant locations (e.g. in fine capillaries in organs like the lungs or breast) and begin to generate new **secondary tumours.** The habit of spreading to other parts of the body is the defining characteristic of cancers, and this is what makes them life-threatening and difficult to treat.

At this point, you may be asking yourself why cancer cells grow in an uncontrolled fashion, if they contain the same types of molecules and cellular structures as normal cells? Although cancer cells are very similar to their 'normal' counterparts, they differ in the activity of a few genes. These genes allow cancer cells to divide and produce new cancer cells much more often than normal cells are able to divide. The cancer genes also change the behaviour of cancer cells and give them other characteristics that promote their survival and their ability to spread beyond the original primary tumour.

Table 3.1 summarises some of the important differences between normal and cancer cells.

Table 3.1 The basic properties of normal and cancer cells.

Normal cells	**Cancer cells**
Require energy to fuel chemical reactions inside the cells	Require more energy to fuel chemical reactions inside the cells
Divide and reproduce new cells only when appropriate signals are received	Divide and reproduce new cells continuously without needing the appropriate signals
Have specialised functions appropriate for their location (e.g. lung cells have special functions for their role in the lungs; breast cells have special functions for their role in the breast, etc.)	Lose part or all of their specialised functions (i.e. a cancer cell originating in the lungs no longer looks or behaves like a lung cell)
Age and die after a limited number of cell divisions (usually no more than eight cycles of cell division)	Survive an unlimited number of cell divisions (possibly hundreds of cycles of cell division)
Self-destruct and die when the appropriate signals are received (e.g. because the cell is ageing or developing abnormal characteristics)	May not self-destruct even when the appropriate signals are received, so abnormal cells survive and continue to divide
With some exceptions (e.g. blood cells) remain fixed in a location within tissues and organs	May escape from their original location and spread to other tissues and organs, where they can divide and reproduce new cancer cells

3.3 The human body and cancer

Cancer cells grow aggressively and invade other neighbouring tissues. A few cancer cells rapidly become many cells (Figure 3.2b) and some cells break away from the primary tumour and settle in distant places, where they form new **secondary tumours** (or *metastases*, pronounced 'mett-ass-tah-seez'). As a primary or secondary cancer gets larger, it releases chemical signals that cause new blood capillaries to grow into it.

■ Why do you think a cancer needs new blood vessels as it grows larger?

□ The cancer cells in the middle of the tumour need a supply of oxygen and nutrients to fuel their growth. The new blood vessels bring it to them and remove waste products such as carbon dioxide.

3.3.1 Problems in diagnosing cancers from their symptoms

The symptoms and signs of cancer are extremely diverse, depending on where in the body the tumours are growing. There are no characteristic signs and symptoms that are only due to cancers, because their effects resemble many other diseases. Some symptoms are local, affecting only the tissue or organ containing the original tumour; for example, a persistent cough may be a symptom of cancer in the lungs. Some cancers may have widespread effects all over the body; for example, cancer in the pancreas can alter the production of insulin and glucagon (Study Session 2), causing disruption to the patient's energy supply from glucose in the diet, affecting all body functions.

■ In the two examples given above (cancer in the lungs and cancer in the pancreas), what other diseases have the same symptoms?

□ A persistent cough could be due to tuberculosis; disruption to the body's energy supply from glucose in the diet could be due to diabetes mellitus.

There are many other examples of the difficulty in distinguishing between a cancer and another disease. For instance, cancer of the ovaries frequently leads to a lot of fluid collecting in the abdomen, causing swelling and pain which can be confused with intestinal obstruction (described in Study Session 8 later in this Module). Fluid and swelling in the abdomen presses up against the *diaphragm* (the muscular wall separating the lung cavity from the abdomen), restricting the ability of the person to breathe deeply. This causes the symptom of breathlessness, which can easily be confused with chronic obstructive pulmonary disease or bronchial asthma (described in Study Session 4).

3.4 Risk factors for cancers

This section will introduce you to the idea of **cancer risk factors** that can *increase* our chance of developing a cancer. Knowing what they are is helpful in educating the members of your community in how they can *decrease* their cancer risks by changing their behaviour. The factors that are linked with increases in cancer risk are listed in Box 3.1.

Box 3.1 Risk factors for cancer

- Age
- Cigarette smoking and chewing tobacco or *khat*
- Genetic factors
- Environmental risk factors, such as radiation and certain viruses
- Exposure to some industrial chemicals (e.g. insecticides)
- Lack of exercise
- Fatty diet leading to obesity
- Excessive alcohol consumption.

■ Which of the cancer risk factors in the above list are capable of being *reduced* by actions that an individual can take for themselves?

□ Individuals can reduce their cancer risks from all the potential causes in the above list *except* age, genetic factors and some environmental risk factors.

Old age is a cancer risk because as we get older our cells accumulate more damage from avoidable risks (e.g. smoking, alcohol) and unavoidable exposures in the environment, e.g. radiation from rocks, viruses that cause cancers, etc. Older cells have less ability to control their own growth, so they are more likely to become malignant and start to form a cancer. Genetic factors can also increase a person's cancer risk; some families seem to have more than the average number of cancers arising in family members, and this is thought to be due to the existence of certain cancer-promoting genes in their cells.

The good news is that the WHO estimates that over 30% of all cancers can be prevented, and in the next section we will explain how.

3.4.1 Cancer prevention through risk reduction strategies

You can teach your community members how to reduce their risk of developing cancer by avoiding certain behaviours and habits.

■ Look again at the list of cancer risk factors in the previous section. What advice can you give to help people in your community to reduce their cancer risks? (In the answers below, we have added in brackets which cancers can be reduced by each strategy.)

□ You could advise them to:

- Avoid cigarette smoking or chewing tobacco or *khat* (they increase the risk of cancers of the mouth, throat, lungs, stomach, colon and bladder)
- Avoid excessive alcohol usage (which is a risk factor for cancers of the mouth, oesophagus, stomach, breast and liver)
- Eat a healthy diet containing plenty of fruits, vegetables and other high-fibre foods from plant sources like whole grains, peas and beans (this helps in reducing cancer risks in the whole of the gastrointestinal system)
- Maintain a healthy weight (this reduces the risk of many cancers, including cancers of the ovaries and breast)
- Avoid exposure to industrial chemicals by wearing personal protective clothing (this reduces the risk of lung and skin cancers, among others)
- Avoid exposure to cancer-promoting viruses (described below).

3.4.2 Prevention of cancers caused by viruses

Infection with two viruses are strongly associated with the development of specific cancers: hepatitis B virus (HBV) causes liver cancer, and human papilloma virus (HPV) causes cancer of the cervix. Both these viruses can be transmitted by unprotected sexual intercourse. HBV infection can follow from exposure to the blood of an infected person, e.g. during healthcare. Immunization against HBV is a routine part of the Expanded Programme on Immunization (the EPI) in Ethiopia; three doses are given to all infants as part of the pentavalent vaccine (pentavalent means that five different vaccines are combined in one injection). Some high-income countries also offer immunization with a vaccine against HPV, but this is not currently available in Ethiopia.

The EPI in Ethiopia is described in detail in the *Immunization* Module in this curriculum.

■ What advice would you give to women about protecting themselves from cancer of the cervix caused by HPV infection acquired during sexual intercourse?

You learned about the ABC rules in the *Communicable Diseases* Module, Part 3, Study Session 25.

□ The best way to prevent cervical cancer due to HPV is to follow the **ABC rules for prevention of sexually transmitted infections (STIs)**:

- Abstinence (refraining from sexual intercourse)
- Be faithful (to one long-term partner)
- Condoms (correct and consistent use of condoms for all acts of sexual intercourse).

You should also teach your community that cancers that are detected early by regular self-examination are more easily treated, with a much better chance of success, than cancers where treatment begins only after a long delay.

Waiting before showing a health professional a lump found anywhere in the body could mean that it is too late to save the person's life! You should also encourage people to come for cancer screening and early detection. All types of cancer affecting men and women are found in Ethiopia, but from hospital data the most common cancers seem to be breast cancer and cancer of the cervix (cervical cancer) in women – which we describe next.

3.5 Breast cancer

The cause of most **breast cancers** is unknown. Genetic factors are involved in about 2% of cases, and women who are obese and/or eat a high fat diet, or drink a lot of alcohol are more at risk, but there is no clear cause in most cases. However, benign (harmless) lumps in the breast are very common, so you need to reassure women in your community that every change and every lump found in the breasts does not mean they have breast cancer. Only about one in every five women with a breast lump turns out to have cancer. The breasts are changing every month with the phases of the menstrual cycle, due to changes in the levels of the female reproductive hormones (oestrogen and progesterone), and sometimes these changes result in *temporary* lumps in the breast. Some women develop small painless lumps just before their menstrual period, which disappear after a few days. Sometimes a small tender cyst develops (a collection of fluid in the breast), which also disappears after a few days. If a lump is felt in the breast that remains for two weeks, it is wise to get it checked by a health professional.

3.5.1 Screening for breast cancer

Screening refers to any method of examining an apparently healthy person to see if they have the early signs of a particular disease, which would benefit from having early treatment. Screening for breast cancer is easily carried out by women themselves. You should advise women in your community to examine their breasts once every week, using the method of **breast self-examination** illustrated in Figure 3.3 and described in Box 3.2 (on the next page).

Advise women who find a breast lump to seek medical help – they should not to go to the traditional healers.

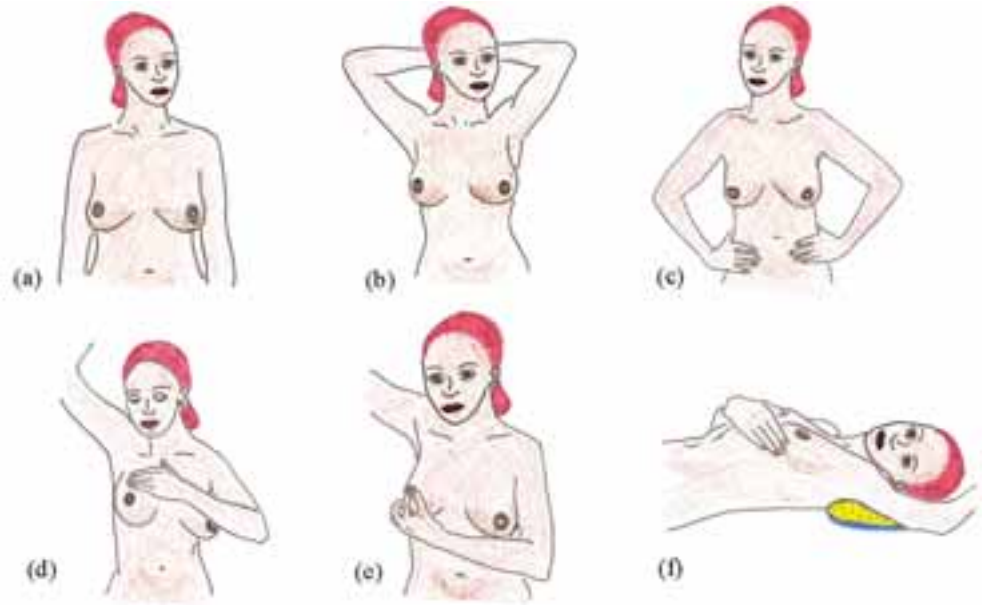


Figure 3.3 The steps of breast self-examination: steps (a) to (c) are done facing a mirror. Step (f) is done lying down. (Diagrams: Dr Radmila Mileusnic)

Box 3.2 Steps in breast self-examination

The following steps relate to the diagrams in Figure 3.3 and should be carried out in this order.

(a) View the breasts with arms down at your sides. One breast is normally a little larger than the other, but do they appear about the same size and shape? Is the outline of each breast rounded and smooth, or are there any creases or dimples?

(b) Look at your breasts for the same signs as in (a), but this time with your arms raised and your hands holding each other behind your head.

(c) Repeat the visual inspection with your hands on your hips.

(d) Raise your right hand above your head; with all four fingertips of your left hand, gently press the whole of your right breast, moving your fingers to the next area and using small circular movements. Feel for any lumps or thickened tissue. Repeat with the left breast and right hand.

(e) Hold your right nipple between the thumb and first finger of your left hand; gently roll the nipple, feeling for any lumps or tenderness. Repeat with the left breast.

(f) Lie down and stretch your left arm upwards and behind your head. Use small circular pressures with the finger tips of your right hand to examine the whole breast. Repeat with the right breast and left hand.

If a woman feels an unusual lump or any palpable mass in the breast, or sees a change in the appearance of the breast, she should go to the nearest health centre for further assessment and specialist treatment. The types of changes in the appearance or 'feel' of the breast that should alert a woman to seek medical help are shown in Figure 3.4.

Figure 3.4 Drawings of changes in the breast that may suggest possible cancer. (Diagrams: Morning2k via Wikimedia Commons)

There are also image screening methods for early detection of breast cancer in higher health institutions, using either low-dose X-rays (the technique is called *mammography*) or ultrasound imaging of the breast. In many high-income countries, all women over the age of 45 or 50 years are screened using these methods every two or three years. However, the technology is not available (or not accessible) in most low-income countries in Africa.

3.5.2 Breast cancer treatment

Breast cancer is usually treated surgically, either by removing just the cancerous tumour from the breast, or by removing the whole breast. The skin covering the breast is stitched back in place after the breast (or lump) has been removed, leaving a neat scar. Follow-up treatment may be recommended with either radiotherapy (a high-dose radiation beam is shone on the breast area), or chemotherapy with special anti-cancer drugs. This is to try to kill any cancer cells that have spread away from the original tumour in the breast, to stop them from developing into new secondary tumours elsewhere.

3.6 Cervical cancer

Cervical cancer refers to cancer cells growing in the tissues of the cervix – the muscular organ connecting the uterus and the vagina (Figure 3.5). Most cases of cervical cancer are caused by sexually transmitted infection with the human papilloma virus (HPV).

In low- and middle-income countries, cervical cancer is the most common female cancer and one of the leading causes of death amongst women. In Ethiopia, it is believed from hospital reports that cervical cancer is the most common of all cancers. It is usually a slow-growing cancer that may not produce symptoms in its early stages. If the cancer is advanced, it may produce symptoms including an offensive discharge and bleeding from the vagina, and pain during sexual intercourse. You should encourage any woman with these symptoms to seek urgent medical attention.

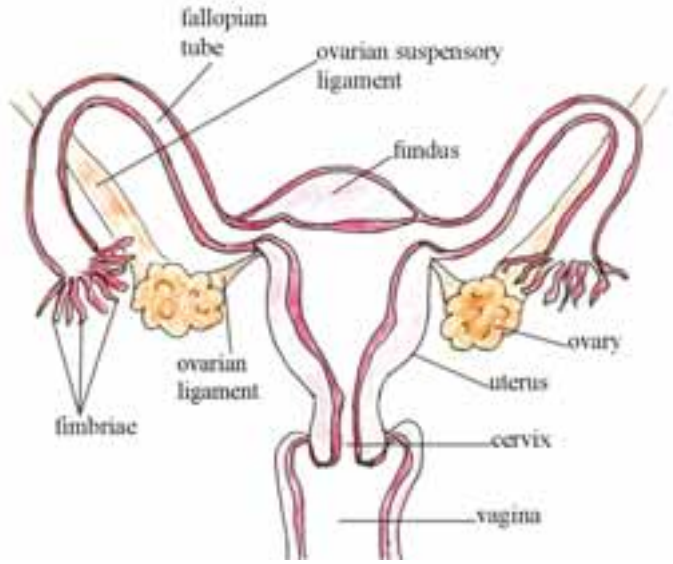


Figure 3.5 Female internal reproductive organs.

3.6.1 Cervical cancer screening

Early detection of cervical cancer can be done with a test called a **Pap smear test**, in which cells are gently scraped from the cervix with a blunt instrument, smeared onto a glass slide and looked at under a microscope. A special stain is applied to the cells (called the Pap stain after the doctor who invented it), which shows up the cancer cells if they are present (Figure 3.6).

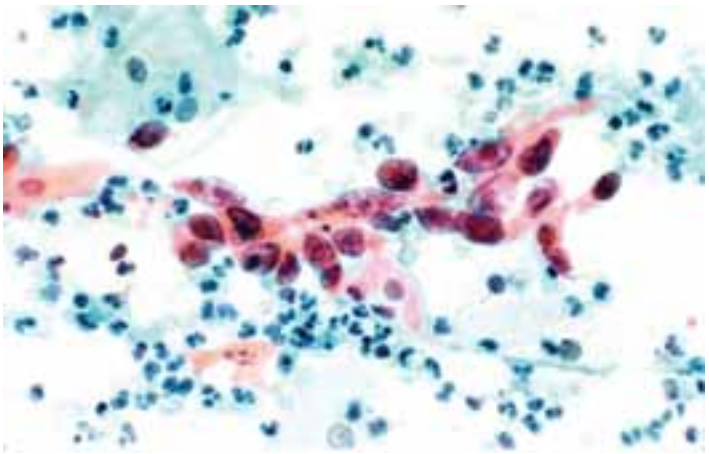


Figure 3.6 Pap smear of cells from the cervix magnified by a microscope to reveal cancer cells (stained pink) among the normal cervical cells (stained blue). (Photo in the public domain: National Cancer Institute, USA)

Women who are sexually active should ideally have a Pap smear test once every two or three years, but this is only available in higher-level health facilities in Ethiopia. Cervical cancer screening detects the cancer early. If effective treatment, such as surgical removal of the uterus, chemotherapy or radiation follows, it dramatically stops the progression of cervical cancer and can cure the disease completely. Advise your female clients to go to a specialised well-woman clinic if possible and have the screening test for cervical cancer.

3.7 Care for a person with advanced cancer

As you have seen in previous sections, cancer may be treatable if it is diagnosed early and depending on its type. However, some cancers are untreatable and others are diagnosed too late for treatment to be effective. If the original cancer spreads to other part of the body, the secondary tumours can damage the function of many different organs and make the patient very sick. As the cancers grow, they can interfere with processes that maintain life and the patient becomes **terminally ill** (i.e. expected to die within weeks).

The care given to a person who has advanced cancer (or any other chronic life-threatening condition) is referred to as **palliative care**. The aim of palliative care is to improve the quality of life of the sick individual and their family in the period before the death, and to help the family cope with the bereavement after the death. It involves prevention and relief of suffering, pain and other physical problems, and attention to psychosocial and spiritual issues. It focuses on supporting the patient to enjoy what remains of their life as fully as possible, and helps them and their family to manage symptoms such as pain and nausea. It also helps the relatives to cope with the overwhelming feelings they may be experiencing about losing their loved one.

The aim in palliative care is always to support the patient in their own home for as long as possible, and to involve others in the community who can give comfort to the patient and family members. In Ethiopia, an important contribution can be made by religious and spiritual leaders in the community. Don't forget that families who are caring for a dying person also need practical help and support, for example to lift a bedridden patient to change the bedding or make the person more comfortable (Figure 3.7).

Figure 3.7 A Health Extension Practitioner and a family member changing the position of a terminally ill person to make him more comfortable.

Please refer to the *Communicable Diseases* Module, Part 3, Study Session 30 for a detailed description of palliative care in relation to people dying from HIV/AIDS. However, all the aspects described are equally relevant to someone who is dying from cancer, heart disease or any other chronic condition – for example, chronic obstructive pulmonary disease or bronchial asthma, the subjects of the next study session.

Summary of Study Session 3

In Study Session 3, you have learned that:

1 Cancers are characterised by the rapid creation of abnormal cells which grow beyond their usual boundaries, and which can invade adjoining parts of the body and spread to other organs.

2 A tumour is a solid mass of new cells growing in an inappropriate location; they can be benign (harmless) or malignant (life-threatening cancers).

3 The human body is made of fluids and cells of many different types with specific functions; cancers can start in cells in any organ or tissue and spread to other parts of the body.

4 The symptoms and signs of cancers are easily confused with other chronic conditions, and depend on where in the body the cancer is growing; there is no characteristic defining symptom or sign of cancer.

5 Age, genetic factors, cigarette smoking, chewing *khat*, drinking excessive alcohol, high fat diets, obesity, exposure to chemicals or viruses, and lack of exercise are some of the risk factors for cancer.

6 About 30% of all cancers can be prevented by having a healthy lifestyle and avoiding tobacco, alcohol, fatty food, exposure to chemicals and unprotected sexual intercourse.

7 Cervical cancer and breast cancer are the most common cancers in Ethiopia, based on hospital reports.

8 There is no clear cause of breast cancer, but it can usually be treated if it is detected early enough. Teaching women about breast self-examination can save many lives through early detection and treatment.

9 Cervical cancer is mainly caused by infection with the human papilloma virus (HPV); it can be prevented by following the ABC rules (Abstinence, Be faithful, Condom use). Early detection by regular Pap smear tests followed by treatment can save many lives.

10 The palliative care given to someone who is terminally ill with advanced cancer includes management of symptoms such as pain and nausea, and physical, practical and spiritual support for the dying patient and their family members.

Self-Assessment Questions (SAQs) for Study Session 4

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 3.1 (tests Learning Outcomes 3.1 and 3.2)

Which of the following statements is *false*? In each case, explain what is incorrect.

A More people die from cancer in the world every year than from HIV/AIDS, tuberculosis and malaria combined.

B Benign tumours are not generally life-threatening.

C Malignant tumours are life-threatening because they spread and cause damage to organs and tissues all over the body.

D Cancer cells are normal cells growing in the wrong place.

E Cancer cells can multiply uncontrollably by repeated cell divisions.

F Cancer cells 'self-destruct' when they get too old or develop abnormal features.

SAQ 3.2 (tests Learning Outcomes 3.1 and 3.2)

Suppose you are invited to give a talk about cancers in a school in your village. You want to begin by describing what cancer cells are, using words that children will understand. What will you say?

SAQ 3.3 (tests Learning Outcome 3.2)

Which of the following is a symptom of cancer? Explain your answer.

(a) Fever
(b) Cough
(c) Missing menstrual periods
(d) All of the above
(e) None of the above

SAQ 3.4 (tests Learning Outcomes 3.1 and 3.3)

Mr Abera is a 65-year-old man, who used to be a farmer, but now he doesn't go out into the fields very often. He has smoked cigarettes for the last 25 years, he drinks alcohol almost every day, and he likes to eat a lot of fatty meat. His body mass index (BMI) is 33 (look back at Figure 2.7 in Study Session 2).

(a) What risk factors do you observe in Mr Abera's lifestyle that increase his chances of developing cancer?
(b) What advice will you give Mr Abera to decrease his risk factors?

SAQ 3.5 (tests Learning Outcomes 3.1 and 3.4)

What advice would you give to women who ask you about the best ways to reduce their chance of dying from breast cancer?

SAQ 3.6 (tests Learning Outcomes 3.1 and 3.5)

(a) How could you help to support the spiritual needs of a cancer patient who is terminally ill in your community?
(b) What other features of palliative care could help the patient and his or her family?

Study Session 4 Chronic Obstructive Pulmonary Disease (COPD) and Bronchial Asthma

Introduction

Chronic obstructive pulmonary disease (COPD) and bronchial asthma are very common **respiratory diseases** (i.e. affecting the respiratory system) all over the world, including in Ethiopia. Patients with COPD are usually in the older age groups and have a combination of two clinical conditions – *emphysema* and *chronic bronchitis*, which will be explained in this study session. Bronchial asthma is an allergic reaction to particles getting into the lungs from the environment. Although it can affect all ages, it is the most common chronic disease among children.

According to estimates by the WHO, about 235 million people have asthma worldwide, and 210 million people have COPD. Millions more have these or other undiagnosed chronic respiratory diseases. Asthma is not often fatal, but about three million people die of COPD every year and experts predict that COPD will become the third leading cause of death worldwide by the year 2030.

In this study session, you will learn about the respiratory system, what COPD and bronchial asthma mean, and how they affect patients' lives. We will teach you how to recognise the symptoms and signs in people in your community, and how to use screening questions for COPD to find out if a person has risk factors for developing this respiratory condition, or early signs of disease that they are not yet aware of. We will also discuss how COPD and bronchial asthma affects patient's lives and how to prevent these diseases, so you can make an important contribution to improving the health of your community.

Learning Outcomes for Study Session 4

When you have studied this session, you should be able to:

4.1 Define and use correctly all of the key words printed in **bold**. (SAQs 4.1 and 4.2)

4.2 Describe the main structures in the respiratory system and how they are affected by COPD and bronchial asthma. (SAQ 4.1)

4.3 Describe the major risk factors for COPD and bronchial asthma, and the screening questions you can use to detect early signs of COPD. (SAQs 4.1, 4.2, 4.3 and 4.4)

4.4 Describe the major symptoms and signs of COPD and bronchial asthma, and how they affect patients' lives. (SAQs 4.3 and 4.4)

4.5 Explain how you can educate people in your community to prevent or reduce the impact of COPD and bronchial asthma. (SAQs 4.2, 4.3 and 4.4)

4.1 The human respiratory system

Trachea is pronounced 'trak-ee-yah'; bronchi is pronounced 'bronk-ee' and bronchioles are 'bronk-ee-oles'.

Before we can teach you about respiratory diseases, you need to know more about the respiratory system and how it works. Look carefully at Figure 4.1. The air that you breathe in (inhale) passes down your windpipe (its medical name is *trachea*) into tubes in your lungs called *bronchi*, which branch into fine **bronchioles** that carry air into all parts of the lungs.

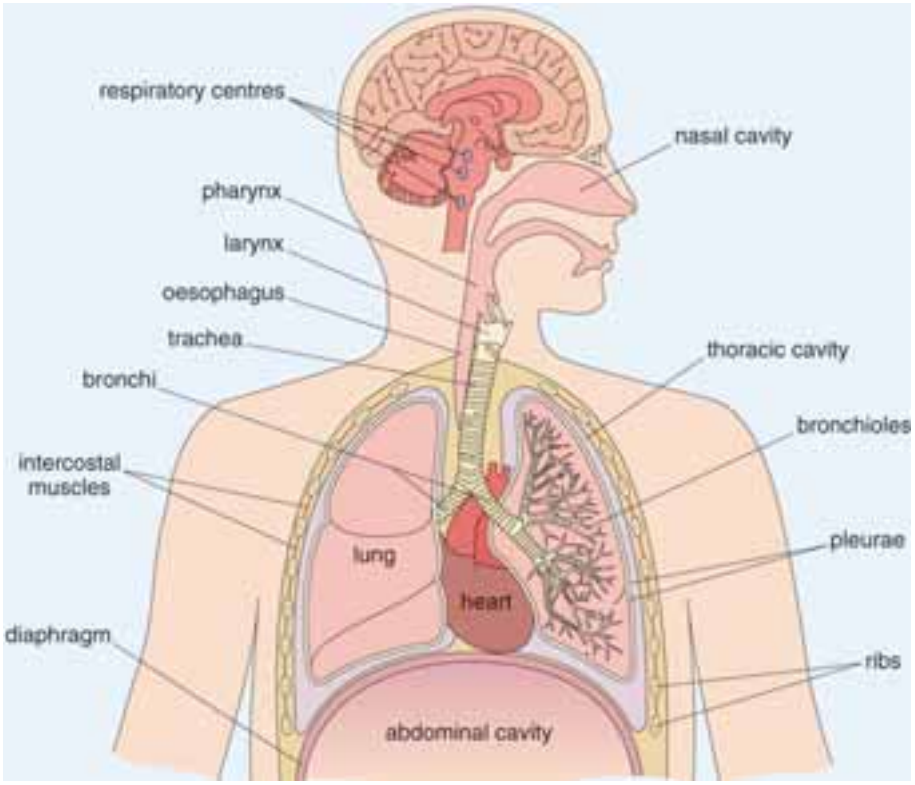


Figure 4.1 The human respiratory system (also known as the pulmonary system). (Source: The Open University, *Chronic Obstructive Pulmonary Disease*, SDK125, Case Study 5, Figure 3.3)

The bronchioles end in bunches of tiny round air sacs called *alveoli* ('al-vee-ole-eye', the singular is alveolus). The airways and alveoli are elastic (stretchy). When you breathe in, each air sac fills up with air like a small balloon, and when you breathe out, it gets smaller again as the air leaves.

Small blood vessels called pulmonary capillaries cover the walls of the alveoli (Figure 4.2). When air enters the air sacs, the oxygen in the air passes through the very thin walls of the alveoli into the blood in the capillaries. At the same time, carbon dioxide (a waste gas) moves from the capillaries into the alveoli and is breathed out (exhaled). This process is called **gas exchange**.

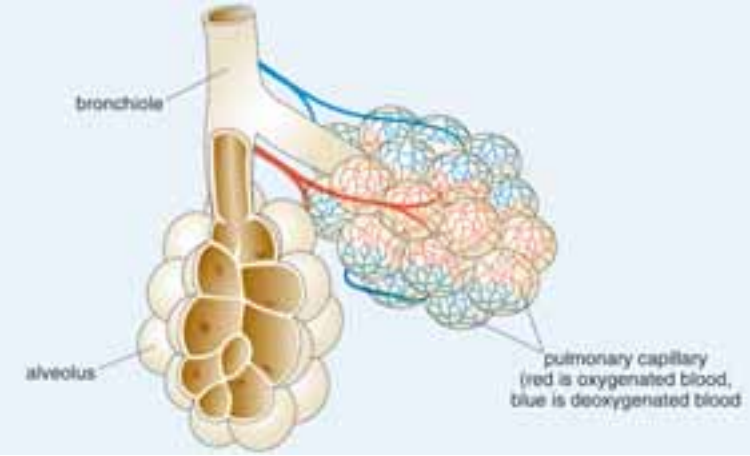


Figure 4.2 A cross-section of a bronchiole and clusters of alveoli (air sacs) showing the blood capillaries covering their surfaces. (Source: The Open University, *Chronic Obstructive Pulmonary Disease*, SDK125, Case Study 5, Figure 3.6)

With this information in your mind, we can move on to describe how the respiratory system is affected in COPD first and then in bronchial asthma.

4.2 Chronic obstructive pulmonary disease

Chronic obstructive pulmonary disease (**COPD**) is a progressive respiratory disease that makes it hard to breathe. The long name of this condition tells you a lot about the problem if you know what each of the words means.

■ What does *chronic* mean when applied to a disease? You should know it already from earlier study sessions in this Module.

□ A **chronic disease** is one that begins slowly, gradually gets worse over time and lasts for a long time, usually for the rest of the person's life.

'Obstructive' means that the disease involves blockages (obstructions) somewhere in the body, and 'pulmonary' tells you that the disease affects the respiratory (or pulmonary) system.

4.2.1 The lungs in COPD

People with COPD have inflammation in their lungs that causes the production of large amounts of **mucus** – a clear slimy fluid secreted by cells lining the inside of the lungs. The mucus is a very good place for bacteria to grow, so lung infections are common in people with COPD. The mucus blocks the fine bronchioles and causes **wheezing** – squeaky breathing; you can often hear a quiet whistling or squeaking sound coming from the lungs when the person breathes in.

■ Can you think what effect it will have on a person whose lungs are obstructed with sticky mucus?

□ They won't be able to get as much air into their lungs when they breathe, so they feel short of breath; their lungs can't expand so easily, so they have a feeling of tightness in the chest. You might also have guessed correctly that people with COPD are always coughing, because of the irritation in their lungs and wanting to cough up the mucus.

4.2.2 Emphysema and chronic bronchitis

The symptoms we have just described are known as **chronic bronchitis** ('bronk-eye-tuss'). Because the airways are constantly irritated and inflamed, the lining of the bronchioles becomes thicker and the space in the middle of the tube becomes smaller (see the bottom left diagram in Figure 4.3). This further restricts the amount of air that can get into and out of the lungs.

People with COPD also develop a condition called **emphysema** ('em-fee-see-mah'). Persistent coughing stretches these delicate structures so much that over time they lose their elastic quality and become stiff. This means that they don't expand as easily to let air enter. Also, the walls between many of the alveoli are destroyed by the high pressure inside the air sacs when a cough fails to dislodge a mucus obstruction. This damage leads to fewer larger air sacs instead of many tiny ones (see the bottom right diagram in Figure 4.3). If this happens, the amount of gas exchange in the lungs is reduced.

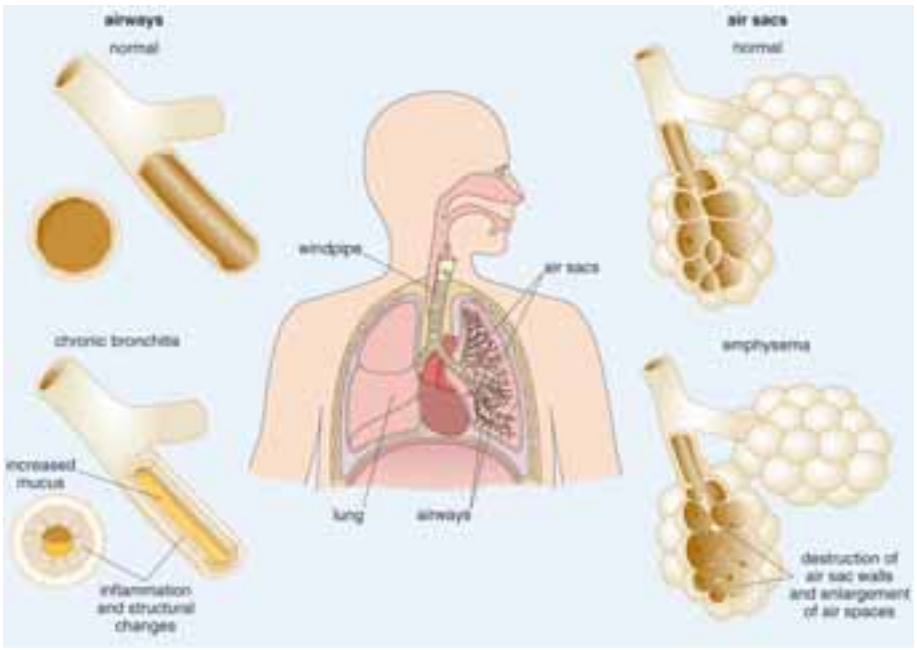


Figure 4.3 (Top) Normal airways and alveoli (air sacs). (Bottom left) Airways blocked with mucus and (bottom right) alveoli damaged by COPD. (Source: The Open University, *Chronic Obstructive Pulmonary Disease*, SDK125, Case Study 5, Figure 1.2)

4.2.3 Risk factors for COPD

Figure 4.4 Breathing smoke from indoor cooking fires, especially when dried animal dung is used as fuel, is a risk factor for COPD. (Photo: Basiro Davey)

Age is a risk factor for COPD: most people who have COPD were at least 40 years old when their symptoms began. However, the main risk factor is smoking tobacco. Most people who have COPD smoke or used to smoke cigarettes. People who have a family history of COPD (older relatives who developed it) are also more likely to develop the disease if they smoke. Long-term exposure to other lung irritants is another risk factor for COPD. These include:

- Second hand-smoke from someone who is smoking tobacco in the same house every day
- Industrial air pollution (smoke, chemical fumes and dust)
- Most important of all in low-income countries – indoor smoke from cooking fires (Figure 4.4).

4.2.4 Effects of COPD on the patient's life

As you already know, the symptoms of COPD include a persistent cough that produces large amounts of mucus (often called a 'smoker's cough'), shortness of breath, especially with physical activity, wheezing, chest tightness and frequent infections in the lungs (colds, pneumonia). As the disease gets worse over time, the flow of air into and out of the lungs becomes so poor that the person becomes seriously disabled by breathlessness. They may have swelling (oedema) in their ankles, feet or legs, a bluish colour on their lips due to a low blood oxygen level, and extreme shortness of breath even when sitting still. It becomes impossible to walk even a few metres.

COPD also affects the quality of life in other ways. Breathlessness stops people from doing normal physical and social activities, which further reduces their independence and contact with family, friends and neighbours. They become poor because they cannot work, and have to live with family members who may not be sympathetic to their condition. COPD can lead to a diminished role within society and the family, and the loss of intimacy in personal relationships. Many COPD sufferers eventually become housebound (unable to go out at all) and heavily dependent on family care.

Immediately refer a person with COPD causing severe breathlessness; they urgently need oxygen supplied through a mask.

A person with COPD may die from heart failure, because the heart becomes exhausted by the effort of trying to pump enough oxygen around the body. Urgent medical attention is required if they are having difficulty getting enough breath for talking, their lips and fingernails turn blue due to the low oxygen level in their blood, and their heart is beating very fast.

4.2.5 COPD screening at community level

Table 4.1 is a questionnaire to help you to assess whether a person you suspect may have COPD is at risk of developing the condition. You ask the questions and fill in whether the person gives a 'Yes' or 'No' answer.

Table 4.1 COPD screening questions.

Questions		Yes	No
1	Have you been coughing a lot and producing thick mucus (sputum) coughed up from your lungs?		
2	Have you had shortness of breath?		
3	Have you heard wheezing from your lungs when you breathe?		
4	Do you smoke cigarettes, or did you smoke cigarettes in the past? If not, do you live with someone who smokes cigarettes?		
5	Does anyone in your family have asthma and/or allergies?		
6	In your work, have you been exposed to dust or chemicals that you often breathed in?		
7	Have you often been exposed to smoke from cooking fires inside your house?		

Interpretation of the results of the COPD screening questionnaire is as follows:

- If the person answers 'yes' to at least two out of Questions 1, 2 and 3, refer him or her to the health centre for further evaluation. It is likely that they have COPD.
- If the person answers 'yes' to only one of Questions 1, 2 or 3, and also has one or more of the risk factors mentioned in Questions 4 to 7, then advise them about the need for regular screening for COPD and educate them on the prevention of COPD by reducing their exposure to the risk factors.

4.2.6 Prevention of COPD

The good news is that COPD is a preventable disease! Educate people in your community how they can protect themselves from developing it by not smoking (or stopping smoking) tobacco, which is dangerous to health not only in terms of COPD.

■ Smoking is a risk factor for what other conditions?

□ Cardiovascular diseases and some cancers (e.g. lung cancers) are caused by smoking.

Figure 4.5 A flue attached to an oven prevents smoke and fumes from polluting the air in a rural house.
(Photo: Alex Duncan)

Fitting cooking stoves with a flue (a pipe that takes smoke and fumes out of the house, Figure 4.5) is another way to protect the lungs from smoke damage. This is also important in preventing other conditions, including respiratory infections in children (the smoke irritates their delicate lungs and creates mucus for infectious agents to grow in), and cataracts in women whose eyes are exposed to cooking smoke for many hours a day (cataracts are described in detail in Study Session 5).

4.3 What is bronchial asthma?

Bronchial asthma is a common lung disease affecting millions of people worldwide. Like COPD, it is characterised by narrowing of the airways (bronchioles) in the lungs, but there are some major differences. First, bronchial asthma is an allergic reaction to certain particles in the air, known by the general term **allergens**, which usually come from other animals or plants. Examples of allergens include:

- Pollen from trees, crops and flowers
- House dust mites (microscopic crawling animals that live in house dust and feed on the flakes of skin that humans shed every day)
- Animal hairs (especially domestic animals like cats, dogs and horses)

The muscles in the walls of the bronchioles constrict (become narrow) if a person with asthma breathes in an allergen that he or she has become sensitive to. Most people are not sensitive to these common allergens, so people who develop bronchial asthma may have genetic factors that make their lungs react so strongly. The narrowing of the bronchioles can begin very suddenly and is called an **asthma attack**. The symptoms of an asthma attack are similar to COPD and include wheezing, coughing, chest tightness and shortness of breath. If the person uses an inhaler (a device that sprays special medicine into their lungs), the narrowing of the bronchioles can usually be reversed quite quickly, so they can breathe normally again.

- ■ Can you see one big difference between asthma and COPD?
- □ Asthma symptoms can be reversed by breathing in the correct medicine, but COPD symptoms cannot be reversed – the damage to the lungs is permanent.

A person with an asthma attack should go urgently to a health centre or hospital.

However, you should always advise people who are having an asthma attack to be taken urgently to a hospital or health centre if the symptoms do not quickly improve. Although it is unusual for people in high-income countries to die from an asthma attack, this is because most patients carry inhalers with them everywhere and can treat themselves if an attack begins. In countries like Ethiopia, where very few people with asthma have an inhaler, a severe attack can leave the person so short of breath that they die from lack of oxygen.

The factors that set off and worsen acute asthma symptoms are called 'inducing factors'. They include smoke, atmospheric pollution, some chemicals, and bacterial and viral infections, etc. It is also believed that emotional stress and worry are inducing factors for an asthma attack. Identifying and avoiding asthma-inducing factors are essential steps in preventing a person with asthma from developing an attack of symptoms.

The effects of asthma on people's lives has some common features with COPD, such as breathlessness restricting physical and social activities. People with asthma are often anxious about the sudden onset of an attack and they may try to avoid going to places where they may be exposed to an inducing factor or an allergen.

In the next study session, we turn to chronic conditions affecting vision and hearing.

Summary of Study Session 4

In Study Session 4, you have learned that:

1 COPD is an increasingly common progressive respiratory disease; it mainly affects people after the age of about 40 years.

2 COPD has two main components – chronic bronchitis and emphysema – which, over time, cause permanent irreversible damage to the lungs. The main symptoms are a persistent cough, excessive production of mucus in the lungs, shortness of breath, wheezing and chest tightness. COPD makes respiratory infections more likely.

3 Smoking tobacco is the main risk factor for COPD, as well as inhaling second-hand smoke, air pollution, chemical fumes and dust from the environment or workplace, and indoor smoke from cooking fires. Stopping (or not ever) smoking and avoiding air pollution is the primary way to prevent COPD.

4 Bronchial asthma is a common lung condition, in which narrowing of the airways can happen suddenly in response to inhaling an allergen, such as house dust mite, pollen or animal hairs; inducing factors that can make an attack worse are industrial pollution, respiratory infections, cigarette smoking and emotional stress.

5 The symptoms of asthma are similar to those of COPD, but they are reversible if the correct medicine is inhaled. Another difference is that asthma is much more common than COPD among younger people; it is the commonest chronic condition in children worldwide.

6 The effects of COPD and asthma on people's lives share some common features, such as breathlessness restricting physical and social activities. People with advanced COPD may be unable to work or live independent lives, or walk even a few steps without becoming dangerously short of oxygen. People with asthma are often anxious about the sudden onset of an attack and they may avoid going to places where they may be exposed to an inducing factor or an allergen.

Self-Assessment Questions (SAQs) for Study Session 4

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Supporting Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module

SAQ 4.1 (tests Learning Outcomes 4.1, 4.2 and 4.3)

Which of the following statements is *false*? In each case, explain what is incorrect.

A COPD is a progressive disease, which affects the cardiovascular system.

B Wheezing, breathlessness and a cough with production of large amounts of mucus in the lungs are the major symptoms of COPD.

C Air entering the body travels down the oesophagus into the lungs.

D In COPD, the air sacs lose elasticity and their walls can break down.

E Bronchial asthma is mainly a disease of elderly people.

F Exposure to pollen and animal hair can cause COPD.

SAQ 4.2 (tests Learning Outcomes 4.1, 4.3 and 4.5)

(a) What is the most common risk factor for COPD, and what other risk factors may contribute to this condition?

(b) What advice will you give your community members to combat this risk factor, and what other diseases could be prevented by doing so?

SAQ 4.3 (tests Learning Outcomes 4.3, 4.4 and 4.5)

Table 4.1 presented a questionnaire to help you to evaluate if someone has got COPD or has risk factors for COPD. Imagine that you asked Mr Sileshi all the questions in Table 4.1. He answered 'Yes' to Questions 4 and 6, but to all other questions he answered 'No'.

- What advice will you give Mr Sileshi and why?

SAQ 4.4 (tests Learning Outcomes 4.3, 4.4 and 4.5)

Read Case Study 4.1 and then answer the questions that follow it.

Case Study 4.1 Mihret becomes suddenly breathless

Mihret is a 25-year-old woman who comes to you complaining that when she was cooking in her house this morning, she suddenly felt very tight in her chest and had difficulty breathing. This is the first time this has happened. She went outside into the fresh air and her breathing returned to normal within about 15 minutes. You asked her if she or any family members smoke tobacco and she says 'No'. You asked if there was smoke in the house from the cooking fire and Mihret said 'Yes, the house is always smoky when I am cooking'.

(a) What condition do you suspect that Mihret has experienced? Explain your answer.
(b) What could have caused it?
(c) What advice do you give her?

Study Session 5 Cataracts, Eye and Ear Injuries

Introduction

The eye and ear are special organs of the human body that are designed to detect information about the world around us. Any impairment of function in these two organs is experienced as a big problem, particularly by people in rural communities. But this does not always mean that people with eye or ear problems are totally disabled and cannot contribute anything to help themselves or the community at large. Difficulties in seeing or hearing can seriously interfere with normal daily life, but you can help by organising some form of rehabilitation for affected people and their families. (Study Session 16 of this Module is on community-based rehabilitation).

In this study session you will learn about the basic anatomy of the eye, how the eye functions, what cataract means, and the common manifestations of cataract. You will also be learning how to deal with common types of eye and ear injuries, and how to provide emergency care for these problems.

Learning Outcomes for Study Session 5

When you have studied this session, you should be able to:

5.1 Define and use correctly all of the key words printed in **bold**. (SAQ 5.1)

5.2 Describe the main structures of the eye and their functions. (SAQ 5.1)

5.3 Describe the clinical manifestation of cataract. (SAQ 5.2)

5.4 Explain how cataracts can be treated, using language that an affected person in your community can understand. (SAQ 5.2)

5.5 Describe the main types of eye injuries and what first aid you would give in each case. (SAQ 5.3)

5.6 Describe how you would educate people in your community on the prevention of blindness. (SAQ 5.2)

5.7 Describe the effects of a foreign body in the ear and how to remove it. (SAQ 5.4)

5.1 Anatomy and function of the eye

You first need to study the structures of the human eye and their functions. Knowing this will help you understand about the different causes of blindness, such as cataract. As you read the following descriptions, see if you can identify the structures in Figure 5.1, which intentionally has no labels.

The eyeball is a small organ in size, only about 2.5 cm in diameter, but it serves a very important function, which is your sight. Vision is the primary means that you use to gather information from your surroundings. The eye is usually compared to a camera. Each eye gathers light and transforms it into signals to your brain, which interprets what you see as a picture or image. Both the eye and the camera have lenses to focus the incoming light so that the image formed will be clear and understandable.

Figure 5.1 The human eye, front view. (Adapted from: The Open University, 2008, *Visual Impairment: A Global View*, SDK125, Case Study 7, p.13)

5.1.1 Eyelids and eyelashes

The **eyelids** are muscular folds of skin above and below your eyes, which can open and close like a gate covering and revealing the eye. They protect the eye from foreign matter, such as dust, dirt and other debris that might damage the eyes. When you blink, the eyelids also help spread tears over the surface of the eye, keeping it moist and comfortable. **Eyelashes** are small hairs growing from the edges of the eyelids. They filter out dust and debris from the air close to the eye, preventing it from getting into the eyeball.

5.1.2 Sclera and conjunctiva

The **sclera** is a tough, leather-like, white tissue that extends all around the eye. Similar to an eggshell surrounding an egg and giving its shape, the sclera surrounds the eye and gives the eye its shape. The sclera is also attached to small muscles around the eye, which, in turn, move the eye left and right, up and down, and diagonally. When you look at yourself in the mirror the white part of your eye that you see is the front part of the sclera. Outside the sclera is a very thin transparent membrane, called the **conjunctiva**.

5.1.3 Cornea, iris and pupil

The **cornea** is a clear layer at the front of the eye, as you can see in Figure 5.2. You can also see that the cornea is located in front of the **iris**. The main purpose of the cornea is to help focus light as it enters the eye. The iris is the coloured part of your eye and is made of muscle. The iris controls the amount of light that enters the eye through the pupil. The central opening in the ring-shaped muscular tissue of the iris is called the **pupil**, and the amount of light that enters the eye, can be altered by the iris changing its shape.

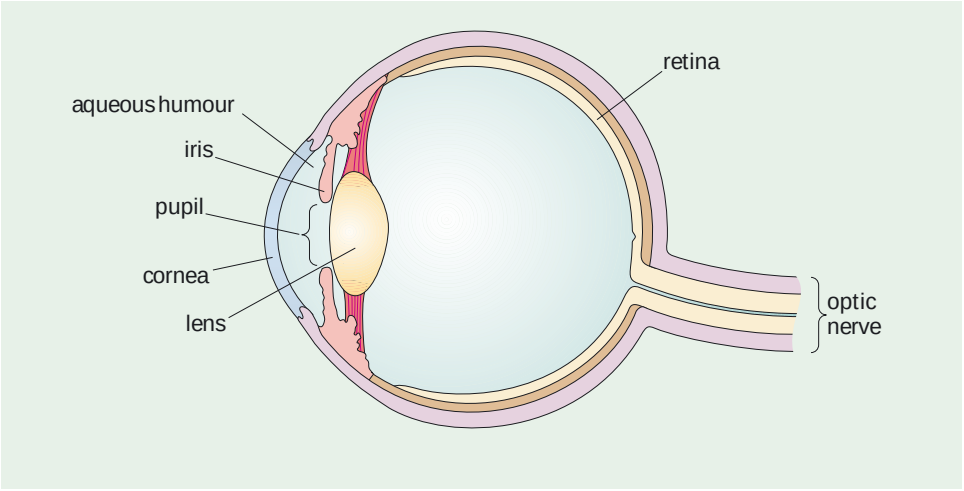


Figure 5.2 Cross section of the eye showing the different parts viewed from the side. (Adapted from: The Open University, 2008, *Visual Impairment: A Global View*, SDK125, Case Study 7, p.13)

5.1.4 Lens and aqueous humour

The **lens** of the eye is a clear flexible structure that is located just behind the iris and the pupil. The lens focuses the light as it passes through the eye onto the retina at the back of the eye. The aqueous humour (it means 'watery matter') is the fluid found just behind the cornea; its function is to nourish the lens.

5.1.5 Retina

The **retina** is a complex layer of tissue at the back of the eye, where the image from the light entering the eye is focused. When light hits the retina, it send signals to the brain along the optic nerve. The brain interprets these signals and turns them into information about what the eye is seeing. Damage to any of the structures of the eye due to physical injury or infection, or their gradual wearing out due to age, reduces the quality of vision.

Now try this exercise to test your knowledge of the structures of the eye.

- Look at Figure 5.3. Can you add the correct names to the structures labelled (a) to (e)?

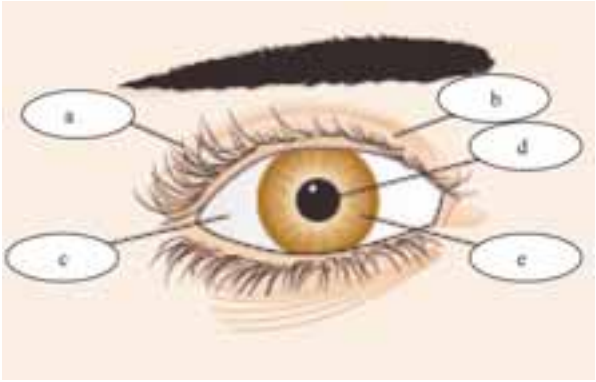


Figure 5.3 Can you name these structures? (The answers are in Section 5.2.1.)

Next we turn to a major cause of blindness all over the world that results from problems in one of the structures you just learned about.

5.2 Cataracts

Cataracts are changes in clarity (clouding) of the lens in the eye, which interferes with the passage of light into the eye. As the lens gets increasingly cloudy (opaque), less and less light can get through it.

- What effect will this have on the signals reaching the brain about what the eye is seeing?

- If less light can reach the retina at the back of the eye, through the cloudy lens, then the signals reaching the brain will be weaker and less focused. The cataract will gradually impair the quality of the person's vision and result finally in blindness, when light can no longer get through the lens.

In 2002 (European calendar) the World Health Organization estimated that there were 37 million people in the world who were totally blind (unable to see with both eyes), and 161 million people with some sort of visual impairment affecting their sight. Cataracts are the most common cause of blindness worldwide, contributing to 48% of the 37 million people who cannot see at all. Ethiopia is making strong efforts to tackle sight problems in our population (Figure 5.4).

Figure 5.4 Ethiopian poster for World Sight Day in 2010 (European calendar).

5.2.1 Recognition of cataracts

You should suspect cataracts are the problem when a person comes to you with complaints of visual changes, such as blurred vision, difficulty in seeing in bright light, inability to see distant objects or scenes, poor colour vision, and difficulty in reading. As cataracts continue to progress and the lens become more opaque, the person will say they feel like they are looking through cloudy glass. The area of the pupil appears white or cloudy when the cataract is found at a late stage.

Figure 5.3: The labels you should have added are (a) eyelashes; (b) eyelid; (c) sclera; (d) pupil; (e) iris.

Cataracts are usually progressive and painless, and not associated with any redness of the eye. When you look at a person with advanced cataract you can see the clouding or milky appearance of the lens, which is particularly obvious if you shine a light into the eye (Figure 5.5).

Figure 5.5 A cataract clouding the lens. (Photo: Dr Amir Bedri Kello)

Cataracts can sometimes develop in children, but usually the person is above the age of 40 years. If someone complains of these problems, you should suspect cataract and refer this person to the nearest hospital or health centre. The diagnosis that cataract is the cause of the visual problems will be confirmed by examination with a special instrument called a slit-lamp microscope (or simply 'eye microscope') to look into the eye.

You should tell the person with suspected cataracts that after the examination at the hospital or health centre, the doctor will discuss if a solution is possible for their sight problems. A simple surgical treatment could transform their vision from not seeing well to being able to see much better again. We will tell you about treatments for cataract later in this study session.

5.2.2 Classification and causes of cataract

Cataracts may be classified based on several factors, including the age of the person when the cataract was first detected, the cause of the cataract and whether it is an inborn (genetic) or acquired problem. Some of the causes include physical injury to the eye, long-term exposure to very bright sunlight, or to the fumes and smoke from household cooking fires, cigarette smoking, poor control of diabetes mellitus (the high sugar levels in the blood damages the eye), and so on. All of these factors reduce the clarity of the lens over time. The susceptibility to develop cataracts can also be transmitted in the genes from parent to child.

Refer to the *Immunization* Module, Study Session 3 and the *Communicable Diseases* Module, Study Session 4 for the doses of Vitamin A drops. More details of blindness due to nutritional deficiency are given in the *Nutrition* Module, Study Session 5.

You should also know that deficiency of vitamin A from the food we eat is an important cause of blindness. To prevent blindness from vitamin A deficiency, infants are given a supplement of vitamin A drops with measles vaccine, repeated every six months until the age of five years.

5.2.3 Prevention of cataracts

The purpose of classifying cataracts is to help you understand the different causes, so that you can educate your community about those causes which are preventable.

- What specific causes of cataract can you prevent or delay from causing visual impairment?

- Did you say poorly controlled diabetes mellitus, eye injury, or direct exposure to sunlight, smoke and fumes? You are right!

- How would you advise people to reduce their risk of developing cataracts?

- By getting treatment if they are diabetic, because effective blood-sugar control delays the progression of cataracts; by shading their eyes with dark glasses to protect them from the harmful rays from the sun; and by not smoking cigarettes, and ventilating their room if smoke from a cooking fire is collecting in the house.

Though there is no really effective way of preventing cataracts at present, interventions such as these can significantly alter the disease burden of cataracts by minimising exposure to factors that promote them to develop. A healthy lifestyle might also help, just as it helps prevent other non-communicable diseases: eat a balanced diet, get regular exercise and rest, and do not smoke or drink much alcohol.

5.2.4 Treatment of cataracts

The most important step in the treatment of cataracts is early detection of the problem. Once it is detected at the early stage, the initial treatment is to slow down the clouding of the lens by following the preventive measures described in the previous section. For late-stage cataract with blindness, the best intervention is surgical treatment to remove the cloudy lens (Figure 5.6).

Figure 5.6 Cataract surgery in a health centre in Ethiopia.
(Photos: Dr Amir Bedri Kello)

Taking out the lens improves the person's sight because light can get all the way to the back of the eye again. However, without a lens to focus the light, the restored vision is more blurred than before the cataracts developed. Cataract surgery may be available that includes replacing the cloudy lens with an artificial one, which restores good sight.

So, besides advocating and practicing the preventive measures, you have to facilitate transfer of people affected by cataracts to a hospital or health centre with an eye-care unit. You should tell the person you refer about the big transformation of life after the treatment of cataract blindness (Case Study 5.1), so that the person will decide on travelling for treatment. At times cataract operation campaigns may come to your village and you should take part in actively mobilising affected people in the community to come for treatment.

Case Study 5.1 Mr K had never seen his grandson

Mr K is 71 years old and has worked as a farmer all his life. His daughter recently gave birth to his first grandson, but he was very depressed when he realised that he cannot see the baby because he is blind from cataracts in both eyes. As a Health Extension Practitioner, you recognised several years ago that Mr K's sight problems were due to his cataracts, but he would not take your strong advice to go to the health centre for assessment and possible treatment. When you went to his house for a visit after his grandson was born, you again encouraged him to travel for cataract surgery. This time he decided to go for treatment. The surgery was very quick and it did not cause him pain. The outcome was successful and when he came back to the village he prepared a big feast to celebrate his ability to see his new grandson.

Does this story help you in referring other people for cataract treatment? We hope that it does, as you know it is a great blessing for anyone to reach the age of having grandchildren and great-grandchildren. But being unable to see them is sad. When this disability is corrected by cataract surgery it is like being reborn. So, such a success story is useful in encouraging people to go for cataract treatment.

5.3 Eye injuries

Eye injuries are very common in most communities, especially in children and people younger than 30 years. Injury to the eye is one of the causes of cataracts. Eye injuries are the leading cause of blindness in only one eye worldwide. When you study the types of injuries described below, you will understand why young people are more likely than older people to suffer a blinding injury to one eye.

5.3.1 Causes and types of eye injuries

There are several common causes of eye injury, which have different outcomes depending on the extent of the injury and degree of disability that follows. Some of the common causes are listed below.

Chemical injury (splash)

A splash in the eye by anything other than clean water can be dangerous. Some substances sting when they get into the eye accidentally (e.g. lemon juice, salty water), but are harmless. Others can cause serious damage (e.g. cleaning fluids, agricultural chemicals). Acids cause more damage to the delicate structures of the eye than most other chemicals.

Scratch by a foreign body

Any foreign body (e.g. a speck of dust or some dirt) that gets into contact with the eye accidentally causes a scratch to the cornea or sclera. This can be painful at the time it happens, and cause the eye to 'water' as a way of flushing the dirt out of the eye. If the scratch is not deep it will usually soon heal. However, a deep scratch can cause impaired vision if it leaves a scar on the cornea.

Penetration by sharp objects

Penetration of the cornea (or rarely the sclera) can happen due to sharp objects accidentally entering the eye and penetrating the eyeball. This causes intense pain, redness and excessive weeping of tears from the eye, and can lead to permanent sight problems. The objects causing the injury can be fragments of wood, metal or stones, and such accidents often happen at work (Figure 5.7).

Figure 5.7 A young man at risk of a penetrating eye injury. He is not wearing anything to protect his eyes while working.

Blunt (non-penetrating) injury

The eye can get injured by a blow, for example in a fight or a fall, without any penetration in the eye structure externally. The surface of the eye looks very red, due to bleeding from tiny blood capillaries in the sclera. The eye may swell and vision may be affected, but usually the swelling will go down and the blood will be absorbed into the body over several days or weeks.

Injury to the eyelids

You may come across someone who has got a cut to the eyelids following a blow or sharp injury. There may also be swelling without a cut over the eyelids.

Now it is time to tell you about first aid supportive care for such a problem, and all the other eye injuries described above.

5.3.2 Supportive care in the case of eye injury

If you are treating someone with a chemical splash injury, or dust in the eyes, simply rinse the eye with plenty of clean water. Foreign bodies which are not attached to the eye, or do not cause penetration to the eyeball, can simply be removed with the edge of a clean piece of cloth. Getting the chemicals, dirt or other foreign body out of the eye quickly protects it from further damage. If the foreign body is difficult to remove because it is attached to the eye, or if there is penetration or injury to the eyeball (Figure 5.8), cover the eye with clean cloth and transfer the person to the health centre or hospital.

Figure 5.8 The cornea has been partly torn away in this person's eye. Injuries are a common cause of sight loss. (Photo: Dr Fitsum Bekele Gulelat)

If you happen to see a person with injury to the eyelids, or swelling, you should stop the bleeding and help reduce the swelling by applying gentle pressure to the eye using a pad of clean cloth. Refer the person to the health centre or hospital.

5.4 Trachoma

Trachoma is described in detail in the *Communicable Diseases* Module, Part 4, Study Session 39.

We will briefly mention a very common cause of blindness in Ethiopia – bacterial infection with *Chlamydia trachomatis* leading to a condition called **trachoma**. The infection causes inflammation of the conjunctiva, the thin transparent membrane covering the eyeball and the inner surface of the eyelids. The upper eyelid is particularly affected and over time it becomes so swollen and scarred that the eyelashes turn inwards and scratch across the surface of the cornea every time the person blinks. The cornea is damaged by the scratching eyelashes and it gradually becomes opaque (unable to transmit light).

Corneal opacity is a major cause of sight loss. Over 80 million people suffer from trachoma worldwide, and in Ethiopia there are estimated to be more than 238,000 people who are blind because of it (Figure 5.9).

Figure 5.9 An Ethiopian woman with corneal opacity caused by chronic trachoma. (Photo: AMREF Ethiopia/ Atsebeha Asrat)

Mild trachoma is easily treated with tetracycline eye ointment (1%). Trachoma scarring can be reduced or prevented by simple eye surgery to turn the eyelashes outwards so they don't scratch the eye. Prevention of trachoma is through avoiding the infections from getting into the eyes. The bacteria are transmitted mainly by flies landing on the face and carrying the infected discharge from the eyes to another person, or the bacteria are transferred on dirty hands or cloths used to wipe the sore eyes. Regular washing of faces and hands, disposing of rubbish and other waste to keep flies away from houses, and penning animals away from homes at night, are all ways to reduce the risk of trachoma.

Next you will be studying about foreign bodies in the ear, which is a common problem in children.

5.5 Ear injuries due to foreign objects

As you learned in the *Communicable Diseases* Module (Study Session 35), children are prone to develop infections of the inner ear, which may have spread from the respiratory tract up the Eustachian tubes into the ears (Figure 5.10).

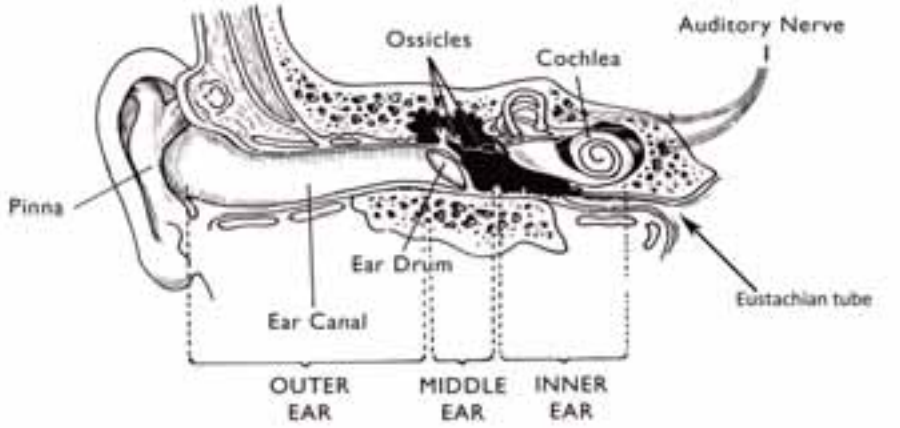


Figure 5.10 Anatomy of the ear and its connection with the respiratory tract via the Eustachian tubes on each side of the head. (Source: WHO, 2006, *Primary Ear and Hearing Care Training Resource: Trainer's Manual – Intermediate Level*, p.16)

Another very common ear problem in children is caused when they put foreign objects into the ear canal (on the left of Figure 5.10) when they are playing. They often put small objects such as beans, peas, rice, beads, fruit seeds or small stones into their ears. If these foreign bodies remain in the ear for a long time, they make it more likely that the child will develop an ear infection. This in turn may lead to a loss of hearing, if untreated. You should suspect the possibility of something foreign in a child's ear if the child complains of pain in the affected ear, a bad smell or discharge comes from the ear (Figure 5.11), or the parents or school teacher tell you that the child doesn't seem to hear them talking if they speak into that ear.

Figure 5.11 Pus discharge as a result of chronic ear infection (otitis media). (Photo: WHO, 2006, *Primary Ear and Hearing Care Training Resource*: *Student's Workbook – Intermediate Level*, p.53)

Simple removal of a foreign object from the ear helps to reduce the risk of deafness resulting from chronic (long-term) infection. Shine a torch into the child's ear and if the foreign object is visible, try to remove it by using a thin *blunt* instrument (Figure 5.12) – the end must not be sharp! If the ear drum is broken or scarred by infection, the child could suffer some permanent hearing loss in that ear. If you don't see a foreign object when you look into the ear with a torch, transfer the child to the nearest health facility for specialist help. If there is any discharge from the ear, the child will need medical treatment with antibiotics.

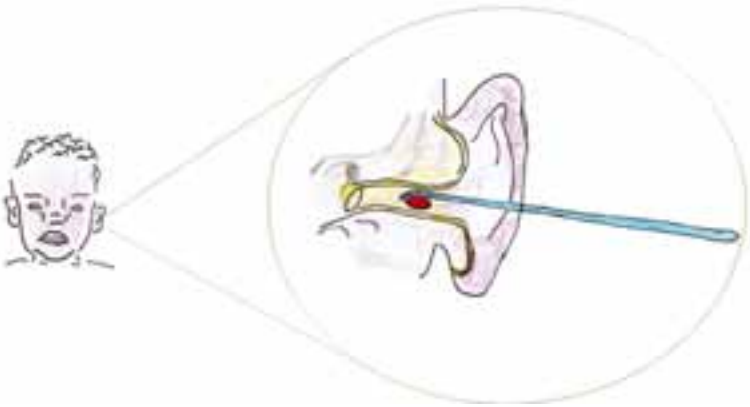


Figure 5.12 Foreign object being carefully removed from a child's ear by a thin blunt instrument. (Diagram: Dr Radmila Mileusnic)

Be careful not to push the instrument too far into the ear, or you may puncture the delicate ear drum!

In the next study session you will study another important but often neglected topic for your health promotion and disease prevention practice – oral health and the prevention of dental problems.

Summary of Study Session 5

In this study session, you have learned that:

1 The eye serves an important purpose of vision and its function is comparable to the function of a camera in taking a photo.

2 The main structures of the eyeball are the sclera, cornea, pupil, iris and lens, all of which have the important function of transmitting light onto the retina at the back of the eye where the image is formed.

3 Cataracts and eye injuries are important causes of blindness worldwide, where cataract alone contributes to 48% of all people who are totally blind.

4 The early symptoms of cataract are blurred vision, difficulty seeing in bright light and poor colour vision.

5 Cataract progression can be slowed by preventing eye injury, strict control of blood sugar, and avoiding exposure to smoke from cigarettes and indoor fires. Lack of vitamin A in the diet and measles infection are other causes of blindness.

6 Common causes of eye injury are scratches, chemical splashes, penetrating and blunt injuries, and cuts to the eyelids.

7 Damage to the cornea by the eyelashes turning inwards and scratching it is an important cause of blindness. It is due to a chronic eye infection called trachoma.

8 Children often insert small foreign objects into their ears, which can lead to problems of ear infection and deafness. Some of the common objects they play with are beans, peas, beads and fruit seeds.

9 Careful removal of foreign objects from the ears prevents ear infection, which is an important cause of deafness, especially in children.

Self-Assessment Questions (SAQs) for Study Session 5

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 5.1 (tests Learning Outcomes 5.1 and 5.2)

Which structures of the eye are serving the purpose of defending the eye, and which ones are for transmission of light into the eye?

SAQ 5.2 (tests Learning Outcomes 5.3, 5.4 and 5.6)

Read Case Study 5.2 and respond to the questions that follow.

Case Study 5.2 Mr Worku can't see well

Mr Worku, a 75-year-old man from your village, complains of having blurred vision and difficulty seeing in the bright sunlight whenever he goes to the market. He very frequently holds his hands above his eyes to shade them from the sun, and he finds it difficult to see who is approaching him when he meets people in the village.

(a) What is the most likely cause of the visual problems this man is having? What signs in the case study suggested your diagnosis?
(b) What advice will you give to Mr Worku about how his condition can be delayed from getting worse? What do you tell him about possible treatment in the future?

SAQ 5.3 (tests Learning Outcome 5.5)

Why do you think that children and young adults are more likely than older people to suffer an injury to *one* eye that results in long-term damage?

SAQ 5.4 (tests Learning Outcome 5.7)

Read Case Study 5.3 and respond to the questions that follow.

Case Study 5.3 A child has a bad-smelling ear discharge

A three-year-old child was brought to you with earache, pulling her external ear now and then, and you can see a whitish-yellow ear discharge. The parents also report that the child is not hearing well when they speak to her in a normal voice. They say they have to speak very loud so that the child hears what they say.

(a) What possible problem would you look for in this child?
(b) How would you treat her condition?

Study Session 6 Oral Health

Introduction

Oral diseases are a significant burden to all countries of the world, including Ethiopia. Oral diseases include tooth decay, leading to painful dental cavities and tooth loss, gum infections that cause teeth to decay and fall out, broken teeth, birth defects such as cleft lip and cleft palate, and cancers in the mouth (oral cancer). The World Health Organization (WHO) estimates that 60–90% of school children worldwide have dental cavities, and severe gum disease is found in 5–20% of middle-aged adults.

With the exception of birth defects (which have a genetic basis), all these oral conditions share common risk factors with the four leading chronic diseases – cardiovascular diseases, diabetes mellitus, cancers and chronic obstructive pulmonary disease (COPD) – they include unhealthy diet, tobacco use and excessive use of alcohol. Poor oral hygiene is also a risk factor for oral diseases.

In this study session you will learn the basic anatomical structure of the mouth and teeth, and about the common causes of oral diseases and how to promote oral health in your community through improved oral hygiene.

Learning Outcomes for Study Session 6

When you have studied this session, you should be able to:

6.1 Define and use correctly all of the key words printed in **bold.** (SAQs 6.1, 6.2 and 6.3)

6.2 Explain what oral health means and describe the structures in the oral cavity and their functions. (SAQs 6.1 and 6.4)

6.3 Describe the common oral diseases and their causes. (SAQs 6.2 and 6.3)

6.4 Explain how to decrease the burden of oral diseases in your community by promoting oral hygiene. (SAQs 6.2 and 6.4)

6.1 The oral cavity and oral health

We begin this study session by introducing you to the anatomy and functions of the mouth and its associated structures. This will enable you to understand the oral diseases and disorders described later. According to the WHO, **oral health** means being free from the following conditions: chronic mouth and facial pain, oral or throat cancer, oral sores, birth defects such as cleft lip and palate, gum disease, tooth decay, and tooth loss.

6.1.1 The oral cavity

Oral hygiene is the practice of keeping the **oral cavity** (lips, tongue, teeth, throat and surrounding structures, Figure 6.1) clean and healthy to prevent tooth decay and gum disease.

The oral cavity is the entrance to the digestive tract and the respiratory system (look back to Figure 2.2 in Study Session 2 and Figure 4.1 in Study Session 4). A healthy oral cavity has smooth, unbroken lips without any sores. The teeth are not broken or cracked; they are clean and without signs of decay. The tongue and gums are clean and pink, without any greyish coating,

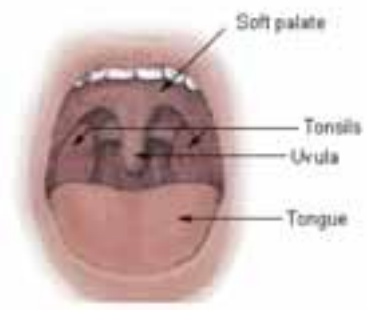


Figure 6.1 Diagram of the oral cavity; the lower teeth are hidden behind the lower lip. (Source: Author unknown, downloaded from Wikimedia Commons)

bleeding, sores or swelling. The **saliva** that keeps the mouth moist should be a clear fluid, not thick or coloured white or greenish, which is a sign of infection. The breath emerging from the mouth should be without any smell.

In addition to the teeth, the other structures that aid chewing of food are the lips, cheek muscles, tongue, the roof of the mouth (hard palate), the soft palate (see Figure 6.1) and the uvula. The **tonsils** are small organs in the throat, containing white blood cells, which help to prevent infection entering the body through the mouth.

6.1.2 Teeth

Humans normally produce two complete sets of teeth in our lifetime. The first set are called 'baby' teeth or 'milk' teeth and there are 20 of them. They usually begin to emerge from the gums at the age of four to six months, but occasionally much earlier. The second set, consisting of 32 permanent teeth, begin to replace the first teeth around the age of six years. If a permanent tooth is damaged or lost, the body cannot replace it. Teeth are the toughest structures in the body – much stronger than our bones. They are covered in tooth **enamel**, the hard white shiny substance which gives great strength to the tooth (Figure 6.2).

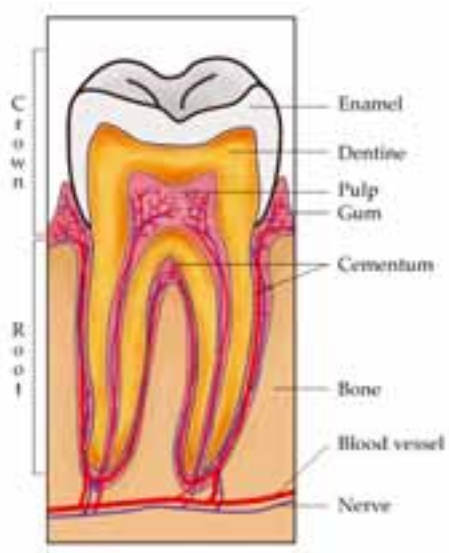


Figure 6.2 Internal structure of a human tooth (a molar in this example). (Source: Author unknown, downloaded from Wikimedia Commons)

- What do you think is the purpose of tooth enamel and what does it enable us to do?

- The enamel protects teeth from penetration by bacteria, so it prevents tooth decay. It also strengthens the teeth and stops them from wearing down, so we can bite off chunks of food and chew it to a soft mass throughout our lives.

There are various tooth shapes for different jobs. For example, when chewing, the upper teeth work together with the lower teeth of the same shape to bite, chew and tear food apart. According to their shape and function the adult teeth have got different names (Figure 6.3 and the bullet points below it).

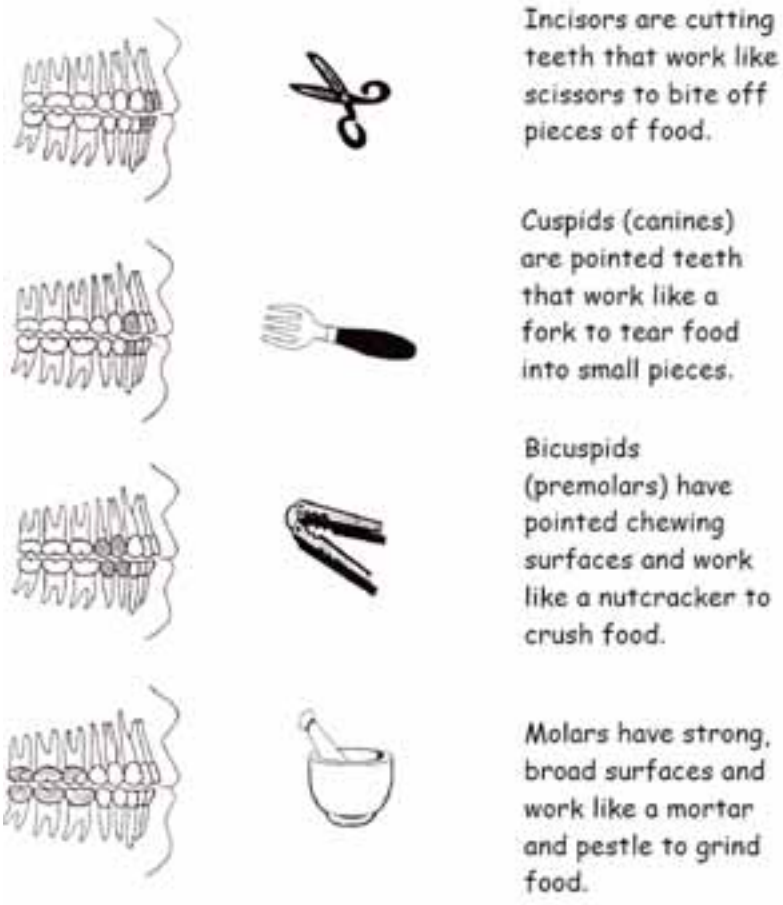


Figure 6.3 The position, shapes and functions of different types of teeth in the adult mouth. (Source: Ontario Association of Public Health Dentistry, 2001, *Oral Anatomy*, pp.2–5)

- Incisors: there are eight incisors in the front of the mouth (four on the top and four on the bottom). They have sharp, chisel-shaped crowns that cut food.
- Cuspids: (or canine teeth): there are four cuspids, one next to each incisor. They have a pointed edge to tear food.
- Bicuspids (or premolars): the four pairs of bicuspids are located next to the cuspids. They crush and tear food.
- Molars: there are twelve molars, in sets of three, at the back of the mouth. They have wide surfaces that help to grind food.

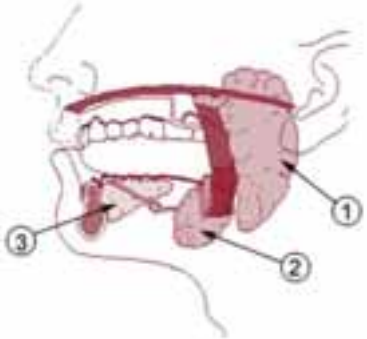


Figure 6.4 Salivary glands: (1) the parotid gland, (2) the sublingual gland and (3) the submandibular gland. (Source: Author unknown, downloaded from Wikimedia Commons)

6.1.3 Salivary glands

Glands are organs of the body which produce natural substances such as hormones and breast milk, and fluids that keep the body in fluid balance. **Salivary glands** are organs that produce saliva and release it into the mouth, particularly when we are hungry and when we are chewing food. There are three pairs of salivary glands; their names and locations are shown in Figure 6.4. Their names tell you where they are located: parotid means 'beside the ear', sublingual means 'under the tongue', and submandibular means 'under the jaw'.

Figure 6.5 A healthy tongue; the 'cracks' are normal and characteristic of each individual. (Photo: Author unknown, downloaded from Wikimedia Commons)

If the salivary glands don't function properly due to disease or an injury, the amount of saliva produced decreases and the mouth becomes dry. This is unpleasant for the affected person, it makes chewing and swallowing food more difficult, and it increases the risk of tooth decay and gum disease. There may also be a bad smell from a dry mouth, because saliva naturally keeps the mouth clean by washing away bacteria and small particles of food.

6.1.4 Tongue

The tongue is a muscular organ which is important in enabling us to taste different types of food, roll chewed food into a ball for easy swallowing, and communicate with others through speech. A healthy tongue is pink and clean, with hundreds of tiny 'taste buds' visible on its surface (Figure 6.5).

6.2 Common oral diseases and their causes

Neglecting dental and oral hygiene, eating a high-fat high-sugar diet, chewing *khat,* smoking or chewing tobacco, and excessive alcohol consumption are the main causes of mouth, tooth and gum diseases. In this section, we describe the most common oral diseases, how you can identify them and what actions you should take.

6.2.1 Bacterial, viral and fungal infections in the mouth

As a health worker, you will know that inspecting the tongue of a person helps you to quickly assess whether he or she is healthy or not. In someone who is unhealthy, the tongue is often coated with a whitish or yellowish deposit that has a fur-like appearance. This may be caused by bacteria, viruses or a fungal infection ('thrush') growing on the tongue, which may be due to inadequate oral hygiene. You should also be aware that up to 50% of people who are HIV-positive have fungal, bacterial or viral infections in the mouth, which often occur early in the course of HIV infection. If you are involved in palliative care for someone who is terminally ill (see Study Session 3), you will notice that mouth infections such as thrush are very common as the person approaches closer to death.

Opportunistic infections in people living with HIV/AIDS are described in the *Communicable Diseases* Module, Part 3, Study Session 21.

Mouth infections may be treated by good oral hygiene (see Section 6.2.2 below) and by salt water mouth washes. Dissolve a large spoonful of salt in a cup of water which has been boiled and then allowed to cool. The patient should take a mouthful of the salt solution and hold it in his or her mouth for at least two minutes, using their tongue to move the solution around all parts of the mouth. Spit out the solution and repeat one or two more times. This should be carried out two or three times per day until the mouth remains clean.

A patient with HIV/AIDS or a terminal illness, whose immune system is not working adequately, may need medical treatment for infections in the mouth and should be referred.

- Can you explain why infections in the mouth are common among people living with HIV/AIDS or in the later stages of a terminal illness?
- The reason is because the immune system, which normally defends the mouth from infection, is no longer functioning adequately.

6.2.2 Tooth decay

Bacteria constantly multiply in food particles in the mouth, particularly on the teeth and trapped between the teeth. When bacteria build up, they form a sticky, colourless substance called **plaque** (pronounced 'plaak'), which is the main cause of tooth decay and gum disease. Bacteria produce acids that destroy tooth enamel, enabling the bacteria to penetrate into the internal structure of the tooth (look back at Figure 6.2) and cause decay. When plaque is not removed by brushing, it hardens into **tartar** (or *calculus*), which is very difficult to remove. The growing layer of tartar pushes the gums away from the tooth and in time it may become loose and fall out.

Certain foods contribute to plaque formation. A diet high in sugar and starch will eventually result in tooth decay. Today, in most parts of Ethiopia, sugar appears to play a key role in the increasing rates of tooth decay. Sugar cane, soft drinks, biscuits, candy, other sweets and refined sugars are readily available in every corner of the country, and the use of sugar as a sweetener in tea and coffee is now universal in both urban and rural Ethiopia. This is having a negative impact on the dental health of the population.

Using tobacco also increases the risk of developing gum disease. Smoking and chewing tobacco and *khat* contribute to plaque and tartar build up, as well as causing oral cancer (see Section 6.2.4).

6.2.3 Fluorosis

Fluoride is a substance found in nature that strengthens teeth and helps prevent tooth decay. Most water systems naturally contain some fluoride, but the amounts must be 'just right' to promote oral health. Not getting enough fluoride in the diet or water supply increases the risk of tooth decay. Many western countries either add it to tap water or advise people to use toothpastes containing fluoride. Communities in the highlands of Ethiopia have water supplies low in fluoride, so they are prone to faster rates of tooth decay than elsewhere.

However, very high concentrations of fluoride are even more damaging to the teeth. Water sources in the Ethiopian Rift Valley have very high fluoride levels, causing **dental fluorosis** (yellowish discoloration of the teeth, (Figure 6.6a) in their populations. A high intake of fluoride during childhood, especially in the first six to seven years of life, leads to severe fluorisis later in life (Figure 6.6b). This is associated with cracking and 'pitting' (tiny holes in the surface) of the teeth, which create cavities for bacteria to grow and cause tooth decay. The teeth become very weak and can easily break.

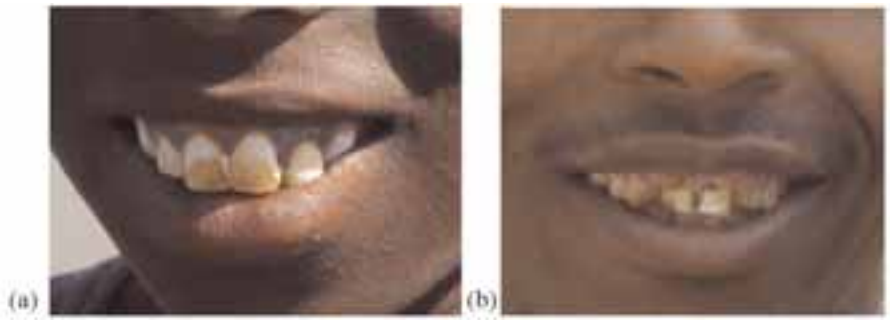


Figure 6.6 (a) Dental fluorosis in a boy aged about ten years, Ziway, Ethiopia. (b) Tooth decay and broken teeth in an adult with severe dental fluorosis, SNNPR, Ethiopia. (Photos: Basiro Davey)

6.2.4 Tooth abscesses, mouth ulcers and cold sores

Tooth **pulp** is the deepest part of the tooth structure, where nerves and blood vessels are found (look back at Figure 6.2). If it becomes diseased or injured and can't repair itself, the tooth dies and will soon fall out. The most common cause of pulp death is a cracked tooth or a deep cavity. Both of these problems can let bacteria enter the pulp and cause an infection inside the tooth. This infection can create a **tooth abscess**, which is a collection of pus trapped inside the root of the tooth, or in the tissue surrounding the root. Tooth abscesses are very painful and often produce swelling of the mouth in the affected area. The tooth may have to be removed to release the pus and allow the infected area to recover. The patient may also need antibiotic treatment.

Mouth ulcers are open sores in the mouth, where infection has penetrated the outer layer of tissue. The edge of an ulcer is often 'rolled' like a piece of *injera*. Salt water mouth washes may be enough to kill the infection in a mouth ulcer. Another common oral infection are **cold sores** – rapidly developing 'scabs' on the lips and around the edges of the mouth, caused by Herpes viruses (Figure 6.7).

Figure 6.7 A cold sore on the lip caused by Herpes viruses. (Photo: Public Health Image Library, image 1573)

6.2.5 Eroded or broken teeth

Cracked or broken teeth can be caused by personal habits such as biting pens or chewing hard items like *khat*, hard grains and nuts. Chewing *khat* wears down the teeth over many years. Elderly users of *khat* may have to grind the leaves and mix the green paste with water (Figure 6.8) because their teeth may have worn away completely after many years of chewing the tough leaves. Using your teeth as a heavy duty tool (e.g. for wire cutting or opening bottles) can damage the enamel and crack or break the tooth. This makes tooth decay more likely to occur.

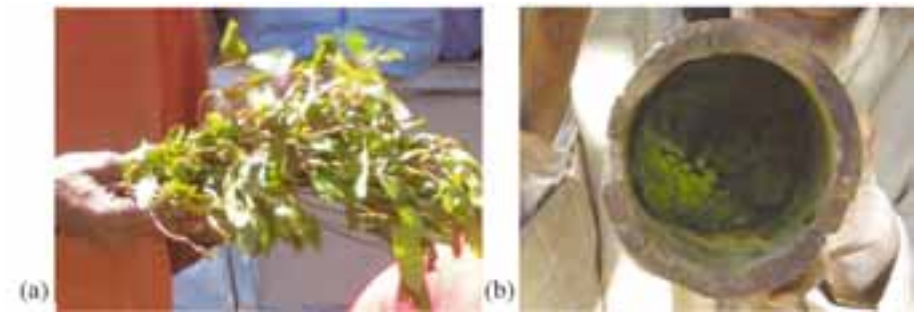


Figure 6.8 (a) *Khat* being sold in a market in Adama, Ethiopia; (b) *Khat* ground with water by an elderly man whose teeth have worn away.
(Photos: (a) Janet Haresnape; (b) Basiro Davey)

6.2.6 Oral cancer

In Study Session 3 of this Module you studied the different types of cancers, with particular focus on cancers of the breast and female cervix. **Oral cancer** in the mouth is a less common cause of disability and death, which is often neglected because the signs and symptoms are not recognised, or are thought to be due to infection in the mouth. The signs are white and red patches inside the mouth or lips (Figure 6.9), swelling, blisters and ulcers, difficulty in swallowing, ear pain, loose teeth, and bleeding from the mouth. These signs should alert you to refer the person urgently to a higher health facility for specialist evaluation.

Figure 6.9 Widespread cancer and fungal infection of the tongue. (Photo: Luca Pastore, Maria Luisa Fiorella, Raffaele Fiorella, Lorenzo Lo Muzio, downloaded from Wikimedia Commons.)

- In most countries, the incidence of oral cancers is between one and ten new cases arising every year per 100,000 population. In the Ethiopian population of approximately 80 million people, how many new cases of oral cancer would you expect in a single year?

- 80 million divided by 100,000 = 8,000. So if there is only one new case per 100,000 population in Ethiopia, you would expect 8,000 new cases of oral cancer to develop in a single year. There would be ten times this number (80,000 cases) if the incidence rate was 10 new cases per 100,000 population.

Two known causes of oral cancer are tobacco and alcohol. Eighty to 90% of oral cancers come from smoking cigarettes, cigars or pipes, chewing tobacco or *khat*. The longer a person has used tobacco, the higher is their risk of developing cancers, including oral cancer, as well as lung and other cancers. People who use a pipe for smoking tobacco are especially prone to cancer of the lip. When a person stops using tobacco, they greatly reduce the risk of developing oral cancer. Strong alcoholic drinks ('spirits' like whisky and brandy) are damaging to the delicate membranes in the mouth, and prolonged use over several years increases the risk of developing oral cancers.

6.2.7 Cleft lip and cleft palate

Finally, we should mention birth defects such as cleft lip and palate (Figure 6.10). These conditions occur in around one per 500 to 700 of all births, but the rate varies substantially between different ethnic groups and in different countries. The clefts can be repaired surgically, but many affected children in poor communities are left without surgery.

A cleft lip may result in the child being stigmatised and rejected as it grows up. A cleft palate can allow infection to get into the brain through the gap in the roof of the mouth; this rapidly leads to death unless urgent medical attention is received.

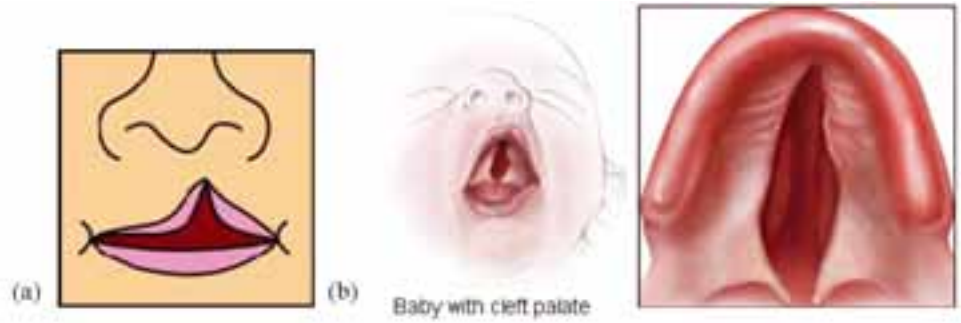


Figure 6.10 Diagrams of (a) cleft lip, and (b) a cleft palate. (Sources: (a) Felsir; (b) PD-USGOV, both downloaded from Wikimedia Commons)

6.3 How can the burden of oral diseases be reduced?

The burden of oral diseases and several other chronic non-communicable diseases can be reduced simultaneously by addressing common risk factors, such as tobacco use, harmful use of alcohol and an unhealthy diet. Therefore, the health education you should give to people in your community to promote oral health should be to:

- Reduce the intake of sugars and fats and eat a well-balanced diet, which is rich in fruits, vegetables, whole grains, peas and beans; raw vegetables and fruits also help to clean the teeth due to their high fibre content.
- Drink milk. It contains calcium to build strong teeth and bones.
- Eat fluoride-rich foods, such as fish, if they live in a low-fluoride area. Excess fluoride in water can be controlled by the authorities if water is treated to remove some of the fluoride; traditional low-cost methods include storing drinking water in clay pottery, which absorbs some of the fluoride.
- Don't smoke or chew tobacco and don't chew *khat*.
- Reduce alcohol consumption to small occasional amounts (if any).
- Promote oral hygiene.

Oral hygiene is the practice of keeping the mouth clean and healthy by brushing the teeth, gums and tongue every day, and cleaning between the teeth using thread-like material (flossing) to prevent tooth decay and gum disease. Advise your community members, especially children, to brush their teeth for a minimum of two minutes at least twice a day and ideally after each meal. If modern toothbrushes are unavailable or are too expensive, use indigenous tooth sticks made from *neem, woiyra* or other trees (Figure 6.11).

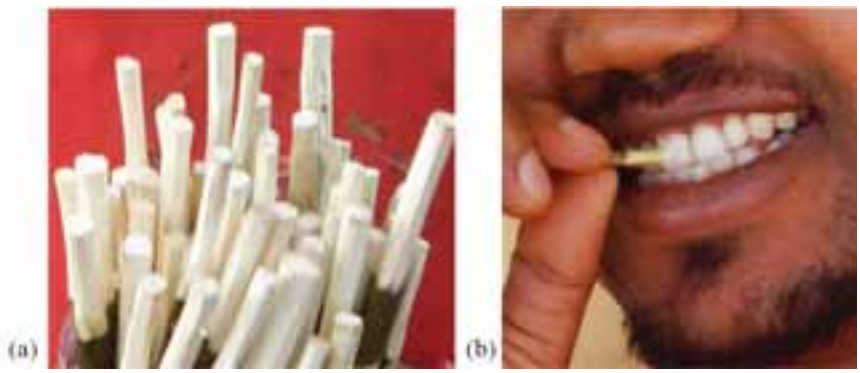


Figure 6.11 (a) Tooth sticks used in Ethiopia; (b) using a tooth stick to clean between the teeth. (Photos: (a) Basiro Davey, (b) Ali Wyllie)

In big towns, modern toothbrushes and toothpaste are available for cleaning the teeth, but they cost much more than traditional tooth sticks. You should advise your clients that if they buy a toothbrush, choose a soft bristled one and use fluoride toothpaste. Hold the toothbrush at a 45-degree angle at the gum line, brushing in a circular motion. This sweeps plaque from between the teeth.

People living with HIV/AIDS, diabetes or cancer should ask a dentist or doctor to check their oral cavity once or twice a year, because these conditions weaken the resistance of the body and infection in the mouth is very likely.

In the next two study sessions (the final sessions in Part 1 of this Module) you will learn about how to give life-supportive care to people with emergency conditions.

Summary of Study Session 6

In Study Session 6, you have learned that:

1 Oral health is being free from pain and disease in the oral cavity; oral hygiene is the practice of keeping the mouth clean by brushing and flossing.

2 The oral cavity is the entrance to the digestive and respiratory systems; it includes the teeth and other structures that aid chewing and speech, such as the lips, cheeks, tongue, hard and soft palate, and the salivary glands.

3 Humans produce two sets of teeth in their lifetimes. The teeth are the strongest structures in the body; their surface is protected by a layer of hard enamel. The shapes of the four different types of teeth enable them to perform different functions during eating.

4 Three pairs of salivary glands secrete saliva, which is a clear liquid produced to keep the mouth wet and clean, and to aid chewing and swallowing.

5 Sticky bacterial growth around the teeth is called plaque. It destroys the enamel by producing acids which allow decay to penetrate the teeth. If plaque is not removed, it hardens into tartar, which causes the gums to pull away from the teeth. Plaque, tartar and gum disease increase the risk of tooth loss.

6 Dental fluorosis is caused by long-term high intake of fluoride in the water supply beginning in childhood; severe fluorosis leads to cracking of the teeth and tooth decay.

7 Other common causes of oral diseases are tooth abscesses, mouth ulcers and cold sores, worn and eroded teeth, and oral cancers.

8 Babies may be born with a cleft lip or cleft palate, which should be repaired surgically.

9 Common causes of oral diseases are a high-sugar high-fat diet, use of tobacco, *khat* and alcohol, using the teeth as a tool, and poor oral hygiene.

10 Oral health can be promoted through eating a healthy diet, drinking milk to build strong teeth and bones, avoiding harmful substances like tobacco, *khat* and alcohol, good oral hygiene, and protecting the teeth from damage and decay.

11 Regular tooth brushing and cleaning between the teeth (flossing) should be taught to children and adults in your community.

Self -Assessment Questions (SAQs) for Study Session 6

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 6.1 (Learning Outcomes 6.1 and 6.2)

Which of the following statement is *false*? In each case, explain why it is incorrect.

A The structures of the oral cavity enable us to speak, chew and swallow.

B Humans normally produce two sets of 32 teeth.

C The mouth is the entrance to the digestive and respiratory systems.

D The palate is the floor of the oral cavity.

E Saliva helps to keep the mouth clean.

F Teeth are dead structures made from enamel and bone.

SAQ 6.2 (tests Learning Outcomes 6.1, 6.3 and 6.4)

(a) What is plaque and what conditions promote its formation on our teeth?
(b) What are the consequences of plaque forming on the teeth?
(c) What can be done to prevent it?

SAQ 6.3 (tests Learning Outcomes 6.1 and 6.3)

Habtamu was born and grew up in the Rift Valley in Ethiopia. He is now ten years old and his teeth are yellowish in colour. His friends say he has natural 'gold' teeth, but most of them also have yellow or brown patches on their teeth.

(a) Why are Habtamu's teeth yellow? What is this condition called?
(b) What problems could result from it in the future?

SAQ 6.4 (tests Learning Outcomes 6.1, 6.2 and 6.4)

Imagine that you are invited to talk about promoting oral health in a primary school in your village. After the lesson, you ask the students to make a poster with the most important messages about oral health. What messages would you expect to see on the poster made by the children?

Study Session 7 Injury-Related Emergencies and Supportive Care

Introduction

Emergency conditions are those that threaten a person's life, limbs or eyesight. These are common conditions in every community all over the world. They can result in disability and death if they are not properly and urgently treated. Learning about these emergencies enables you to improve the outcome of **life-supportive care**, i.e. care that prevents death and reduces the risk of long-term disability in an individual who has suffered a life-threatening emergency. Note also that effective life-supportive care also protects the person's family and his or her community from the socio-economic consequences of loss of life, limb or eyesight. These adverse outcomes reduce or destroy the productivity of the individual and affect their ability to care for their family and contribute to the community at large.

In this study session you will learn about common *injury-related emergencies*, how they occur, how to detect these conditions, and how to give basic life-supportive care to an injured person. You will also learn how to transfer a patient with these emergencies to a higher-level health facility for more complete specialist care. The emergencies to be covered in this session are acute injury and bleeding caused by violence, fractures, head and spinal injury, burns and multiple injuries.

Learning Outcomes for Study Session 7

When you have studied this session, you should be able to:

7.1 Define and use correctly all of the key words printed in **bold**. (SAQs 7.1, 7.2 and 7.4)

7.2 Describe how to stop external bleeding following an injury and how to assess a person for internal bleeding. (SAQs 7.1 and 7.4)

7.3 Identify different types of fractures and explain how to immobilise a fractured limb for transport to a health facility. (SAQs 7.1, 7.2 and 7.4)

7.4 Describe the signs and symptoms of head and spinal injuries, and how to immobilise a person with such an injury for transport to a health facility. (SAQs 7.1, 7.2 and 7.4)

7.5 List the common causes and degrees of burns injuries and describe the first aid you should give for a burn. (SAQs 7.1 and 7.3)

7.1 Acute injury and violence

Acute injury refers to any physical damage to the body that occurs suddenly as a result of force. There are many ways in which a person can be injured, either unintentionally (for example, in an accidental fall or being hit by a vehicle), or intentionally through violence, war or attempted suicide. Figure 7.1 (on the next page) shows the distribution of deaths as a result of different types of injury worldwide.

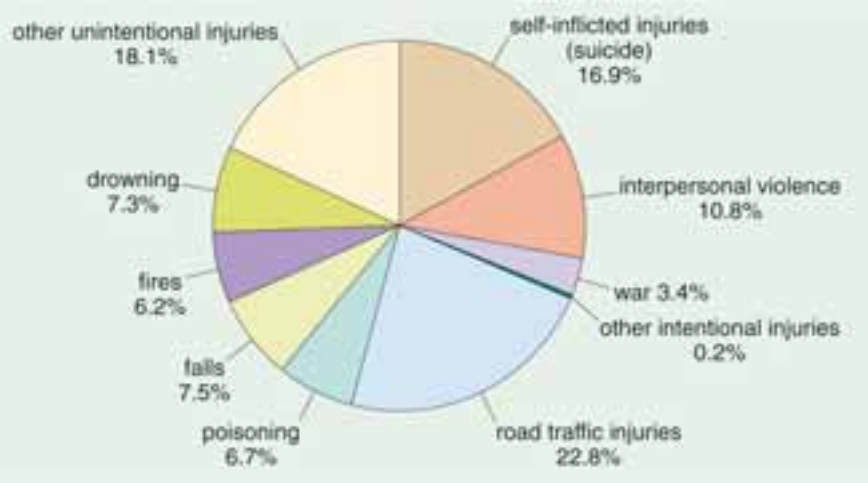


Figure 7.1 Percentage of deaths worldwide due to intentional and accidental (unintentional) injuries among people aged 15–45 years. (Diagram: The Open University, *Trauma, Repair and Recovery*, SDK125, Case Study 6, Figure 1.3)

■ What are the top four causes of injury-related deaths shown in Figure 7.1?

□ They are: road traffic injuries (22.8%), other unintentional injuries (18.1%, i.e. not due to drowning, fires, falls or poisoning), suicide (16.9%), and interpersonal violence (10.8%).

Violence includes rape and is the intentional and unlawful use of force between two individuals, or a group of people, leading to physical or mental harm. It is a major public health problem worldwide – each year more than two million people die as a result of injuries caused by violence. Many millions survive their injuries, but remain permanently disabled. Many other health problems result from violent assaults, including mental disorders (see Part 2 of this Module), sexually transmitted infections (STIs), unwanted pregnancies and behavioural problems.

7.2 Bleeding

Violence caused by blows, sharp objects, bullets or sticks, and other causes of acute injury like falling or road traffic accidents, usually results in **bleeding** – the loss of blood from the arteries, veins and capillaries in the cardiovascular system. (Look back at Figure 1.4 in Study Session 1 of this Module to remind yourself about these blood vessels.) Based on the source of bleeding, it can be classified into:

- arterial blood (bright red, foamy and spurting in pulses)
- venous blood (darker in colour and flowing swiftly from the wound)
- capillary bleeding (red, oozing slowly from the wound at a steady rate).

Life-threatening bleeding is called **haemorrhage**, but you should be aware that it could be due to external or internal bleeding. **External bleeding** is visible and obvious, whereas **internal bleeding** is hidden inside the body (abdomen, chest or a limb) and is more difficult to detect. We will describe the signs of each of them in turn, and how to give life-supportive care to a person who is bleeding.

7.2.1 External bleeding

External bleeding usually occurs following a deep cut, piercing with a sharp object or a superficial bullet wound. The most serious bleeding comes rapidly spurting from an artery. This can be life-threatening if the wound is too deep and the spurt is under too much pressure to control. Minor bleeding usually stops by itself within ten minutes when a blood clot develops which blocks the bleeding vessel or wound. You should suspect life-threatening external bleeding if:

- You see blood spurting from a wound
- Bleeding fails to stop after all measures to stop bleeding have been attempted (see Box 7.1)
- The person shows signs of excessive blood loss resulting in low circulating blood volume (shock).

Box 7.1 First aid supportive care for external bleeding

- Apply direct PRESSURE to the wound, after removing any clothing or foreign body from the wound.
- Help the person to lie down and ELEVATE the injured part above the level of the heart.
- Apply a BANDAGE to the wound; it should be just tight enough to stop the bleeding, but not so tight that it obstructs the circulation.
- Start intravenous (IV) fluid therapy with Normal Saline solution or Ringer Lactate solution if the person shows signs of shock. Transfer the patient to the nearest hospital or health centre immediately after you have begun the infusion.

You learned how to set up a pre-referral IV fluid infusion in Study Session 22 of the *Antenatal Care* Module and in your practical skills training sessions.

■ What are the signs of shock following severe blood loss? (You learned about shock in the *Antenatal Care* and *Labour and Delivery Care* Modules in relation to pre- and post-partum haemorrhage.)

□ A person who is in shock displays weakness, confusion or an altered state of consciousness, and has a fast pulse rate (over 100 beats per minute), and low blood pressure: the diastolic pressure (the bottom number) is below 60 mmHg.

7.2.2 Internal bleeding

This type of bleeding occurs when there is a rupture of arteries or veins inside the body, for example in the abdomen. It may be caused by a kick or violent blow, a fall or another type of accident. You should remember that even though the affected person does not show any sign of bleeding externally, there may be significant damage to the internal organs, usually to the liver, spleen or thigh bone (see Section 7.3.1 below), resulting in a large amount of hidden internal bleeding. The signs that should make you suspect internal bleeding are given in Box 7.2 (on the next page).

Box 7.2 Signs indicating internal bleeding

Be alert for the following signs:

- Pain at the site of impact, reported by the patient
- Tenderness (feeling of pain by the affected person upon palpation)
- Rigid abdominal muscles (guarding an internal injury)
- Bleeding from other sites, e.g. from the nose or ears
- Signs of shock.

Measure the injured person's blood pressure and pulse rate. If you suspect they have internal bleeding, lie the person down on their back. Raise their legs in an attempt to improve their blood pressure by allowing some blood from the legs to drain back towards the heart. Get someone to hold the person's legs up for you, or use pillows to support them (Figure 7.2). Then secure an intravenous (IV) cannula in a vein in the person's hand or arm and begin fluid infusion with a litre of Normal Saline or Ringer's Lactate solution. Then transfer them urgently to the nearest health facility.

Figure 7.2 Raise the person's legs to increase their blood pressure if you suspect internal bleeding.

Do not allow an injured person to eat or drink anything before their emergency transfer to a health centre or hospital!

Do not allow the person to eat or drink anything before or during the journey to a health centre or hospital. Their condition may require surgical treatment to stop the internal bleeding, and food or fluids inside the stomach can be vomited into the lungs during surgery.

7.3 Fractures

Another common consequence of accidents or violence is fracture of a bone. A **fracture** is where there is a break in a bone caused by a force applied to the body. The degree of damage depends on the magnitude of force applied and the strength of the bone. Fractures can happen as a result of minimal force if the bone is weak due to underlying disease (e.g. osteoporosis, or bone cancer). If you have not come across **osteoporosis** before, it means softening of the bones due to reduction in the concentration of calcium in the bone. This condition is more common in older persons and people who are not moving around because of other illnesses or disability.

■ Can you give an example from your daily life experience in a rural area of some causes of a bone fracture? Which group in a population is most likely to suffer such an injury and why?

□ You may have thought of a fall from a horse, tree or motorbike, a heavy blow from a stick or a bullet passing through a bone. Children and young men are the most likely members of a population to take the type of risks that lead to fractures (Figure 7.3).

Figure 7.3 Children and young men are more likely to take risks that lead to fractures and other injuries.

7.3.1 Types of fractures

Fractures can be classified according to the following criteria:

- **Closed** or **open fractures**, depending on the presence or absence of skin perforation. In an open fracture, part of the broken bone pushes out through the person's muscles and skin at the site of the fracture; in a closed fracture, the broken end of the bone is not exposed to view.
- **Simple** or **complicated fractures**, depending on presence (complicated) or absence (simple) of damage to soft tissues (nerves, arteries, muscles) around the site of the fracture.

■ Are the fractures in Figure 7.4 simple or complicated, open or closed?

Figure 7.4 (a) X-ray picture showing a fracture of the thigh bone (femur); (b) Diagram of a fracture of the upper arm bone (humerus). (Photo (a) Courtesy of Philip Parkinson, Leeds Teaching Hospital, NHS Trust, UK; (b) The Open University, *Trauma, Recovery and Repair*, SDK125, Case Study 6, Figure 4.11)

□ Both fractures are complicated by the displacement of the bone into the soft tissue in the thigh or upper arm. In (a) the broken ends of the bone remain inside the soft tissue, so it is a closed fracture. In (b) the broken end of the bone has penetrated right through the soft tissue and is visible outside the surface of the arm – this is an open fracture.

7.3.2 Symptoms and signs of fractures

A person who has fractured a bone will have great pain, tenderness and abnormal movement at the site of the fracture, loss of function of the affected limb, deformity (bending), swelling and bruising. They can also have external or internal bleeding, resulting in low blood pressure and fast pulse rate. If you encounter a person who has been involved in an accident or injury with any of the above symptoms and signs, you should consider the possibility of fracture.

7.3.3 Supportive care for a bone fracture

IV fluids to replace lost blood

You have learnt that it is very important to give IV fluid to someone who has shock and low blood volume due to blood loss from an injury or other causes. The amount of blood lost in fractures depends on the type of bone affected and the severity of the fracture. The larger the size of bone fractured you should expect more blood to be lost. The amount of internal bleeding following a fracture is estimated as:

- About 1.5 l (litres) of blood is lost following fracture of a single thigh bone
- About 1.0 l is lost following fracture of bones of the lower leg (calf).

You should also be aware that fracture of a relatively small bone may result in a much larger amount of bleeding if there is associated injury to a major blood vessel. Therefore, you should always check for signs of shock after a fracture and begin IV fluid infusion if the person's blood pressure falls and the pulse rises. Also give the person two paracetamol tablets with a small cup of water to relieve the pain of the fracture.

Immobilising a fractured limb

The other important component of basic supportive care for a person with a fracture in a large bone (e.g. in the arm or leg) is to immobilise the injured limb before transporting the person to a health centre or hospital.

■ Why do you think immobilising the limb is important?

□ It prevents further damage to the limb, which can happen if it moves and the sharp ends of the fractured bone push out through the skin.

Figure 7.5 A health worker applying a split to a fractured leg bone.

A fractured limb is immobilised by keeping it straight, using a rigid material called a **splint**, which you can make from anything like very strong cardboard, a plank of wood, or similar material. The splint should be as long as the whole arm or leg (not just the broken part) to stop movement in the joint above and below the fractured site. It is usually fixed *behind* the affected limb by wrapping soft cloths around the limb and the splint to bind them together (see Figure 7.5). This process is called **splinting**. Splinting prevents further damage, which may result in loss of the limb or disability at a later period.

Once you have applied the splint and fixed it securely, the next step is to make sure that the person reaches a hospital or health centre in a splinted state in order not to aggravate the injury further. By doing this you ensure that the patient is treated in a more specialised and complete way, which helps reduce the risk of death or disability from fracture.

7.4 Head and spinal injury

Head, neck and spinal injuries account for about 50% of the deaths immediately following injury globally. Injury to the brain or the **spinal cord** (the part of the nervous system that extends from the brain down inside the vertebral column or backbone) can affect the person's ability to breathe and lead to permanent paralysis.

7.4.1 Causes, signs and symptoms of head and spinal injuries

Head injuries usually occur from blows to the brain. Injuries to the head may include fracture of the bones of the face or the skull, swelling of the brain due to inflammation and fluid collecting inside the skull after a blow to the head, or cuts to the scalp and other soft tissues around the skull. Spinal injury is when the backbone and the nerve tissue inside the spine are injured.

Certain causes of injury should alert you to possible head and spinal damage. These include a fall from any height (e.g. from a horse, motorbike, bicycle, or building), a penetrating injury to the head from a gun or knife, a heavy blow to the head, or a traffic accident (Figure 7.6). When you are called to see a person after any of these events, you should suspect the possibility of head or spinal injuries. These accidents are also common to fracture injuries. The symptoms and signs of head injury or spinal injury are given in Box 7.3.

Figure 7.6 Accidents involving a *bajaj* (in Amharic, a three-wheeled taxi) often occur in heavy traffic. (Photo: Basiro Davey)

Box 7.3 Signs of head or spinal injury

You may find these signs either separately or in combination:

- Unconsciousness or reduced level of consciousness
- Confusion in the patient's speech or behaviour
- Visible cuts or bruises to the scalp
- Blood or fluid coming out through the nose or ears
- Unexplained headache or disturbance to sight
- Difficulty breathing
- Extreme pain or pressure in the neck, head or back
- Tingling or loss of sensation in the hands, fingers, feet or toes
- Partial or complete loss of control over any part of the body, including urination and defaecation (passing stool)
- Difficulty with balance and walking.

7.4.2 Emergency care for someone with a head or spinal injury

When you suspect an individual has a head or spinal injury, the first thing to make sure is whether the person's airway is clear, so he or she is able to breathe. Then check for signs of blood loss and shock as described earlier. It is very important to keep the person at rest, not moving, and in the position you found him or her. When you approach the injured person, approach from the foot end, to reduce the risk of moving their head or neck and causing further damage.

After giving basic life-supportive care (described in the final section of Study Session 8), the next step is to prepare the injured person for transportation to a health facility. This primarily involves protecting and stabilising the spinal cord in the neck, so that it cannot move and cause more serious damage, which may lead to death or permanent disability. Apply sandbags or pillows on each side and at the back of the neck to immobilise the person's head and neck (Figure 7.7 on the next page).

Figure 7.7 Supporting and immobilising an injury to the neck or spinal cord. (Diagram: Dr Radmila Mileusnic)

7.5 Burns injuries

Burns are such a common accident that you are sure to have seen someone suffering from a burn in your village. A **burn** is a severe form of injury which causes significant soft tissue damage, as well as changes affecting blood volume (fluid balance). By fluid balance it is meant that people with a major burn will develop shock as a result of evaporation of body fluids from the burn surface; this reduces their blood volume even though they are not bleeding. While most burns are minor and do not require hospitalisation, extensive burns are a life-threatening emergency. You should also know that the very young and the very old do not tolerate burns well or respond so well to treatment (Figure 7.8).

Figure 7.8 A tragic situation when a farmer's house catches fire and a child is burned.

7.5.1 Common causes of burns

What are the common causes of burns in your village? Do they include the situations listed in Box 7.4, which are common all over the world?

Box 7.4 Common causes of burns

- Fire and flame
- Boiling fluid (scald injury)
- Acid (chemical burn)
- Electrical burn from faulty electrical equipment.

All these causes of burns result in destruction of the skin and varying layers of the soft tissue underneath. In burns injuries, the depth of the burn depends upon the temperature of the heat source and how long the body was in contact with it. The most common sites of a burn are the hands, arms, legs and feet.

Other important burns-related conditions that you should know about are burns involving the chest, face and inhalation (breathing in) of a large amount of smoke and heat. These conditions require urgent special attention at a health facility due to the risk that they will interfere with breathing. You should suspect a respiratory tract burn when the person inhales a large amount of smoke and heat as a result of being trapped in a closed space during a fire.

7.5.2 Classification of burns

Most burns injuries are minor and do not require hospitalisation. Factors that affect the severity of a burn include the age of the person, the presence of burns to the face or respiratory tract (lungs), and of course, the depth of the burn. Burns can be classified into first degree (superficial), second degree (intermediate), or third degree (full-thickness) depending on the depth of injury to the skin and underlying structures.

First degree burns

In a **first degree burn** the injury is restricted to the most superficial layer of the skin. Nerve endings in this layer become exposed and the burn surface is painful. Blister formation is common. This kind of burn heals spontaneously within ten days if protected from infection by gentle washing regularly and sometimes covering with a clean sheet of gauze or cloth.

Second degree burns

In a **second degree burn** the skin is injured to a deeper layer than the first degree burn. Because of the extent of the damage, the burnt surface appears to you whitish (bloodless) and is *painless* as compared to the first degree burn. This is because the nerve endings that transmit the feeling of pain to the brain have been destroyed. Healing takes longer (three to four weeks) and occurs by scar formation.

Third degree burns

In a full-thickness or **third degree burn**, the whole layer of the skin and subcutaneous tissue is destroyed and the muscles, tendons or the bone underneath the skin may be visible. Healing occurs very slowly. Severe scarring is unavoidable. If third degree burns cover a large area of the body, death usually results from dehydration as fluids evaporate through the burnt skin, and infection enters through the burn.

7.5.3 Emergency care for people with serious burns

If first aid has not already been given, flush the burn thoroughly with clean cold water. This helps to prevent further damage. You should also remove all burned clothing from the body of the person. If the burn area is limited, immerse the site in cold water for about 30 minutes. This again helps reduce pain, swelling (oedema) caused by tissue fluid flooding into the damaged area, and inflammation.

The other important aspect of immediate care in a major burn is prevention of heat loss from the body, especially in children, if a large area of the body has been burnt, or there are third degree burns. **Hypothermia** is defined as excessive cooling of a person or reduction of body temperature which, if not prevented, may result in the body systems stopping their normal function. To prevent hypothermia from happening you should apply clean wraps around the burnt area or the whole patient.

■ Why should you immerse or flush a burnt part of the body with cold water?

□ This is because of three main reasons:

- It reduces further tissue damage
- It reduces swelling/oedema and inflammation
- It also helps to reduce pain.

After giving immediate first aid, urgently refer a person with a severe burn to a higher health facility for specialist care and treatment.

What you have studied so far is only the *first aid* treatment for a severe burn. Once you have done this, refer individuals with severe burns to a hospital or health centre for specialist care. This must be done as soon as possible. The first six hours following a burns injury are critical for recovery.

7.6 Multiple injuries, emergency transport and referral

In the previous sections of this study session, we have described how to treat bleeding, fractures, head and spinal injuries and burns when they occur *separately*. However, in many accidents or after a violent attack, the patient is often suffering the combined effects of **multiple injuries** – several injuries at the same time. Knowing that multiple injuries are likely to happen in the same individual helps you to remember that you must not concentrate only on *one* type of injury – you must focus on *all* the multiple effects and your first priority is to address whatever is most threatening to their life. Delivery of basic life-supportive care is taught at the end of Study Session 8, after you have learned about emergency conditions that are *not* due to injuries.

Remember that most health emergencies will require rapid referral to a health centre or hospital. As a Health Extension Practitioner, you have an important responsibility in your community to prepare an **emergency transport plan**, which identifies individuals with vehicles (car, truck, gharry, etc.) who can get injured people to a health facility as quickly as possible. As in all referrals for whatever cause, you must write a clear **referral note**, describing the patient's name, address, age, etc., the circumstances in which the injury or other emergency occurred, your assessment of their condition and any actions you have taken.

Summary of Study Session 7

In Study Session 7, you have learned that:

1 Injury due to accidents and violence is a common cause of emergency conditions which threaten life, limb and eyesight; it is a common problem globally and at national level.

2 The effect of an injury is not limited to immediate life-threatening emergency conditions; it can persist way beyond the immediate injury period in the form of profound economic, mental health and behavioural problems.

3 Violent assaults such as rape can lead to sexually transmitted infections (STIs) and unwanted pregnancies.

4 Injury often results in life-threatening internal or external bleeding. Try to stop external bleeding with pressure and bandages. Start pre-referral IV fluid therapy in cases of shock.

5 Fractures (open or closed), head and spinal injuries must be attended to urgently in order to prevent loss of limbs, paralysis and permanent disability. Immobilisation of the injured part during transport to a health facility is essential life-supportive care.

6 Flame, hot fluid, chemicals and electricity are the common causes of first, second or third degree burns, depending on the depth of skin and soft tissue affected. Flushing a burn with cold water is an important element of first aid care in order to minimise the extent of damage and reduce pain.

7 Remember to develop an emergency transport plan to get an injured person to a health centre or hospital quickly. Write a clear referral note with all the patient's details, your assessment of the injury and any actions you have taken.

Self-Assessment Questions (SAQs) for Study Session 7

Now that you have completed this session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 7.1 (tests Learning Outcomes 7.1, 7.2, 7.3, 7.4 and 7.5)

Which of the following statements is *false*? In each case, say what is incorrect.

A If a wound is bleeding externally, you apply pressure to it, elevate the bleeding part and bandage it tightly enough to stop the bleeding.

B A person who has internal bleeding will have a slow pulse and rapidly rising blood pressure.

C Pain in the abdomen and rigid abdominal muscles are signs of a possible internal injury.

D Bleeding from the nose, ears or scalp and confusion in the patient's speech or behaviour are signs of possible head injury.

E Swelling and internal bleeding are signs of an open fracture.

F A person with a first degree burn is at risk of dying from dehydration and infection.

SAQ 7.2 (tests Learning Outcomes 7.1, 7.3 and 7.4)

(a) How would you immobilise (i) a fractured limb and (ii) a neck or spinal injury?

(b) What is the purpose of immobilisation and what outcomes could it prevent?

SAQ 7.3 (tests Learning Outcome 7.5)

What are the steps of emergency first aid care for a severe burn?

SAQ 7.4 (tests Learning Outcomes 7.1, 7.2, 7.3 and 7.4)

Read Case Study 7.1 about Mr. Samuel and respond to the question that follows it.

Figure 7.9 Falling from a horse can cause serious injuries. (Photo: Basiro Davey)

Case Study 7.1 Mr. Samuel has a horse-riding accident

Mr Samuel is a 54-year-old farmer who was heading home from his farm (Figure 7.9). He was riding fast when his horse stumbled and fell into a ditch, throwing Mr Samuel against a rock on the ground. He was found by some villagers, who called you to see him. When you reach the place, you see that he is lying on the ground and he seems unable to get up. You can't see any blood on his clothes.

- What possible injuries could Mr Samuel have suffered?

Study Session 8 Gastrointestinal Emergencies, Choking and Basic Life Support Techniques

Introduction

Non-injury emergencies are life-threatening conditions such as appendicitis and intestinal obstruction, poisoning and choking. They are certain to occur in your community and require your urgent help in supporting the life of affected people before they are transferred to a higher health facility for specialised treatment. In this study session you will learn about the most common non-injury emergencies, and how to detect those which, if unattended, might result in death. You will also learn how to prepare patients with these conditions for referral.

This study session ends with a section on basic life support techniques, which applies to patients with non-injury emergencies and also to conditions such as airway obstruction, bleeding, or multiple injuries, as described previously in Study Session 7.

Learning Outcomes for Study Session 8

When you have studied this session, you should be able to:

8.1 Define and use correctly all of the key words printed in **bold**. (SAQs 8.1, 8.2, 8.3, 8.4 and 8.5)

8.2 Describe the signs and symptoms of appendicitis and intestinal obstruction, and explain how to give life-supportive care for these emergency conditions. (SAQs 8.1 and 8.2)

8.3 List the routes of entry of poison into the body, describe the signs and symptoms of poisoning, and explain how to give life-supportive care to someone who is poisoned. (SAQs 8.3 and 8.4)

8.4 Describe the signs and symptoms of choking and explain how to give life-supportive care to someone who is choking. (SAQ 8.5)

8.5 Outline how to give emergency life-supportive care, using the ABCDE-T approach. (SAQs 8.2, 8.3, 8.4 and 8.5)

8.1 Gastrointestinal emergencies

Gastrointestinal emergencies are acute abdominal conditions characterised by pain in the abdomen, which began in the last seven days (not longer ago) and which is severe enough to affect the daily life and activities of the individual. A condition is described as **acute** if it begins suddenly and gets worse over a short period of time. An **acute emergency** is one that rapidly becomes life-threatening.

If abdominal pain has lasted for more than seven days it is called *chronic* abdominal pain and the affected person should be referred as soon as possible.

- Can you suggest a possible cause of chronic abdominal pain? (Think back to Study Session 3.)

- It may be due to a cancer somewhere in the abdomen, e.g. in the stomach, intestines, liver, spleen, pancreas or reproductive organs.

The two most common causes of gastrointestinal emergencies are appendicitis and intestinal obstruction, described below. Note that they have overlapping symptoms and signs, making their distinction difficult. In addition, the symptoms are not always typical in very old or very young people and this uncertainty often causes delay in diagnosis. Delay in starting treatment contributes to the more severe effects of these conditions in older or younger age groups, and their bodies have more limited ability to repair afterwards.

8.1.1 Appendicitis

Appendicitis is an acute condition which occurs as a result of inflammation of the appendix. The **appendix** is a small tube, closed at one end, which is found at the junction between the small and the large intestine (Figure 8.1). It has no known function in digestion. The appendix can become inflamed when pieces of food get trapped in it and infection develops in the rotting food.

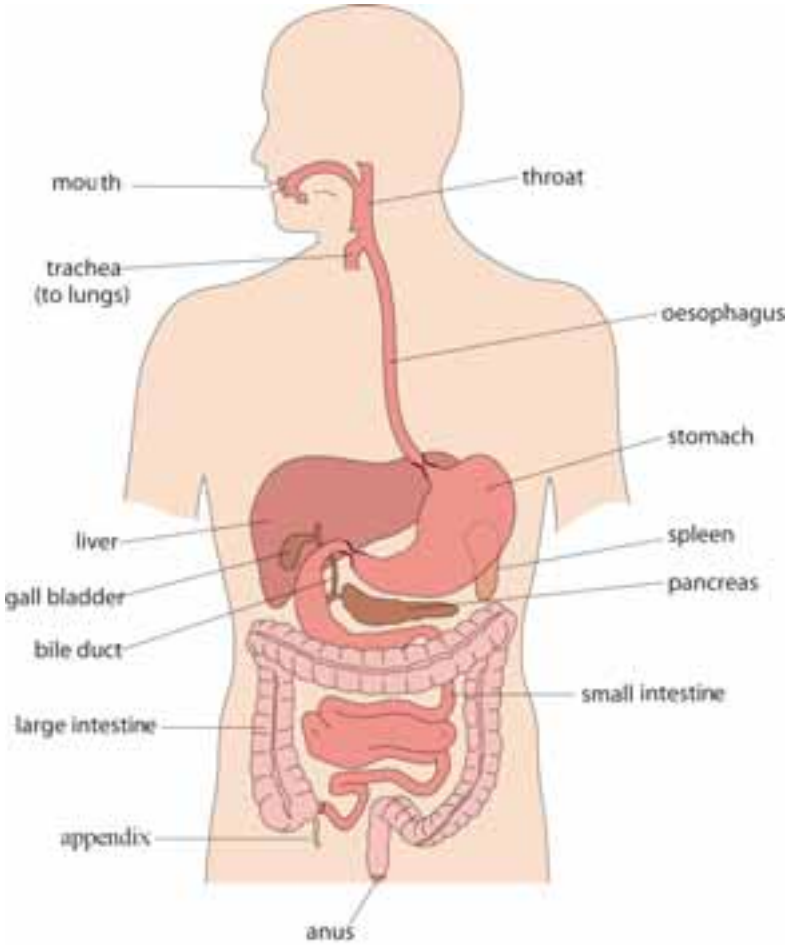


Figure 8.1 The **digestive tract** or **gastrointestinal system** is the tube-like passage from the mouth, through the stomach and intestines to the anus, together with the organs that connect with it (e.g. the liver, spleen and pancreas). (Source: The Open University, 2006, *Living with Diabetes*, Figure 2.1)

Acute appendicitis commonly affects adolescents and young adults, but it can occur at any age. The typical symptoms and signs that make you suspect someone has acute appendicitis include:

- Pain around the navel (belly button) which later shifts to the lower abdomen, particularly on the right side. Notice in Figure 8.1 that the appendix is on the lower right side of the abdomen.
- Fever (body temperature above 37.5ºC)
- Nausea and vomiting
- Tenderness and rigidity of the abdominal muscles guarding the affected internal organs.

If you see a person with the above symptoms which have only recently begun, refer them to a health centre or hospital for assessment. You can give two paracetamol tablets with a small cup of water to help to relieve the pain, but tell the person not to eat or drink anything else until they have been seen by a doctor. If they have acute appendicitis, the appendix will have to be removed surgically by an operation to the abdomen. Reassure the patient that this type of surgery is straightforward and they will soon recover afterwards.

■ Can you remember why eating or drinking is not advised for a patient who is being referred for possible surgery?

□ You learned in Study Session 7 that the reason the stomach should be empty before surgery is to avoid the patient vomiting food or drink and obstructing their lungs when they are unconscious due to the anaesthetic.

If the affected person comes to you several days after the onset of appendicitis, the infection may have spread outside the appendix into the rest of the abdomen. Widespread infection in the abdomen is called *abdominal sepsis* and it can lead to **septic shock**, which is manifested by low and falling blood pressure, fast pulse, rapid respiration, fever and extreme abdominal pain. Without urgent surgery to remove the inflamed appendix and antibiotic treatment for the infection, a person with septic shock will soon die. If you have been trained to do so, insert an intravenous (IV) cannula into a blood vessel in the person's arm and begin fluid therapy with a litre of Normal Saline or Ringer's Lactate solution. Make sure the fluid infusion continues during the journey to a health centre or hospital.

Refer a person with acute abdominal pain urgently! If they develop septic shock, death will soon follow.

8.1.2 Intestinal obstruction

Intestinal obstruction means a blockage somewhere in the gastrointestinal system (look back at Figure 8.1) and is another important cause of acute abdominal pain. It can be caused by either mechanical or non-mechanical obstructions. A mechanical obstruction means that something is physically blocking the digestive tract, preventing the flow of food through the intestine. In the case of non-mechanical obstruction, the digestive tract is not directly blocked, but food does not move forwards because of some problem in the muscular action of the intestine itself, which normally pushes the food along. Without special tests, it is difficult to diagnose whether a blockage is mechanical or non-mechanical. In both cases, the patient will require immediate referral to a higher health facility.

If you suspect an intestinal obstruction, refer the patient immediately.

The signs and symptoms of intestinal obstruction are:

- Abdominal pain, which may be throughout the abdomen
- Nausea and vomiting
- Constipation (absence of gas and faeces)
- Abdominal distension (swollen abdomen)
- Tenderness and rigidity of the abdominal muscles guarding the internal organs
- Shock (in advanced cases).

The pre-referral actions described above for acute appendicitis also apply to a patient with suspected intestinal obstruction.

8.2 Poisoning

A **poison** (also called a **toxin)** is a naturally occurring or manufactured substance which, if taken into the body in sufficient quantity, causes temporary or permanent damage. The common poisons that people may have in their homes include medical drugs, alcohol, household cleaning chemicals, kerosene and pesticides. You may be surprised when we say to you that medical drugs are 'poisons', but remember that medicines must be taken in the prescribed dosages and only by the person who has been prescribed that drug. All medical drugs are toxic if the dose is exceeded, or if they are taken by the wrong person – for example, the adult dose of a drug could seriously harm a child. In the Amharic language, this is expressed in the saying that 'even honey is sour if too much is taken'.

■ Can you think of some naturally occurring poisons?

□ You may have thought of poisonous plants, the bite or sting of poisonous animals (e.g. snakes, scorpions), and the toxins released by certain bacteria when they get into the body.

Figure 8.2 Protective clothing including a special mask must be worn to prevent inhalation (breathing in) or skin exposure to poisonous chemicals when spraying insecticides. (Photo: Dr Daddi Jima)

There are four different ways that a poison can get into the body. It can be:

- Ingested by swallowing, e.g. medicines, household chemicals, etc.
- Inhaled in the breath, e.g. when spraying houses or water collections with chemicals to kill insects or other vectors of communicable diseases (Figure 8.2); or inhaled carbon monoxide gas, which is an invisible poison found in the fumes formed by burning charcoal
- Injected, e.g. when bitten by a snake or injected by a needle
- Absorbed when the poison comes into contact with the skin and passes through it into the body, e.g. when a person is splashed with a chemical that kills insects (insecticide) or weed killer.

You should also know that the effects of poisoning are more serious when the person poisoned is very young, very old, or in poor health. This makes early diagnosis especially important in these groups.

8.2.1 Signs and symptoms of poisoning

The symptoms of **poisoning** partly depend on the route of entry into the body. Common symptoms include nausea, vomiting, abdominal pain, difficulty in breathing, headaches, changes in heart rate pattern (fast, slow or irregular), watering of the eyes, confusion, and impaired consciousness. If the exposure has been to the skin, the person may also complain of swelling, rashes, redness and itching of the skin.

You should suspect poisoning if there are empty containers for medicines or chemicals near the poisoned person, or there is a strange smell present (for example, of bleach or kerosene). So, in considering poisoning, you should look around where the person became ill and ask questions to gather possible clues. Take the containers with you to show the doctor when you transport the patient to the nearest health facility. Knowing what has been swallowed will help the medical staff to know what action to take to neutralise the poison.

8.2.2 Suicide by poisoning

Drinking *berekina* (bleach, Figure 8.3) or kerosene is a common method of trying to commit **suicide**, i.e. the person intended to purposefully kill themselves. If you suspect suicide by poisoning, deal with the immediate emergency as you would for any other poisoning event. If the person survives, they will need additional support when they return to the community to resolve the cause of the mental distress that pushed them to attempt suicide. Refer to Study Session 10 of this Module for a detailed discussion of the signs that may give you early warning that someone is thinking of trying to kill themselves. Part 2 of this Module describes a wide range of mental health problems and how to deal with them at community level.

Figure 8.3 A person in severe mental distress may try to commit suicide by drinking a poison such as bleach or kerosene.

8.2.3 First aid for a person with poisoning

If you find a person who has been poisoned accidentally or intentionally, apply basic life-supportive care using the ABCDE-T approach (described in Section 8.4.1 of this study session). If the poison has been absorbed through the skin, remove any contaminated clothing and wash the body with water and soap. If a chemical has been swallowed which has caused burning of the lips and throat, you can give the person frequent sips of cold water or milk, which may neutralise the poison a little bit. Then refer the person to the hospital or health centre urgently.

Go with a person who has been poisoned – they could stop breathing on the way to the health facility and you may be able to save their life on the journey.

8.3 Choking

Choking is defined as an obstruction of the upper part of the windpipe (trachea) resulting in an acute life-threatening emergency (Figure 8.4). A person whose airway is obstructed will quickly become unconscious and die due to **suffocation** (lack of oxygen), unless the obstruction is quickly removed. Look back at Figure 4.1 in Study Session 4 of this Module to remind yourself of the location of the trachea in the respiratory system.

Figure 8.4 Food obstructing the airway is the commonest cause of choking.

An obstruction of the airway may be partial or complete, and choking may occur in the conscious or unconscious person. The common causes of choking that you may be faced with are:

- Blockage of the airway by the tongue falling back into the throat of an unconscious person who is lying on their back (see Figure 8.4(a) later in this study session)
- Inhalation (breathing in) of a piece of food, such as a lump of meat, a chicken or fish bone, a bean or a nut; children may also inhale small objects during play
- Injury to the airway, for example after a blow to the front of the neck.

8.3.1 Signs of choking

You can distinguish between complete or partial obstruction of the airway by noting the following features:

In **partial obstruction**, the person may:

- have difficulty breathing, but may be able to call for help
- have a persistent cough (the body's attempt at removing the obstruction)
- produce snoring and/or wheezing sounds.

In **complete obstruction**, the person may:

- be unable to speak, breathe or cry out
- be gripping his/her throat
- be agitated and distressed
- have a blue/dark tinge on the lips due to low oxygen levels
- rapidly lose consciousness.

8.3.2 How to help someone who is choking

In your village you may have seen someone choking before – perhaps a child or an adult. Were you able to help them? This is what you should do:

- If the person is breathing, encourage him/her to continue breathing and coughing.
- Slap the person vigorously on the upper back with your palms, while bending the person forwards. Do this several times (see Figure 8.5a).
- If back slapping does not remove the obstruction, try giving **abdominal thrusts** (see Figure 8.5b and Box 8.1).

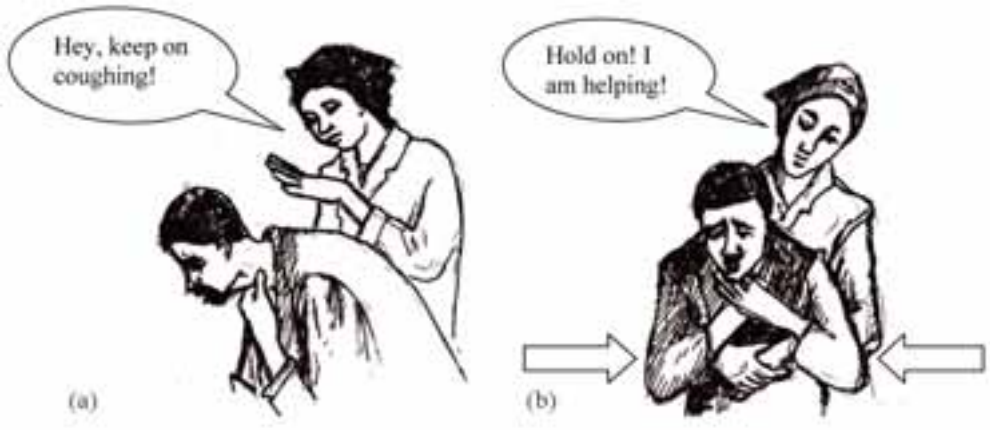


Figure 8.5 Techniques to help someone who is choking: (a) back slapping, (b) abdominal thrust to force the obstruction up and out of the airway.

Box 8.1 Abdominal thrust technique to remove an airway obstruction

1 Position yourself behind the person and put both of your arms around the upper part of the abdomen. Make sure that he/she is bending forwards.

2 Make a fist with one hand over the person's upper abdomen (between the bellybutton and the breastbone), then grasp the wrist of the fisted hand with the other hand (Figure 8.5b).

3 Pull both your hands sharply inwards and upwards. Do this up to five times. This helps you to increase the pressure in the blocked airway in order to dislodge the obstruction.

4 Usually, this will have removed the obstruction: however, if not, repeat the back slapping and abdominal thrust procedures two to three times more.

5 If the person becomes unconscious, lay them on their back, open their mouth and try to remove any obstruction with your fingers or forceps if you have them. Begin 'rescue breathing' as described in Section 8.4.1.

Figure 8.6 This poster is displayed in many Health Posts in Ethiopia to teach parents how to help a child who is choking. (Photo: Basiro Davey)

■ A child is choking and comes to you coughing and screaming. Which technique would you use first and why?

□ You should first try backslaps and encourage coughing (Figure 8.6). This is the first step for someone who is choking but who can breath, speak and cough. In this case, the child's coughing and screaming indicates that the blockage is partial because they can still breathe.

8.4 Basic life support techniques

In Study Session 7 you considered the effects of a single injury and how you might respond to each injury type. In this study session, you have learned how to deal with some common non-injury emergencies. In this final section, you will learn about **basic life support techniques**, which you must apply to a person who is unconscious or has stopped breathing for whatever reason – whether due to an injury, internal bleeding, septic shock, airway obstruction or some other cause. These techniques are also important in someone who is suffering from the combined effects of *multiple injuries*, e.g. after being hit by a car or falling off a horse, a person may have internal bleeding, a head injury and fractured bones.

Before giving care for each of the emergency conditions you suspect may be occurring, you must know how to *prioritise* your actions when giving basic life-supportive care. What should you do first, second and third? It is vital that you first address whatever condition is most threatening to their life. This section shows you how to do this.

8.4.1 The ABCDE-T approach

The simple way of remembering what to do first, second and third to save the life of a person with an emergency condition is to use a system known by the letters **ABCDE-T** (Box 8.2).

Box 8.2 The ABCDE-T of basic life support

You should perform these actions in the following sequence:

- A is *airway* care
- B is *breathing*
- C is *circulation* of the blood
- D is *disability* and brain and spinal cord *damage*
- E is *exposure* and *examination* of the person's body
- T is *transfer* to the nearest health facility.

'A' stands for airway care

Your first action is to keep the airway open. As you already know, the commonest cause of blockage of the airway is food or another foreign body lodged in the windpipe. Airway obstruction can also occur when a person is unconsciousness after a blow to the head or neck, or because they have lost a lot of blood from an injury.

The obstruction after a head injury may also be due to a broken tooth, blood clots or the person's tongue falling back into the throat and blocking the airway. This is particularly likely to happen if they are lying flat on their back.

Figure 8.7(a) illustrates how the airway gets blocked easily by the tongue falling back into the throat. In Figure 8.7(b) and (c), note how the action of lifting the chin also lifts the tongue and opens the airways, allowing the person to breathe. Remember that when you lift the chin, you must not move the neck! You may aggravate a possible neck or spinal injury in the process.

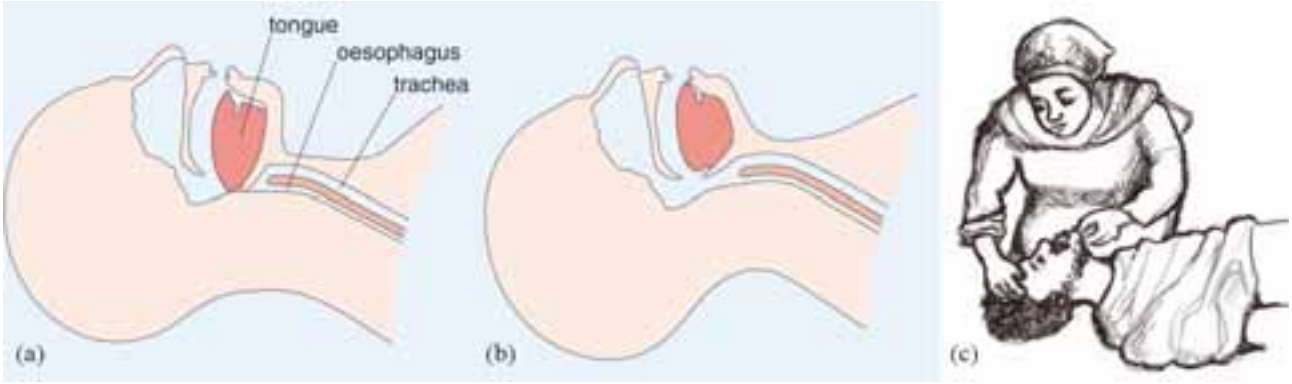


Figure 8.7 Diagram of a person's airway: (a) blocked by the tongue, and (b) cleared by tilting the head and lifting the chin. (c) A health worker lifting the chin to open the airway of an unconscious man. (Diagrams (a) and (b) from The Open University, *Trauma, Repair and Recovery*, SDK125, Case Study 6, Figure 2.1)

'B' stands for breathing

Once you are sure that the airway is open, the next step is to check whether the person is breathing or not. Listen for sounds of breathing and feel for breath on your cheek when you bend close to the person's mouth. Also look for chest movements (rising and falling) as breath moves in and out. If the person is breathing steadily, you can put him or her in the **recovery position** (see Figure 8.8). Notice the position of the injured person's legs and arms, which stabilise him on his side with his airway open. Lying the person on their side is to prevent choking if they vomit and to keep the tongue from falling back into the throat and blocking it.

Figure 8.8 An injured person being put in the recovery position. (Diagram: Dr Radmila Mileusnic)

If the person is not breathing at all, begin **rescue breathing**, i.e. breathing for the person, also known as 'mouth-to-mouth resuscitation'. The steps of rescue breathing are shown in Box 8.3.

Box 8.3 Steps in rescue breathing for an adult patient

1 Make sure that the airway is open

2 Pinch the nose shut to prevent air from escaping and tilt the person's chin upwards to open their mouth

3 Fill your own lungs with air and steadily blow into the person's mouth until the chest rises. This should take about two seconds.

4 Feel for the person's pulse to make sure their heart is beating, but don't waste time measuring the pulse rate.

5 Repeat the rescue breaths about every five seconds. Do this for about one minute, giving about 12 rescue breaths in that time

6 Feel for a pulse between every rescue breath. Continue rescue breathing as long as a pulse is present but the person is not spontaneously breathing on their own.

If the patient is a child:

7 Follow the steps above, but you need to give smaller, faster rescue breaths. Give one rescue breath about every *three* seconds. Do this for about one minute, giving about 20 rescue breaths in that time. Then continue with step 6.

'C' stands for circulation

Once you are sure that the person is breathing, then check for any site that is bleeding. Count the person's pulse and measure the blood pressure. If there is any bleeding give first aid to stop the bleeding (look back at Box 7.1 in the previous study session). If the person has got any signs of shock, start pre-referral intravenous (IV) fluid therapy, if you have been trained to do so.

■ If a person has a haemorrhage or septic shock, what do you expect to find when you take the pulse and blood pressure?

□ The pulse will be rapid (possibly over 100 beats per minute), but weak and fluttering. The blood pressure will be low and falling; the diastolic pressure may be below 60 mmHg.

'D' stands for disability and brain and spinal cord damage

Next you assess the person for any possible head or spinal injuries, as described in the previous study session (Section 7.4).

■ Do you remember the signs of head or spinal injuries?

□ The person may have difficulty breathing, pain in the neck, head or back, blood or fluid coming from the nose, ears or cuts on the scalp, tingling or loss of sensation in the hands, fingers, feet or toes, confusion, loss of control of urination and defaecation, difficulty with balance and walking, or partial or complete paralysis.

'E' stands for exposure

Expose the person to your full attention; this means open their clothes and if possible remove their clothing. You must do this very carefully, avoiding moving the limbs, head or neck if you suspect a limb fracture, head or spinal injury. Look at the whole person to be certain that you have not missed any injury. Examine the abdomen for swelling, tenderness or 'guarding' the internal organs with rigid muscles, which may indicate internal injury, acute appendicitis or intestinal obstruction.

'T' stands for transfer

When you have stabilised the patient by treating any immediately life-threatening conditions, transfer your patient to the nearest health facility as quickly as possible. Remember to take all the precautions to reduce trauma and support life during the journey, as described in this and the previous study session.

- What else should you remember to do?

- Write a clear referral note giving the patient's name, address, age, the circumstances that led up to the emergency, your assessment of their condition, and any actions you have taken. Sign and date the referral note and print your name and contact details so the higher level health facility can communicate with you about the patient.

This concludes Part 1 of this Module. In Part 2, we turn to the important subject of mental health problems in rural communities.

Summary of Study Session 8

In Study Session 8, you have learned that:

1 Non-injury emergencies, such as appendicitis, intestinal obstruction, poisoning or choking, are potentially life-threatening conditions that require urgent attention and life-supportive care.

2 The effects of non-injury emergencies are more severe in young children and old people. This is due to delayed recognition of their condition because their symptoms may not be typical, and the body's more limited ability to reduce the effects of these conditions in extreme age groups.

3 Appendicitis means inflammation and infection of the appendix. The signs and symptoms are similar to intestinal obstruction: i.e. abdominal pain, tenderness and guarding of the internal organs by rigid abdominal muscles, fever, nausea, and vomiting. In advanced cases, septic shock may occur.

4 Poison can enter the body through the mouth, lungs or skin, or it may be injected; poisoning may be accidental or intentionally self-inflicted (suicide) and the poison (toxin) may be naturally occurring, a manufactured chemical or an overdose of medicine.

5 Common symptoms of poisoning include nausea, vomiting, abdominal pain, difficulty in breathing, headaches, fast, slow or irregular heart rate, watering of the eyes, confusion, and impaired consciousness. If poison was absorbed through the skin, there may be swelling, rashes, redness and itching.

6 First aid for a person who is choking is to encourage coughing, back slapping and applying repeated abdominal thrusts. If the person becomes unconscious, attempt to remove the obstruction if you can see it in their throat and begin rescue breathing.

7 Basic life support techniques can be used for both injury and non-injury emergency life-threatening conditions.

8 A simple way to remember the priorities of basic life-supportive care is to use the ABCDE-T approach, addressing in this order: their Airways, Breathing, Circulation, Disability, Exposure (to check for anything you may have missed), and Transfer to a higher health facility.

Self-Assessment Questions (SAQs) for Study Session 8

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 8.1 (tests Learning Outcomes 8.1 and 8.2)

(a) In which group of patients is it most difficult to recognise the signs and symptoms of appendicitis and intestinal obstruction?

(b) Which signs and symptoms are common to both conditions?

(c) Are there any signs that may make you more likely to suspect appendicitis or more likely to suspect intestinal obstruction?

SAQ 8.2 (tests Learning Outcomes 8.1, 8.2 and 8.5)

What life-supportive care do you give to a person with a gastrointestinal emergency?

SAQ 8.3 (tests Learning Outcomes 8.1, 8.3 and 8.5)

Which of the following statements is *false*? In each case, explain what is incorrect.

A If you suspect that a person has swallowed poison, apply abdominal thrusts to help them to cough out the poison.

B If you suspect that a person has absorbed poison through their skin, remove any contaminated clothing and wash the body with soap and water before referring them.

C Swallowing bleach or kerosene is a common method of trying to commit suicide in rural communities in Ethiopia.

D Tying a cloth over the nose and mouth is good protection from inhaling droplets of insecticide while spraying houses to kill mosquitoes.

E Burning charcoal in an enclosed room is dangerous because the fumes are poisonous and inhaling them can cause loss of consciousness.

SAQ 8.4 (tests Learning Outcomes 8.1, 8.3 and 8.5)

Mrs Chaltu is found unconscious after complaining to her neighbours that she is feeling miserable.

(a) What do you suspect has happened? What would you look for in her surroundings and why?

(b) Outline how you would perform basic life-supportive care for her.

SAQ 8.5 (tests Learning Outcomes 8.1, 8.4 and 8.5)

Read Case Study 8.1 and then answer the question that follows it.

Case Study 8.1 An emergency at a wedding feast

Mr. Shewangizaw is celebrating his daughter's wedding. He was in good health and happily moving around the wedding tent, talking and encouraging guests to enjoy the food and drink prepared for the wedding feast. However, shortly after sitting down to eat himself, he began coughing and appeared to be having difficulty breathing, holding his neck with both hands and coughing forcefully and persistently.

- What is the correct sequence of actions that you should perform to help this man?

Notes on the Self-Assessment Questions (SAQs) for *Non-Communicable Diseases, Emergency Care and Mental Health*, Part 1

Study Session 1

SAQ 1.1

A is true. Blood accounts for approximately 7–9% of total body weight in an adult human.

B is *false*. An adult has 5–6 litres of blood circulating around the body (not 10–15 litres).

C is true. The primary function of the blood is to transport oxygen nutrients, and as a means to remove waste products from the tissues.

D is true. Red blood cells contain a protein called haemoglobin**,** which is red in colour and contains a lot of iron.

E is *false*. Haemoglobin picks up oxygen as it passes through the *lungs* (not the heart).

SAQ 1.2

If there was a hole in the wall that separates the two ventricles of the heart, the oxygenated blood returning from the lungs via the pulmonary circulation would mix with the deoxygenated blood returning from the rest of the body. When the left ventricle contracts to pump blood back to the body, it would contain a mixture of oxygenated and deoxygenated blood. In a baby born with such a hole in its heart (as sometimes happens), the body tissues and organs receive less oxygen than in a person with an undamaged heart; the baby will be more tired and breathless than a normal person.

SAQ 1.3

The pulse is most easily felt in veins on the inside of the wrist and in the neck. The normal range of the pulse is 60–80 beats per minute in a resting adult, and the normal range of blood pressure is between 90/60 mmHg and below 140/90 mmHg.

SAQ 1.4

(a) The first thing to check is Mr Tilahun's pulse rate and blood pressure to see if they are raised. If he has stopped taking medication for hypertension, it is likely that his blood pressure is too high.

(b) Heart failure is the most likely cause of his symptoms. He has had hypertension for several years, which can lead to the heart being unable to pump blood around the body efficiently. He is not getting enough oxygen or nutrients to his tissues, so he feels breathless, tired and weak.

(c) You should refer him to the nearest health centre or hospital urgently. He could have a heart attack at any time. He must begin taking medication to lower his blood pressure again soon. You should also pay attention to Mr Tilahun's mental health – his illness may be making him depressed.

SAQ 1.5

She should teach people in the community that they can reduce their risk of cardiovascular diseases by:

- Eating a healthy diet, with plenty of fruits and vegetables, and low salt and fat intake
- Drinking very little alcohol
- Not smoking cigarettes
- Taking exercise every day
- Avoiding stress wherever possible
- Taking their medication regularly if their blood pressure is already raised.

Study Session 2

SAQ 2.1

A is *false*. Blood glucose can also fall too low in a person with diabetes; the condition is characterised by lack of *regulation* of blood glucose.

B is true. Diabetes is becoming more common in developing countries like Ethiopia.

C is true. Excess glucose is stored in the liver until it is needed.

D is *false*. Glucagon (not insulin) stimulates the liver to release stored glucose when the body needs more fuel.

E is *false*. Exercise *is* recommended for people with diabetes as part of a healthy lifestyle and maintenance of a normal weight for their height; also, the blood glucose levels of a diabetic person are often too high, as well as sometimes too low.

SAQ 2.2

The completed version of Table 2.2 appears below.

Table 2.2 Internal organs and their functions

A	**B**
Pancreas	Produces many substances including hormones like insulin and glucagon
Liver	Stores glucose in the form of glycogen and slowly releases glucose from its glycogen stores
Digestive tract	Breaks down foods into smaller nutrients which can be absorbed into the blood
Skeletal muscles	Used for movement, e.g. in the arms and legs

SAQ 2.3

Mr Tajebe probably has Type 2 diabetes. One reason for reaching this conclusion is that his diabetes only began when he was already 63 years old, and Type 1 diabetes usually starts in children or young adults. Another reason is that his condition is currently being controlled by diet alone; Type 1 diabetes requires daily insulin for its control.

SAQ 2.4

The typical symptoms of diabetes are: feeling thirsty all the time and drinking of a lot of fluids, passing large amounts of urine, weight loss, and a feeling of tiredness. The best sign of diabetes is to test the urine for the presence of sugar, using a dipstick for this purpose.

SAQ 2.5

A is true. Type 1 diabetes might be caused by a virus infection.

B is true. A family history of diabetes increases the risk of developing diabetes.

C is *false*. Eating rice is *not* a risk factor for diabetes; in fact, eating a slowly broken-down carbohydrate like rice is a good choice for someone with diabetes, because the glucose levels in the body rise only slowly as rice is digested.

D is *false*. Glycogen (not glucagon) is the form in which excess glucose is stored in the body; glucagon is a hormone produced by the pancreas.

SAQ 2.6

Mrs Aster's BMI is 29. Her weight is at the top end of the 'overweight' range; if she gains any more weight she will be categorised as obese. Her weight puts her at increased risk of developing diabetes.

SAQ 2.7

Your poster might say something like:

- Don't let yourself become overweight!
- Eat a healthy balanced diet with plenty of fruits and vegetables.
- Limit your intake of sugary or fatty foods.
- Exercise every day.

Study Session 3

SAQ 3.1

A is true. More people die from cancer worldwide every year than from HIV/AIDS, tuberculosis and malaria combined.

B is true. Benign tumours are not generally life-threatening.

C is true. Malignant tumours are life-threatening because they spread and cause damage to organs and tissues all over the body.

D is *false.* Cancer cells are growing in the wrong place, but they are not normal cells – there are many differences (e.g. see the answer to E below).

E is true. Cancer cells can multiply uncontrollably by repeated cell divisions.

F is *false.* Cancer cells survive for many cell divisions because they do not 'self-destruct'; normal cells do self-destruct when they get too old or develop abnormal features.

SAQ 3.2

We don't know exactly what words you would use, but you might say that normal cells increase their numbers by dividing into two cells, and then these two cells each divide again, so there are four cells, and so on. Usually normal cells can only do this a few times before they become too old and stop dividing. Cancer cells, on the other hand, can go on increasing in number by dividing into two cells, then four cells, and so on, without any control.

SAQ 3.3

(d) is the correct answer. Cancers don't have characteristic symptoms that indicate a cancer diagnosis. The symptoms depend on where the cancer is growing in the body and can easily be confused with the symptoms of other chronic diseases or conditions like misses menstrual periods.

SAQ 3.4

(a) Mr Abera has a lot of cancer risk factors: very little exercise, smoking cigarettes, fatty diet, high alcohol consumption and he is obese (BMI = 33).

(b) You should advise Mr Abera to stop smoking, reduce his alcohol consumption, stop eating fatty foods and switch to eating more vegetables, fruits, peas, beans and whole grains, take more exercise, and lose weight.

SAQ 3.5

There is no clear cause of breast cancer that women can avoid, but it is associated with obesity and excessive drinking of alcohol, so you should advise women to avoid alcohol and becoming overweight. Early detection and treatment of breast cancer reduces the chance that women will die from the disease. The best method of early detection is regular breast self-examination to check for lumps or other abnormalities and seeking treatment if anything suspicious is found. If the facilities exist in your locality, then screening women aged over 45 years by mammography every two or three years can detect breast cancers very early.

SAQ 3.6

(a) A good example of supporting the spiritual needs of a terminally ill patient would be to organise a meeting with family members and religious leaders or spiritual advisers at the patient's home. It can be very comforting and uplifting to join in a religious service or blessing according to the beliefs of the family and the ill person.

(b) Other aspects of palliative care involve managing the patient's symptoms (e.g. pain, nausea), helping to make him or her comfortable, assisting the family with practical matters, listening to their worries, and helping the sick person and family members to come to terms with the inevitable death and the grief that follows.

Study Session 4

SAQ 4.1

A is *false*. COPD is a disease which affects the respiratory system (not the cardiovascular system).

B is true. Wheezing, breathlessness and a cough with production of large amounts of mucus in the lungs are the major symptoms of COPD.

C is *false.* Air entering the body travels down the *trachea* (not the oesophagus) into the lungs. The oesophagus carries food and drinks from the mouth into the stomach. If you got this wrong, look back at Figure 2.2 in Study Session 2.

D is true. In COPD, the air sacs lose elasticity and their walls can break down – this condition is called emphysema.

E is *false.* Bronchial asthma can affect all ages, but it is much more common than COPD in young adults and it is very common in children. It is COPD that mainly affects older adults and elderly people.

F is *false.* Asthma (not COPD) can be caused by exposure to pollen and animal hair – but only in people who are sensitive to these allergens.

SAQ 4.2

(a) The most common risk factor for COPD is cigarette smoking; other risk factors could include second-hand tobacco smoke, air pollution, chemical fumes and dust from the environment and workplace, and indoor smoke from cooking fires – particularly if dried animal dung is used.

(b) You should always teach people in your community that smoking tobacco is dangerous to health and may cause serious illnesses, including COPD, cardiovascular diseases and lung cancer. It is also an inducing factor for bronchial asthma.

SAQ 4.3

Your advice to Mr Sileshi is that he should stop smoking and make sure he wears a mask to protect his lungs from exposure to dust or chemicals during his work. Tell him that both these factors increase his risk of developing COPD, which is a permanent disabling disease that cannot be reversed. Advise him to go at once for screening for COPD if he develops any of the characteristic symptoms: cough with production of mucus, breathlessness, wheezing and tightness in the chest.

SAQ 4.4

(a) You suspect that Mihret has experienced an attack of bronchial asthma. Your reasons are that she is too young to be developing COPD and she does not smoke tobacco or live with anyone who smokes. Also, the attack of tightness in her chest and breathlessness began suddenly and went away after about 15 minutes. COPD symptoms begin gradually over many years and they don't get better.

(b) You noticed that her breathlessness stopped when she went outside into the fresh air, so the most likely cause of her asthma attack is the smoke from cooking inside the house, which she was breathing in.

(c) The advice you should give her is to try to avoid breathing in smoke; for example she could cook outdoors, or fit a flue to her stove or a chimney over her cooking fire to take the smoke out of the house.

Study Session 5

SAQ 5.1

The eyelids and eyelashes protect the eye from foreign materials getting into it. The sclera, cornea, pupil, iris and the lens serve the purpose of light transmission onto the retina at the back of the eye.

SAQ 5.2

(a) Mr Worku is an elderly man who is having problems seeing in bright sunlight; his vision is blurred and he has increasing difficulty in seeing the world around him clearly. These are typical early symptoms of cataract

(b) You should advise him to do everything he can to delay the cataracts from getting worse, such as wearing dark eye glasses to protect his eyes from sunlight, avoiding exposure to smoke, eating a balanced diet, and effective blood-sugar control if the man has got diabetes. Explain to him that if his cataracts progress to the stage where his sight has almost gone, he can get surgical treatment to remove the cloudy lenses and restore his sight – at least to some extent. Tell him that the operation is quick, simple and painless.

SAQ 5.3

Injuries to *one* eye usually result from chemical splashes, accidental scratches, penetration by sharp objects, or non-penetrating blows. This type of injury is most likely to happen during jobs such as welding or stone work, or during fights or play with sharp objects such as sticks or stones. These types of activities are more likely to involve children and young adults than older people.

SAQ 5.4

(a) The symptoms described by this child's parents should make you suspect the child has a foreign body in her ear. At three years old she is too young to be able to tell you if she has put something into her ear.

(b) Shine a torch into her ear to look for the possibility of a foreign body in there. If you can see the object, try very carefully to remove it with a thin blunt tool. Then refer the child to a health facility. The whitish-yellowish discharge from her ear tells you that it is infected and she needs medical treatment with antibiotics.

Study Session 6

SAQ 6.1

A is true. The structures of the oral cavity enable us to speak, chew and swallow.

B is *false.* Humans do normally produce two sets, but only the second (permanent) set has 32 teeth. The first set (milk or baby teeth) has only 20 teeth.

C is true. The mouth is the entrance to the digestive and respiratory systems.

D is *false.* The palate is the *roof* of the oral cavity (not the floor).

E is true. Saliva helps to keep the mouth clean.

F is *false.* Teeth are *living* structures with dentine, pulp and blood vessels inside them; only the upper surface of a tooth is covered with hard dead enamel.

SAQ 6.2

(a) Plaque is a sticky bacterial growth around the teeth. The conditions that promote its formation are high-sugar high-fat diets and poor oral hygiene.

(b) Plaque destroys the tooth enamel by producing acids which allow decay to penetrate the teeth. If plaque is not removed, it hardens into tartar, which causes the gums to pull away from the teeth. Plaque, tartar and gum disease increase the risk of tooth loss through decay.

(c) Reducing the amount of sugars and fats in the diet, and increasing the amount of fruits and vegetables, helps to reduce the development of plaque. Regular brushing and flossing of the teeth also removes plaque and promotes oral health.

SAQ 6.3

(a) Habtamu probably has yellow teeth because he has been drinking water containing a high concentration of fluorides all his life. His friends also have yellow teeth. This condition is called fluorosis.

(b) Fluorosis leads to weakening of the teeth, which are likely to develop 'pits' (holes) and cracks where decay can get in. Habtamu will probably suffer from a lot of tooth decay, and broken or lost teeth.

SAQ 6.4

The messages you would expect to see on the school poster should include:

- Brush your teeth for two minutes at least twice a day, especially after meals.
- Use traditional tooth sticks or a soft bristle toothbrush and toothpaste.
- Avoid sugary foods and drinks.
- Eat a healthy diet rich in fruits and vegetables.
- Drink milk. It contains calcium to build strong teeth and bones.
- When you grow up, don't smoke or chew tobacco, or chew *khat*, or drink alcohol.

Study Session 7

SAQ 7.1

A is true. If a wound is bleeding externally, you apply pressure to it, elevate the bleeding part and bandage it tightly enough to stop the bleeding.

B is *false.* A person who has internal bleeding will have a *rapid* pulse and *falling* blood pressure.

C is true. Pain in the abdomen and rigid abdominal muscles are signs of a possible internal injury.

D is true. Bleeding from the nose, ears or scalp and confusion in the patient's speech or behaviour are signs of possible head injury.

E is *false.* An open fracture means the broken bone is sticking out through the skin at the fracture site. There is also likely to be swelling and internal bleeding, but this also occurs in closed fractures.

F is *false.* A person with a *third* degree burn is at risk of dying from dehydration and infection if the burned area is extensive. First degree burns are superficial and heal within a few days.

SAQ 7.2

(a) Fracture immobilisation is done by keeping the injured limb straight using a rigid material called a splint, which is bandaged to the broken limb to keep it still. The splint should be long enough to immobilise the whole of the limb above and below the fracture. Immobilisation of spinal injuries is done by applying sand-bags or pillows on each side and at the back of the neck to stop the head and neck from moving during transportation to a health facility.

(b) The purpose of immobilising a fracture or spinal injury is to prevent further injury or damage to the patient, which could occur if the broken parts are moved during transport to a health facility. In the case of a fracture, further damage to the broken limb could lead to loss of the limb or difficulty in using the limb. In the case of spinal injury, further damage could cause death or permanent disability, e.g. paralysis.

SAQ 7.3

The first thing you should do is to cool the burn by flushing it with cold water and if possible immerse the burned part in cold water. Gently remove any clothing that is touching the burned area. Cover the wound with a sterile dressing or (if one is not available) a very clean cloth. If the burn is extensive or deep, transport the person to a health centre or hospital for specialist care.

SAQ 7.4

Mr Samuel seems unable to get up so he may have fractured a limb, or suffered head and spinal injuries; he may also have internal bleeding. In other words, he could have multiple injuries which happened all at the same time when he fell from the horse and hit the rock.

Study Session 8

SAQ 8.1

(a) Gastrointestinal emergencies are more difficult to recognise in very old and very young people.

(b) The signs and symptoms that are common to both appendicitis and intestinal obstruction are abdominal pain, guarding the internal organs with rigid abdominal muscles, nausea and vomiting, and fever.

(c) A person suffering with acute appendicitis is more likely to experience lower abdominal pain, particularly on their right side. An intestinal obstruction usually produces widespread abdominal pain, the abdomen may be swollen and the person may have difficulty in passing faeces or gas.

SAQ 8.2

Life-supportive care for patients with gastrointestinal emergencies depends on the severity of the symptoms. If the symptoms began very recently, give two paracetamol tablets with a small cup of water to relieve the pain. If the symptoms are advanced and there are signs of shock, begin IV fluid administration. In both cases, refer the patient to the nearest hospital or health centre, instructing them to take nothing by mouth before they have been seen by a doctor, because surgical intervention is likely to be required.

SAQ 8.3

A is *false.* Abdominal thrusts are applied to help someone who is choking to cough the obstruction out of their airway. This technique is useless to help someone who has swallowed poison, which will be absorbed into their body through the digestive tract.

B is true. If you suspect that a person has absorbed poison through their skin, remove any contaminated clothing and wash the body with soap and water before referring them.

C is true. Swallowing bleach or kerosene is a common method of trying to commit suicide in rural communities in Ethiopia.

D is *false.* Tying a cloth over the nose and mouth is *not* adequate protection for someone who is spraying houses to kill mosquitoes. Insecticide sprayers should wear proper protective clothing, including a special mask.

E is true. Burning charcoal in an enclosed room is dangerous because the fumes are poisonous and inhaling them can cause loss of consciousness.

SAQ 8.4

(a) You suspect that Mrs Chaltu has tried to kill herself by drinking a poisonous chemical. Look for any empty containers in her surroundings to see if you can identify what she has swallowed. Take the containers with you to show the doctor when you transport Mrs Chaltu to the nearest health facility.

(b) She is unconscious so you should apply the basic life support techniques outlined in the ABCDE-T approach, first making sure that her airway is open by placing her in the recovery position (Figure 8.2), and checking her breathing, pulse and blood pressure. If she is not breathing, begin rescue breathing for her. Once she is breathing, if there are signs of burning on her lips, mouth and throat (e.g. from swallowing bleach or kerosene), give her sips of cold water or milk. Check for any signs of disability and examine her body in case there is anything you have missed. Go with her on the transfer to the health centre or hospital.

SAQ 8.5

Mr Shewangizaw is choking, probably caused by a blockage of food in his airway. He should be encouraged to cough to remove the obstruction. If this does not work, you should support the effort by slapping his upper back. If the back slapping does not work, use the abdominal thrust technique. If he becomes unconscious, lay him down and see if you can remove the obstruction from his throat with your fingers or forceps. Begin rescue breathing to keep him alive while he is taken to a hospital or health centre.

Federal Democratic Republic of Ethiopia
Ministry of Health

Non-Communicable Diseases, Emergency Care and Mental Health Part 2 Mental Health Problems

Blended Learning Module for the Health Extension Programme

HEAT
Health Education and Training
HEAT in Africa

unicef
unite for children

The Open University

AMREF
Better Health for Africa

Federal Democratic Republic of Ethiopia
Ministry of Health

The Ethiopian Federal Ministry of Health (FMOH) and the Regional Health Bureaus (RHBs) have developed this innovative Blended Learning Programme in partnership with the HEAT Team from The Open University UK and a range of medical experts and health science specialists within Ethiopia. Together, we are producing 13 Modules to upgrade the theoretical knowledge of the country's 33,000 rural Health Extension Workers to that of Health Extension Practitioners and to train new entrants to the service. Every student learning from these Modules is supported by a Tutor and a series of Practical Training Mentors who deliver the parallel Practical Skills Training Programme. This blended approach to work-place learning ensures that students achieve all the required theoretical and practical competencies while they continue to provide health services for their communities.

These Blended Learning Modules cover the full range of health promotion, disease prevention, basic management and essential treatment protocols to improve and protect the health of rural communities in Ethiopia. A strong focus is on enabling Ethiopia to meet the Millennium Development Goals to reduce maternal mortality by three-quarters and under-5 child mortality by two-thirds by the year 2015. The Modules cover antenatal care, labour and delivery, postnatal care, the integrated management of newborn and childhood illness, communicable diseases (including HIV/AIDS, malaria, TB, leprosy and other common infectious diseases), family planning, adolescent and youth reproductive health, nutrition and food safety, hygiene and environmental health, non-communicable diseases, health education and community mobilisation, and health planning and professional ethics.

In time, all the Modules will be accessible from the Ethiopian Federal Ministry of Health website at **www.moh.gov.et**; online versions will also be available to download from the HEAT (Health Education and Training) website at **www.open.ac.uk/africa/heat** as open educational resources, free to other countries across Africa and anywhere in the world to download and adapt for their own training programmes.

Dr Kesetebirhan Admasu

State Minister of Health

Ethiopian Federal Ministry of Health

Acknowledgements

Non-Communicable Diseases, Emergency Care and Mental Health is the last of 13 Blended Learning Modules for the Ethiopian Health Extension Programme. Together with the practical skills training sessions that accompany each of the supported self-study texts, this programme will upgrade the Health Extension Workers who complete the curriculum to Health Extension Practitioners at Level-IV of the Ethiopian Occupational Standards. The upgrading programme is sponsored by the Ethiopian Federal Ministry of Health (FMOH) and the Regional Health Bureaus (RHBs). The FMOH gratefully acknowledges the receipt of funding for this programme from the Ethiopian Office of UNICEF (the United Nations Children's Emergency Fund), The Open University UK, the Alan and Nesta Ferguson Foundation Trust UK, and AMREF (the African Medical and Research Foundation).

This Module on *Non-Communicable Diseases, Emergency Care and Mental Health* is in two parts and was produced by a team of Ethiopian experts, who were trained and supported by experts in blended learning pedagogy from the HEAT (Health Education and Training) Team for Africa at The Open University UK. The contributors of original material are:

Ms Shitaye Astawes, Ethiopian Centre for Disability and Development

Dr Abebaw Fekadu, Addis Ababa University

Dr Charlotte Hanlon, Addis Ababa University

Dr Haddis Solomon, Amanual Hospital, Addis Ababa

Dr Yared Tilahun, Tikur Anbessa Hospital, Addis Ababa

Dr Samuel Workneh (Module Academic Coordinator), Addis Ababa University

The Academic Editors of *Non-Communicable Diseases, Emergency Care and Mental Health* are Dr Basiro Davey, Deputy Director (Ethiopia), HEAT Team at The Open University UK, Dr Rosa Hoekstra, Lecturer in Psychology in the Department of Life Sciences, and Wayne Taylor, Lecturer in Effective Practice in Youth Justice, Faculty of Health and Social Care, with contributions from Ali Wyllie, also from the Faculty of Health and Social Care, all at The Open University UK. The illustrations in colour were drawn by Dr Radmilla Mileusnic at The Open University. The black and white illustrations were drawn by Ato Tefere Wondimagegnehu, Ethiopian Federal Ministry of Health. The other members of the HEAT Team are:

Lesley-Anne Long, HEAT Programme Director

Alison Robinson, HEAT Programme Coordinator

Dawn Partner, HEAT Senior Production Assistant

Jessica Aumann, HEAT Programme Assistant

Ali Wyllie, HEAT Lead eLearning Adviser

We acknowledge the vital contributions of the Programme Coordinators within Ethiopia:

Ato Mohammed Hussein Abeseko, UNICEF Ethiopia and the Federal Ministry of Health

Ato Tedla Mulatu, AMREF Ethiopia

The cover design for *Non-Communicable Diseases, Emergency Care and Mental Health* is by Chris Hough and Glen Darby, Learning and Teaching Solutions, The Open University UK. The cover photographs are reproduced with the permission of Dr Basiro Davey, Department of Life Sciences at The Open University.

The authors particularly wish to acknowledge our use in Study Session 17 of the model by Professor Vikram Patel from his book *Where There is No Psychiatrist: A Mental Healthcare Manual* (2003), published by Gaskell, London.

The opinions expressed in this Module are those of the authors and do not necessarily reflect the views of any of the donor organisations whose generous support made the production of *Non-Communicable Diseases, Emergency Care and Mental Health* possible.

Contents

Study Session 9 Introduction to Mental Health

Introduction

Mental illness is more common than most people realise and in this session you will learn why there is 'no health without mental health'. We will review what is known about how many people are affected by mental illness in Ethiopia. You will learn that mental illness can lead to a high level of disability and suffering, often over a long period of time. Not only that, but people suffering from mental illness also have poorer general health and higher mortality, and are often victims of stigma, discrimination and abuse. Mental health is also important for achieving many of the Millennium Development Goals.

You will learn that, even though effective treatments are available, few people with mental illness receive the care they need. As a health practitioner, you have an important part to play in helping to reduce this treatment gap. We will describe how mental healthcare fits into all levels of the existing health system and your expected role in the health extension service. Finally, you will learn about the multiple causes of mental illness, the 'biopsychosocial model' of mental health and some of the different ways that mental illness is understood within the local culture.

Learning Outcomes for Study Session 9

When you have studied this session, you should be able to:

9.1 Define and use correctly all of the key words printed in **bold**. (SAQs 9.1, 9.4 and 9.6)

9.2 Estimate the number of people affected by mental illness in your *kebele*. (SAQ 9.2)

9.3 Explain why mental health is an important public health priority in Ethiopia. (SAQs 9.3 and 9.5)

9.4 State the probable causes of mental illness according to the biopsychosocial model, and describe cultural explanatory models for mental illness. (SAQ 9.4)

9.5 Describe the structure of mental healthcare in Ethiopia. (SAQs 9.1 and 9.4)

9.6 List the ways in which you can help to reduce the treatment gap for mental illness. (SAQ 9.6)

9.1 Mental health as a public health priority in Ethiopia

We will start by defining two terms that will be important for all the mental health study sessions in this module:

Mental health can be defined as 'a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community'. (World Health Organization)

Mental illnesses occur in the absence of mental health, and are generally characterised by some combination of abnormal thoughts, emotions, behaviour and relationships with others.

Sometimes people ask the question 'why is mental health important in Ethiopia when people are dying from illness and poverty?' or they may say 'mental health is a luxury for the West'. These attitudes come about from ignorance and the stigma that surrounds mental illness. In the following subsections we will show you why we need to tackle mental illness in Ethiopia.

9.1.1 Mental illness is common

Stop and think for a moment. How common do you think mental illness is in Ethiopia?

From studies that have been carried out in Ethiopia, we know that severe mental illness is present at about the same level that is found in Western countries.

1% means 1 person affected in every 100 persons.

Around 1 to 2% of the adult Ethiopian population, that is around 400,000 to 800,000 people across the country, are affected by psychosis. People with **psychosis** may believe things that aren't real, hear things that aren't there, and have disturbed behaviour. You will learn more about psychosis in Study Session 13 of this Module (see Figure 9.1).

Figure 9.1 Psychosis can lead to abnormal behaviour.

A further 10 to 15% of the adult population (4 to 6 million people) suffer from depression at some point in their lifetime – approximately 5% (2 million) at any one time. In **depression**, people have an abnormal level of sadness that doesn't go away. Depression can lead to a person giving up on life and wanting to die. If very severe, somebody with depression may even consider killing themselves (**suicide**). We don't know for certain how many people commit suicide in Ethiopia every year, but it is probably at least 4,000 people (10 per 100,000 adults per year). You will learn more about depression in Study Session 12 (see Figure 9.2).

Figure 9.2 A depressed person.

In addition, we estimate that around 5% of the adult population of Ethiopia (around 2 million people) will suffer from an anxiety illness at some point during their lifetime. **Anxiety** is when a person worries too much about something, for example their health, their problems, or even what will happen in the future. Study Session 16 covers anxiety disorders in more detail (see Figure 9.3).

Figure 9.3 Somebody who is very anxious.

Added to this large number is the 3 to 5% of the adult population (1.2 to 2 million people) with a serious problem resulting from their excessive use of alcohol or khat. **Substance abuse** will be covered in more detail in Study Session 14 (see Figure 9.4).

Figure 9.4 A person who drinks too much alcohol.

Children can also suffer from mental illness. In Ethiopian studies, around 1 in 10 children seem to have mental health problems (see Study Session 17).

In summary, without including childhood disorders, we estimate that at least 1 in 6 Ethiopians will suffer from a mental illness that needs treatment during their lifetime (Figure 9.5). Is this more common than you expected?

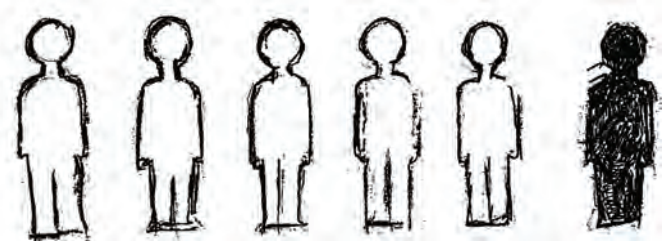


Figure 9.5 One in six Ethiopians will be affected by mental illness during their lifetime.

Table 9.1 summarises the frequency of the major types of mental illness in Ethiopia in terms of the percentage of the population who are affected.

Table 9.1 The frequency of mental illnesses in Ethiopia.

Mental illness	Estimated % of Ethiopian population affected
Psychosis	1–2%
Depression	10–15%
Anxiety disorders	5%
Alcohol and khat abuse	3–5%

9.1.2 The burden of mental illness

Every illness produces a burden for the person who is affected. Illnesses that cause people to die young (**premature mortality**) or affect them badly so that they can't live a normal life (see Box 9.1) are said to have a high burden.

Disability is present when a person has a health condition (in this case, mental illness) which impairs their day-to-day functioning in some way. The level of disability experienced depends partly on the seriousness of the impairment, and partly on the social exclusion that further disables people with mental health problems.

Box 9.1 Disability and mental health problems

Mental health problems may lead to difficulty in one or more of the following areas:

- Understanding and communicating
- Getting around
- Self-care
- Getting along with people
- Working (including housework)
- Participating in society, e.g. attending a funeral or coffee ceremony.

From studies in Ethiopia, we know that:

- People with severe mental illness are about three times more likely to die young.
- People with mental illness have high levels of disability.
- Mental illness often starts early in life and, in some people, can recur (come back again and again), or become chronic (persist over a longtime). So mental illness can affect people over a long period of time.

These three factors mean that the burden of mental illness (in terms of mortality and disability) is high.

In a study from Butajira (south-central Ethiopia), researchers found that if you added together the burden from all the illnesses people experience (including infectious disease, maternal disorders and undernutrition), mental illness was responsible for 11.5% of the total burden. Put another way, more than 10% of the burden of all illness in Ethiopia is likely to be due to mental illness.

Mental illness also causes a burden on the family. Family members may have to stop working in order to care for the mentally ill person. They may also worry a lot about the ill person, which puts them at risk of developing mental illness themselves unless they have good support.

9.1.3 No health without mental health

It is not possible for a person to be healthy unless they have good mental health. Often mental health and general health ('physical' health) affect one another. Here are some examples of how mental illness is linked to other health conditions that are important in Ethiopia:

- **Millennium Development Goal 4: Child health**
  In Ethiopia, children have an increased risk of diarrhoea if their mother suffers from undetected mental illness. Other studies have shown that the children of mothers with mental illness also have poorer development.
- **Millennium Development Goal 5: Maternal health**
  In Ethiopia, women who suffer from mental illness are more likely to have a prolonged labour and delivery. In women with complications during pregnancy or childbirth, the risk of mental illness after the birth is increased.
- **Millennium Development Goal 6: HIV/AIDS**
  In Ethiopia we know that people with HIV/AIDS are at increased risk of developing mental illness. People with HIV/AIDS who also have a mental illness are more likely to get worse faster and die earlier than people in good mental health.

Box 9.2 Millennium Development Goals (MDGs)

By 2015 all countries in the world are committed to achieving the following goals:

MDG 1 End poverty and hunger

MDG 2 Universal education

MDG 3 Gender equality

MDG 4 Child health (reducing under-five mortality by two-thirds)

MDG 5 Maternal health (reducing maternal mortality by three-quarters)

MDG 6 Combat HIV/AIDS

MDG 7 Environmental sustainability

MDG 8 Global partnership.

9.1.4 Mental health and poverty (Millennium Development Goal 1)

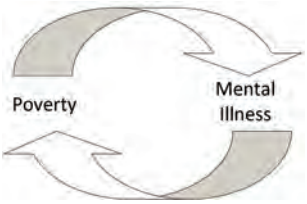


Figure 9.6 The poverty cycle.

Poverty and mental illness are closely linked. The stresses of poverty can lead to mental illness, and mental illness can make a person poorer (see Figure 9.6). When a person is affected by a severe mental illness, they are more likely to be jobless and may not be able to do their work properly, e.g. plough the fields, sell things in the market. The person with mental illness, and their family, may suffer terrible economic hardship.

9.1.5 Stigma, discrimination and abuse

In addition to the burden of their illness, people with mental illness and their families are highly stigmatised – that is, they suffer from the effects of stigma. **Stigma** refers to the way in which a characteristic, e.g. mental illness, marks the person out as different and leads to negative attitudes (**prejudice**) and behaviour (**discrimination**) from other people. This stigma increases the burden of illness further. People with mental illness may also experience abuse, e.g. being chained up inside a house, especially if the family doesn't know any other way of coping with the disturbed behaviour (Figure 9.7).

Figure 9.7 Person with mental illness chained up at home.

- The *stigma* of mental illness means that people often hide away and don't get the help they need.
- *Discrimination* against people with mental illness may mean that their family is treated unfairly, that the affected person doesn't have as many work opportunities as he or she should do, or that he or she is excluded from community activities. Discrimination makes mental illness worse and it can delay or prevent recovery.

Later in this Module you will learn about ways to tackle stigma, discrimination and abuse against mentally ill people in the communities where you live and work. Next, we would like you to complete Activity 9.1.

Activity 9.1 What is it like to live with mental illness?

Is there somebody in your kebele who has severe mental illness? Try to find somebody who has received treatment in a psychiatric centre. If they are willing, ask them about their experience of being ill. What was it like? How did other people treat them? What help did they get? What would have helped them more?

Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting.

9.2 What causes mental illness?

9.2.1 The biopsychosocial model

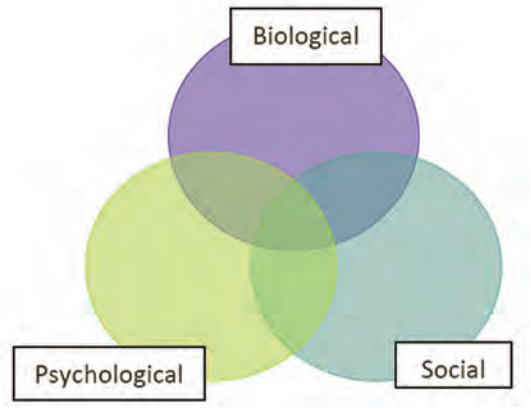


Figure 9.8 The biopsychosocial model of mental illness.

The causes of specific mental illnesses vary but most are caused by a combination of biological, psychological and social problems. Mental health professionals have developed a **model** of mental illness called the '**biopsychosocial**' model (see Figure 9.8).

A model is a simplified way of describing how the different parts of a complex issue link together.

As Figure 9.8 shows, the biological, psychological and social factors often overlap. Here are some examples of biological, psychological and social causes of mental illness:

- *Biological causes*: genetic (inherited) causes, a chemical imbalance in the brain, head injury, alcohol or khat use, undernutrition
- *Psychological causes*: not loved in childhood, too many worries, the stress of somebody dying, disappointment, frustration, severe shock
- *Social causes*: poverty, not living in a good house, not having somebody who they can talk to about their problems, discrimination, migration.

Now read Case Study 9.1. As you do so, think about your answers to the following question:

- Can you identify some possible biological, psychological and social factors contributing to Mr Hailu's mental illness?

Case Study 9.1 Mr Hailu the farmer

A 33-year-old farmer developed mental illness after getting into a fight with one of his neighbours. For many years, the farmer had drunk araki every day to help him forget his problems. When he was drunk, he insulted his neighbour and they fought together. The neighbour hit him heavily on the head and the farmer fell to the floor for a few minutes before he was able to get up again. After that the farmer stayed in the house and then developed symptoms of mental illness. Nobody was sympathetic to the farmer because he had caused a lot of trouble in the local area. He had lost all his money because of his drinking, and his wife had gone back to her own family because she couldn't stand it any longer. All these problems made him worry and he wished he had somebody to talk to. He couldn't turn to his family because both parents died when he was a small child and his brothers lived far away.

- *Biological factors:* in Mr Hailu's case study he had a head injury and a long-term history of excessive alcohol use. *Psychological factors*: he had too many worries, and his parents died in childhood. *Social factors*: he was isolated and had nobody to talk to.

9.2.2 Explanatory models and cultural context

In the communities where you work, local people may have different explanations for why mental illness occurs. The way people explain an illness is called an **explanatory model**. Healthworkers often have different explanatory models (e.g. the biopsychosocial model) when compared with the local cultural model used by community members. See Table 9.2 for an example of this. It is very important to try to understand a person's explanatory model for mental illness even if you don't agree with it. This will help you to support the person better. You will learn more about how to manage competing explanatory models of mental illness in Study Session 18 on mental health promotion and Study Session 19 on disability and community rehabilitation.

Table 9.2 Comparing explanatory models.

Questions	Biopsychosocial model	Local cultural model
Why did I get ill?	Because I was drinking and had lost my family and friends.	Because my neighbour bewitched me.
Will I get better?	Things could get better if I stopped drinking.	This is a serious thing. I might even die unless this curse is removed from me.
What treatment might help?	If I had help to stop drinking, and was able to talk about my problems to somebody.	Going to see the witch doctor (*tanquaye*) and slaughtering a sheep.

Box 9.3 presents a list of some of the cultural explanations of mental illness found in Ethiopia. Beside those in Box 9.3, you could write down other causes that you know of in your area.

Box 9.3 Cultural explanations for mental illness

Spirit possession (*likift, zar, wuqabi*)

Punishment for sins

Evil eye

Bewitched/cursed

Thinking too much

Exposure to cold air (*berrd)*

Exposure to sun rays (*mitch*).

9.3 The treatment gap

So far, you have learned that mental illness is common and has a heavy burden for people affected by it, including family members. One of the best ways to reduce the burden of mental illness is to provide effective treatment. Simple, cheap and effective treatments are available for most mental illnesses but, in Ethiopia, only 10% of people with severe mental illness ever receive these treatments. The difference between those who need treatment and those who get treatment is known as the **treatment gap**.

■ From your general knowledge of people in your community, why do you think so many people with mental illness never receive the treatment that could help them?

□ Some possible reasons that may have occurred to you are as follows:

- they don't know that effective treatments exist
- they don't know where to get help
- the stigma prevents them asking for help
- they have to travel too far for help
- they can't afford the medication
- they don't believe that health staff can help with this kind of problem
- they prefer to have traditional treatments
- they don't like the side-effects of medication
- they don't believe that they have an illness.

In the next section you will learn about how mental healthcare can become more accessible to those who need it by providing support through the healthcare system.

9.4 Structure of the Ethiopian mental healthcare system

9.4.1 Mental healthcare in Ethiopia

Figure 9.9 shows what mental healthcare is available for people with mental illness in Ethiopia. At the bottom, the biggest part of the triangle is labelled 'self-care'. **Self-treatment** describes how the person with mental illness does things to try to help themselves, e.g. talks to someone they trust about their problems, stops drinking heavily, takes a rest from studying, and so on.

Figure 9.9 The structure of the mental healthcare system in Ethiopia.

Usually when self-care isn't enough to solve the problem, a person with mental illness will then access 'informal community care'. This might include going to a priest or religious person for healing, e.g. holy water, driving out demons, or consult one of the traditional healers such as a herbalist, or a witch doctor (*tanquaye*). While a person with mental illness may find some of these healing practices to be helpful, other traditional practices may be harmful, e.g. beating, fumigation, instructing people to stop taking their medication. These harmful practices can be considered to be 'abuse'.

As you can see, every level of the healthcare system in Ethiopia (from the Health Extension Service right up to the national referral units in Addis Ababa, e.g. Amanuel Hospital) needs to be involved in delivering mental healthcare. That is essential if we want to increase the number of people with mental illness who receive effective treatment. There aren't enough psychiatrists and psychiatric nurses to see everybody who needs help. In any case, people with mental illness often don't want to go to specialist mental health services. If mentally ill people can receive care from local health services then they don't have to travel so far and they won't have to spend so much money.

9.4.2 Mental healthcare and the Health Extension Service

As a key member of the Health Extension Service, you have several important roles to play in the primary healthcare system (the system operating at local level). These are summarised in Box 9.4.

Box 9.4 The roles of Health Extension Practitioners in mental healthcare

- Improving detection of mental illness by identifying people who are affected in your community
- Referring people with possible mental illness to the nearest health facility for further assessment and treatment
- Supporting people with mental illness and their families in the community
- Encouraging people to attend follow-up appointments and to keep taking their medication
- Educating patients, their families and the wider community
- Reducing stigma, discrimination and abuse against people with mental illness.

You will learn more about your role in relation to specific mental illnesses in later study sessions.

At the health centre level, nurses and health officers will decide whether the person with mental illness needs to be referred for more specialist assessment, e.g. at the psychiatric nurse unit, or even for in-patient care, e.g. at the regional psychiatric unit.

Finally, we would like you to complete Activity 9.2.

Activity 9.2 Mental healthcare in your area

So that you can advise people with mental illness, it is important to know about mental healthcare in your area. Find out what mental healthcare is available in your nearest health centre. Where is the nearest psychiatric nurse unit? Is there a regional in-patient unit? Outside the health system, where do people with mental illness look for help in your area?

Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting.

In the next study session in this Module, you will learn about assessing the person with mental illness.

Summary of Study Session 9

In Study Session 9 you have learned that:

1 An estimated 1 in 6 Ethiopians will suffer from a mental illness that requires treatment during their lifetime.

2 Mental illnesses carry a heavy burden in terms of disability and premature mortality.

3 Mental health is important to be able to achieve the Millennium Development Goals, especially poverty eradication, child health, maternal health and combating HIV/AIDS.

4 People with mental illness experience high levels of stigma, discrimination and abuse, and this can interfere with their recovery.

5 The biopsychosocial model shows how biological, psychological and social factors often interact to cause mental illness.

6 Cultural explanations of mental illness may stop people seeking effective care and can conflict with the healthworker's understanding of what caused the illness.

7 Only 1 in 10 people with severe mental illness in Ethiopia receive effective treatment for their condition.

8 Most mental healthcare is provided outside the existing health system, especially from self-care, family support and traditional and religious healing.

9 The Health Extension Service can help to close the treatment gap by improving detection and referral of mental illness, and supporting people with mental illness to take medication and attend for follow-up treatment.

10 Other important roles of the Health Extension Practitioner include educating patients, their families and the wider community about mental illness, and reducing stigma, discrimination and abuse against people with mental illness.

Self-Assessment Questions (SAQs) for Study Session 9

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 9.1 (tests Learning Outcomes 9.1 and 9.5)

Which of the following statements are *false*? In each case explain why it is incorrect.

A The burden of mental illness is measured only in terms of the increased mortality that it causes.
B A woman who has severe depression can't get out of bed to complete her housework – this is an example of disability.
C In the health system, most mental healthcare is provided by psychiatrists and psychiatric nurses.
D A man had psychosis and recovered well after receiving treatment, but he is refused work because he was once mentally ill. This is an example of discrimination.
E Self-care means that a person with mental illness doesn't need any help from health services.

SAQ 9.2 (tests Learning Outcome 9.2)

For an average *kebele* of 5,000 people, can you calculate how many adults might be suffering from mental disorders?

Use the percentages listed in Table 9.1. For example, in a *kebele* you would expect half the population to be of adult age (2,500 people) and 2% of these adults ($0.02 \times 2{,}500 = 50$) to have psychosis.

SAQ 9.3 (tests Learning Outcome 9.3)

A community leader comes to tell you that you shouldn't waste your time on people with mental illness. Write down 5 things you can tell him to try to convince him that mental health is important in his community.

SAQ 9.4 (tests Learning Outcomes 9.1, 9.4 and 9.5)

Read Case Study 9.2 and then answer the questions that follow it.

Case Study 9.2 Mrs Tigist the postnatal woman

Mrs Tigist is a 28-year-old woman who developed the mental illness called psychosis soon after giving birth to her second child. While she was pregnant her husband lost his job and the family had to sell a cow so that they had enough money. Now Mrs Tigist can't understand what is happening to her and is frightened that an evil spirit has possessed her mind. She believes she might die. The family take her to holy water but she doesn't get better. They then spend a lot of money consulting the witch doctor (*tanquaye*), but again she doesn't get better. The family cannot cope with Mrs Tigist's disturbed behaviour and chain her up in the home.

(a) Using the biopsychosocial model, can you identify possible causes for Mrs Tigist's illness?
(b) What is an explanatory model?
(c) What explanatory model does Mrs Tigist have about her illness?
(d) How would you speak to Mrs Tigist about her illness?
(e) What would you advise the family about the levels of healthcare available for Mrs Tigist?

SAQ 9.5 (tests Learning Outcomes 9.1 and 9.3)

Describe how mental health is important to the Millennium Development Goals.

SAQ 9.6 (tests Learning Outcomes 9.1 and 9.6)

(a) What is meant by the treatment gap for mental illness?
(b) How can the Health Extension Service help to reduce the treatment gap?

Study Session 10 Assessing a Person with Mental Illness

Introduction

Mental disorders vary in degree or severity from a mild illness that causes limited suffering to severe conditions that cause marked distress to the person with the illness and their families. The more extreme and distressing disorders are simply termed **severe mental illness** (**SMI**). Individuals with SMI are those with an illness that severely restricts their day-to-day activities, such as working in the fields, attending expected community activities like funerals, and carrying out their family responsibilities.

Like many healthworkers, you have probably come across individuals with SMI (Figure 10.1) and may have felt you cannot properly assess or speak to them. This feeling may partly be because you think it is difficult to make sense of what a person with SMI says, or you may feel intimidated by thinking that their behaviour can be unpredictable. These feelings and thoughts are not unique to you. Many health professionals without experience in mental health feel this way. This study session will help you to see mental health problems – including SMIs – more realistically.

Figure 10.1 A healthworker encounters an imaginary person with a severe mental illness: many people think a person with mental illness will look like this, although this is the least common presentation of mental illness.

We begin with describing the most common mental illnesses in communities like yours, and give their classification in terms of severity. We will then describe how you can detect people with mental illness in your community. You will also learn about the common risks associated with mental disorders and how you can assess these risks, with the main focus on self-harm and suicide. Further details on general assessment of mental illness will be provided in Study Session 11.

Learning Outcomes for Study Session 10

When you have studied this session, you should be able to:

10.1 Define and use correctly all of the key words printed in **bold**. (SAQs 10.1 and 10.2)

10.2 List the common symptoms that people with one of the main categories of severe mental illness may have. (SAQ 10.1)

10.3 Describe the main ways in which the more serious mental illnesses are classified, including the priority mental health disorders. (SAQ 10.1)

10.4 Describe the main risks associated with mental disorders, particularly those relating to self-harm and suicide. (SAQ 10.2)

10.5 Describe how mental disorders and the risks associated with them can be assessed by careful questioning. (SAQ 10.2)

10.1 How common are mental health problems?

People often think that a person with mental illness is someone who speaks nonsense, is unpredictable and behaves in strange or bizarre ways. But people with mental illness are not different to other ‘ordinary’ people. They are ordinary people with a condition. Evidence also tells us that people with mental illness are no more violent or dangerous than people that have malaria or back pain (Figure 10.2).

Figure 10.2 A healthworker speaking to someone who may have a mental disorder.

Mental disorders are relatively common in every community. For every ten people that you see on your house-to-house visits, at least one will have some form of mental health problem. For every 50 adults that you see in your house-to-house visits, one will have an SMI. You will also come across individuals with an SMI who are chained (see Figure 10.3), neglected or not well looked after. This means that every encounter you have is an opportunity to screen for mental disorder. For the most part, assessing for the presence of mental disorders is not too difficult and your skills will improve with experience.

Figure 10.3 A person with an SMI who was kept chained in his village for two years.

10.1.1 The severity of mental illnesses

Mental illnesses are often classified according to their severity, which is estimated in terms of:

- the distress the symptoms of the illness cause
- the impact the symptoms have on the individual's behaviour
- whether the symptoms affect the day to day functioning of the individual
- whether the symptoms also have broader effects on the family and society.

The majority of mental health disorders cause some level of distress to the individual concerned, but they have limited broader effects on the person's day-to-day life, work, family or society. But about 5% of the population (1 in 20 individuals) have conditions that affect or interfere with their life seriously. Of those with a mental illness, almost one-third (3 in 10) are severely affected — in other words they have an SMI.

10.1.2 Priority mental health disorders

Severe mental illnesses, such as psychosis, depression, epilepsy and disorders that are common in children and elderly people, are collectively referred to as **priority mental health disorders** (Box 10.1) by the World Health Organization (WHO). The eight conditions listed in Box 10.1 require special focus from the health service, not only because they cause a lot of suffering to individuals, but also because they are *treatable* or can be modified through treatment. You will learn about them all, either in this study session or in a later one.

Box 10.1 Priority mental health disorders (WHO)

- **Psychosis**: this is the collective name for a group of serious disorders characterised by changes in behaviour (for example poor self-care, restlessness), strange thoughts or beliefs (for example believing that others wish to do the individual harm) and related dispositions. Psychosis is covered in Study Session 13.
- **Mania**: a form of severe mental illness in which a person is excessively happy or irritable (experiences extreme mood swings), appears over-active and sleeps poorly. People with mania have poor reasoning skills (they have difficulty understanding what is good and what is bad), and display excessive self-confidence. Mania is covered in Study Session 13.
- **Depression**: this is the most common priority disorder and is characterised by excessive sadness, loss of interest, lack of energy and related symptoms. It is covered in Study Session 12.
- **Suicide**: this will be discussed in more detail in this session and refers to the intentional ending of one's own life.
- **Abuse of alcohol and other substances**: this is covered in Study Session 14 and refers to excessive use of these substances to the detriment of one's health.
- **Childhood mental disorders**: these are covered in Study Session 17.
- **Dementia**: this condition is more common in older people and is characterised by memory problems and broader problems with thinking and understanding. Dementia will be discussed in Study Session 15.
- **Epilepsy**: this is a chronic or longstanding condition caused by abnormal electrical conductions in the brain. In its most obvious form, it is characterised by episodic loss of consciousness and repetitive jerky movements of the body. The various forms of epilepsy are described in Study Session 15.

Mania is included under psychosis in the WHO list. The two are separated here for clarity.

Methods of assessment for all the conditions listed in Box 10.1 are detailed in their respective study sessions and some general assessment principles are provided in Study Session 11.

10.2 When to suspect a mental health problem

All encounters with people in your community should be taken as an opportunity to assess for the presence of a possible mental disorder. Usually a brief conversation during your house-to-house visits should give you some clue as to whether there might be a problem with mental illness.

In many cases, you will find that there are social factors that are causing the person distress, such as conflict within the family, problems with neighbours, loss (e.g. someone dying), unemployment or financial difficulties. Some people will have experienced serious problems while growing up. Others will be affected by a chronic medical condition or chronic pain that leaves them in a state of constant stress. In a very few cases, you may also find that there is a history of mental disorder in the family.

When circumstances like those described above are present, it is legitimate to suspect a mental disorder. For example, when someone comes to you complaining of persistent headaches, backache and/or abdominal discomfort, and medical investigations have eliminated any physical cause of the problems, you should consider the possibility that these might be symptoms of a mental disorder. A mental disorder is particularly likely when these complaints are combined with difficult social circumstances.

10.3 Common symptoms of severe mental illness

As the name indicates, a person with SMI has a severe illness that interferes with their life in a substantial way. Only a small proportion of those with mental disorder have an SMI. The symptoms and features of SMI are described in Box 10.2.

Box 10.2 Common symptoms of a person with SMI

- **Delusions:** believing things that are untrue, for example that people are in love with them, or that people are trying to poison them
- **Hallucinations:** hearing or seeing things that no one else can hear or see
- Agitation and restlessness
- Withdrawal and lack of interest
- Increased speed of talking
- Irritable mood (getting angry easily)
- Grand ideas (out of keeping with reality)
- Talking in a way that does not seem to make sense
- Poor self-care (not related to poverty).

When you find two or more of the symptoms listed in Box 10.2, an SMI is likely. However, you need to retain an open mind because it is also the case that, when these symptoms occur *acutely*, i.e. they arose all of a sudden and have been present for less than a week, these same symptoms could be due to another serious medical condition such as malaria, meningitis or pneumonia. Alternatively, when these symptoms are exhibited by a person who drinks a lot of alcohol, they could also be due to changes in the brain caused by drinking. Therefore, it is very important that your assessment is thorough and that you do not confuse physical illness and mental illness in identifying the underlying causes of severe symptoms. The failure to detect and treat malaria, meningitis or pneumonia quickly could result in the patient dying within hours or days.

10.3.1 What to look out for in a person with SMI

This is very similar to what you do when you meet someone you have not seen for a long time. You are curious and you want to find out what has changed in that person over the years. You notice the way they approach you, whether they look interested in you, how they are dressed and how they appear more generally (whether they have taken good care of themselves, whether they have lost or put on weight, etc.), whether they seem kind or careless and so on. Similarly, it is important to be natural and have some

curiosity when you see someone whom you suspect to have a mental illness. The main difference is that you try to be more systematic in your approach when you see someone with a potential mental illness. The following guidelines will help you to do this.

Appearance

How does the person appear? Are they calm and dressed appropriately? Are they as clean and tidy as you would expect them to be? Do their actions seem restless and agitated or, the opposite, tired and seemingly slowed down? Do they look physically sick? Do they behave aggressively? Do they appear suspicious of you or others? Do they look at you openly or do they look down or away all of the time, avoiding eye contact? Do they seem to talk or laugh to themselves for no obvious reason?

Speech

Does the person speak at all? Can you make sense of what they say, and how easy is it to understand what they are saying? Do they speak too loudly or too quietly, or does the volume of their voice seem normal?

Emotion

Does the person appear or act in a way that is unusually or inappropriately over-cheerful (too happy), or do they seem very sad for no clear reason? Do they behave in a fearful or aggressive manner?

Thinking

Listen carefully to the content of what people say, because this provides a clue to how they are thinking. What does the person worry about? How much do they worry? Are these worries common to most people, or do they seem extreme or at odds with reality?

Perception

This refers to the person's ability to connect with the outside world through their *sensory organs* (eyes, ears, etc.). You should attend carefully to find out whether the patient's hearing, sight, smell, taste, touch and/or other sensations have been affected. When a person perceives things that are not really happening this is usually called a hallucination (look back at Box 10.2). Ask the person and/or their family if he or she sees or experiences things that might indicate they are having hallucinations.

Insight

This refers to whether the person is aware that they have a problem. For example, the man who fears his wife is being unfaithful may believe this is true, even when the evidence strongly contradicts him. In such circumstances he is likely to be unaware that what he thinks about his wife is a symptom of his mental illness: he lacks insight.

There are many more abnormalities a person with mental illness may have, but most people with SMI tend to have one or more of those listed above. You will learn more about what you should do when you suspect someone has a mental illness in Study Session 11. Mental illnesses are not without risk. We will now first discuss how you can manage the risks associated with mental illness.

10.4 Assessing the general risks from mental illness

Concerns about risk in relation to mental illness relates to the management of potential harm. Here 'harm' has several distinct meanings, depending on the form it takes and at whom it is directed. There are three broad categories of risk: risk to self, risk to others and risk to property. Hence, **risk management** means thinking about the harm posed to the mentally ill person as a direct or indirect result of their mental illness (including self-inflicted injury and harm caused to the ill person by others), and about the harm that those with mental illnesses might pose to other people or property (Figure 10.4). These risks are more common in people with SMI, although they can occur with any form of mental illness.

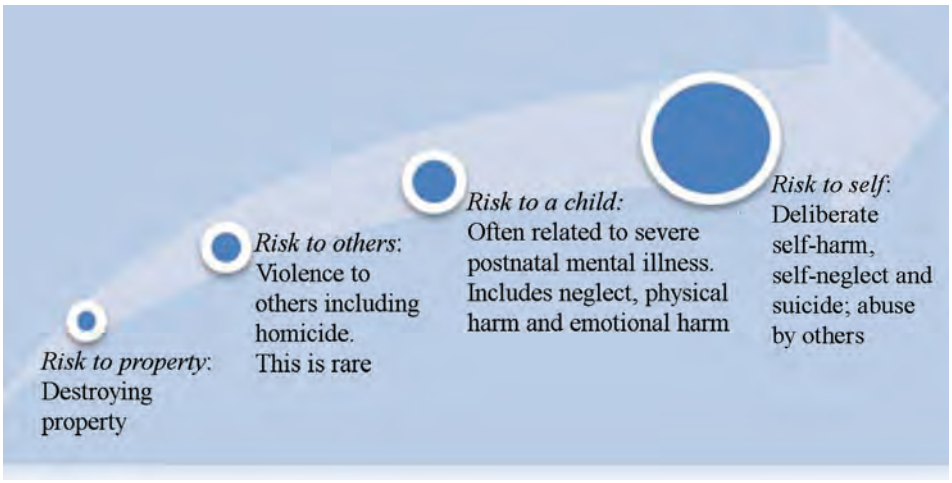


Figure 10.4 The range of potential risks associated with mental illness.

It is important to realise that the fear of people with mental illness is far worse than the evidence suggests it should be. People with mental illness rarely pose a risk to others, although this is unfortunately not understood by many of the general public, who continue to hold irrational fears about people with mental illness. In fact, people with mental illnesses are far more likely to be attacked and abused by others than they are to behave aggressively or violently themselves. In Ethiopia, people with SMI tend to die from injury-related causes much more often than others in the general population. This is also reflected in the fact that the most common form of harm associated with mental illness is self-harm through neglect.

10.4.1 The main risks in mental illness

However, this does not mean that risks to others, though rare, should be dismissed from the mind altogether. For example, if a new mother experiences a severe mental disorder, such as acute postnatal depression, you must keep in mind the potential risk to the newborn baby. The mother may fail to look after or feed the baby as she would otherwise do (Figure 10.5) and, without the support of others (including yourself), the baby could be at risk of neglect. In the most extreme (and rarest) of cases, the mother may also harm or even kill her baby. When a mother has such severe symptoms of mental illness, you should try to locate other family members or close friends who can offer the mother support by taking on some caring responsibilities for the baby.

Figure 10.5 Postnatal depression can cause a mother to neglect her newborn baby. Postnatal depression was discussed in Study Session 5 of the Module on *Postnatal Care*.

The main risks arising from mental illness are summarised in Table 10.1, together with a brief indication of how you would assess them. You will learn about risk assessment in more detail in Study Session 11.

Table 10.1 Major risks related to mental disorders and their risk assessment.

Risk	**Risk assessment**
Risk of suicide	Any mental disorder increases risk of suicide. Ask gently but directly about it (see Study Session 18).
Risk of self-neglect	In this case, the person may not eat and drink enough or dress appropriately, wander the streets disregarding the weather, sleep rough and so on (see Figure 10.6). Such self-neglect is more common with severe mental disorders. You can ask the family or the patient directly if they are eating enough and/or looking after themselves.
Risk of violence	Very uncommon. Ask what triggers the violence and explore past history. If there is a past history of violence, or if violence occurs for no obvious reason, this increases the risk of further violent behaviour in the future. Also check if incidents of violence have been related to the misuse of substances such as alcohol or khat. Addressing this misuse may substantially reduce the risk posed.
Risk to children and other dependents	If children or other dependents (for example elderly or sick people) are living in a house alongside someone with serious mental illness, ask how they find living with this person. Specifically, ask if there are frequent conflicts, any assaults or times when they feel particularly threatened; try to involve the neighbours in answering these questions. If you find there is a risk to children or other dependents, ask what is being done to address it. Make sure the person is receiving the appropriate treatment.
Risk of abuse	Commonly, persons with SMI are likely to be the victims of abuse or violence. Many are stigmatised, insulted and even physically abused because of their condition. This risk is primarily tackled by educating the community about mental health issues.

Figure 10.6 Self-neglect is a major risk related to mental illness. (Photo: Basiro Davey)

10.5 Assessing the risk of suicide and self-harm

Assessing the risk of suicide is perhaps the most important part of risk assessment. Suicide is an act that cannot be reversed. You cannot do anything for the person once they are dead. The main strategies for suicide, therefore, emphasise effective prevention by identifying and treating people early when they are at risk of committing suicide.

The need to assess the risk arises in two situations:

- when someone has indications of significant mental illness, such as depression or alcohol abuse
- after someone has tried to end their life in the past.

In both these situations, there are some common risk indicators, for example being jobless, of lower educational status and being in either a younger or an older age group. These are discussed in more detail in Study Session 18. The risk of suicide has to be considered to some extent in all cases of mental illness, particularly those priority conditions listed in Box 10.1. The main risk indicators for someone with mental illness are shown in Box. 10.3.

Box 10.3 Suicide risk indicators in people with mental illness

- *Suicidal thoughts*: if a person tells you they are thinking about suicide, you should take this very seriously; about 66% of those who commit suicide have previously told someone about their intention.
- *Severity of mental illness*: the more severe the illness, the higher the risk of suicide. Someone young with a severe mental illness like psychosis, may be at increased risk if they have developed awareness about how ill they are; this is particularly the case if they also develop depressive symptoms (Study Session 12).
- *Substance misuse*: the risk increases when the person also misuses substances like alcohol and khat.
- *Social isolation and lack of support*: for example, when someone does not have family to care for them, is single, and/or jobless. Marriage reinforced by children is thought to be a protective factor in relation to the risk of suicide.
- *History of suicide attempts or self-harm:* the risk is increased if there have been previous attempts.

The terms 'self-harm' and 'suicide attempt' are used here interchangeably.

When someone has already attempted suicide, their risk of suicide is about 100 times higher than that in the general population. This risk is particularly high in the first year after the original attempt. It is therefore crucial that you closely monitor the risk of suicide after an attempt has been made. Be open with the patient, asking about the risk as a matter of fact.

Most people who self-harm do not intend to kill themselves or end their life. In low-income countries like Ethiopia, many die even when they don't intend to do so. This is because the methods they use to self-harm are dangerous. For example, certain poisons, such as pesticides used by farmers, are fatal if swallowed unless the person gets immediate medical help – which is not available in most rural communities.

In Ethiopia, up to 20% of individuals self-harming may end up dying. This figure is about 1% in high-income countries. It is therefore important to identify people who self-harm. Box 10.4 lists some factors that indicate a risk for serious self-harm. Establishing the intent of the person when they self-harmed (whether they were intending to die, or self-harming to indicate their mental distress), gives you a good clue about future risk. If there are indicators of a serious intent to end their life, the risk of successful suicide in the future is high.

Box 10.4 Risk indicators for life-threatening self-harm

- *Preparation for self-harm*: someone who has taken time to plan, considered the consequences of their actions, said goodbye to people or taken precautions to avoid being discovered by others represents a much higher risk than a person who self-harms without much thinking about it (i.e. self-harm as an 'impulsive' act).
- *Seriousness of the method used to self-harm*: violent methods such as hanging, stabbing or throwing oneself into deep water are considered serious and indicate higher risk.
- *Current mental illness*: at least 60% of people who self-harm have some form of mental illness.
- *Factors that reduce self-control*: the use of alcohol or other drugs, or having an impulsive personality, reduce self-control and increase the risk of serious self-harm.
- *Presence of ongoing 'real life' difficulties*: marital problems, financial problems, difficulties at work, or other problems in daily life increase the risk of self-harm.

Note that the factors described in Box 10.3 are also important.

10.5.1 Questions to ask someone who has self-harmed

You need to be both sensitive and direct when you ask about suicide. Suicide is a difficult or 'taboo' issue which many people find difficult to talk about, particularly in public. You should talk to the person alone and question them gently. If you are talking to the person after they have just attempted suicide, they are likely to be feeling a range of powerful emotions, including shame and despair. Other people may make these feelings worse by criticising them for being cruel and/or selfish. It is important that you counteract this. Tell the person that things must have been tough for them to try to end their life. After listening carefully to their response, you can proceed to ask them direct questions about the suicide attempt. Asking about suicide does not increase the risk of suicide. In fact, some people feel relieved they are being asked.

Activity 10.1 Posing questions based on the self-harm risk indicators

Read the risk indicators for self-harm in Box 10.4 once again. Then write down some appropriate questions to ask a person who has self-harmed, based on each of the five indicators highlighted in the bullet points. Then compare your questions with our suggestions below.

Answer

You may have suggested equally good (or better) questions than those below:

Preparation: What triggered this action? How long did it take you to attempt it from the time you actually thought about it? Did you worry that people might find out? Did you say goodbye to your loved ones?

Method: At this stage you would know what method they used but you would not necessarily know the details. Ask about these details. If you did not know the method, you should also ask: what did you use to injure yourself? You can then ask if they required treatment for the injury, and if so, what it was. You may also ask if the person has ever done something similar in the past. This assesses the history of self-harm (see Box 10.3).

Current mental illness: Has anyone ever discussed the possibility that you might have a mental health problem?

Factors causing loss of control: Were you drinking alcohol or chewing khat before you tried to injure yourself?

Ongoing difficulties: Are there stresses or difficulties in your life, for example, problems at home or not having enough money?

Study Session 18 (Section 18.4) includes practical advice on how to reduce the risk of suicide.

Additionally, ask them about their *intention* when they self-harmed. You can, for example, ask: What did you hope would happen when you cut yourself with a knife? Now that you have survived, what do you think about what you did? Are you relieved that you did not die? If the person tells you that they are disappointed that they survived, this indicates a continuing high risk.

10.5.2 Asking about possible suicide when someone has a mental illness

As stated earlier, suicide and self-harm are significant risks in people with SMIs. In order to investigate the risk in an individual patient, you should gently ask about their view of the future, their sense of self-worth and, when your relationship of trust is well established, whether they experience upsetting or persistent thoughts about death, including possible suicide. Examples of questions you can use to help investigate these difficult issues are provided in Box 10.5.

Box 10.5 Questions to help assess the risk of suicide in someone with a mental illness

- How do you see the future?
- Do you think things will get better for you?
- Are there times when you feel you have had enough of life itself?
- Are there times when you wish you were dead, or when you feel it would be better if you had died?
- I know this may be a difficult question, but have you even considered ending your own life?
- If you have thought of suicide, have you thought how you might do it?

If the person answers yes to any of the last three questions, you must refer them to a higher health facility for further assessment.

In this study session you have learned some important principles of mental health assessments, especially about the risks associated with mental illness. In the next study session we continue the theme of mental health assessment more generally.

Summary of Study Session 10

In Study Session 10, you have learned that:

1 People with severe mental illness (SMI) pose more of a threat to themselves, through neglect and self-harm, than they are a risk to others; and they may be at significant risk of abuse by others.

2 The WHO priority mental disorders identified as treatable or capable of being modified by treatment are psychosis and mania, depression, suicide, substance abuse, childhood mental disorders, dementia and epilepsy.

3 The main purpose of your discussions with a person with a possible or actual mental illness is to understand their problems and to assess the risk they may pose to themselves or to others.

4 When talking to a person with a possible SMI, pay attention to their appearance, speech, emotions, thinking, perception and insight, and their intentions if they have self-harmed.

5 Careful and sensitive questioning can help to screen a person for the possible signs of mental illness and assess the risks of self-harm or suicide.

6 The risk indicators for repeated self-harm include making preparations for suicide, previous attempts, using a violent method, substance abuse, and presence of ongoing difficulties in their life.

Self-Assessment Questions (SAQs) for Study Session 10

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of the Module.

First read Case Study 10.1 and then answer the questions that follow it.

Case Study 10.1 Mrs Chaltu's story

Mrs Chaltu is a 30-year-old woman living on the outskirts of Adama city. She went to Adama when she was 20 after a hasty marriage to a man she had known only briefly. The family were not happy with the marriage, believing that a longer engagement would have been more appropriate. Lacking support from the family, the marriage has proven difficult and her husband has struggled to sustain paid employment. Mrs Chaltu has become more worried about her life and future in general. They do not have any children and this is a source of sadness to Mrs Chaltu.

Recently, her elder sister – whom she loves very much – told her she was going to visit. They had not seen each other for two years because they live far away from each other, the bus journey takes several hours. Mrs Chaltu was very excited about seeing her sister, but when she was preparing the house before going to the bus station, she received a phone call from her sister saying she could not come because of some personal difficulties. Chaltu was so upset by this that she picked up the barakina (chlorinated bleaching liquid) she was using to clean the house and began drinking it. Chaltu was found by her husband before she had drunk very much of the liquid, and she received prompt medical treatment which saved her life.

Figure 10.7 Chaltu is drinking barakina to self-harm following a difficult time in her life and a sudden significant disappointment.

SAQ 10.1 (tests Learning Outcomes 10.1, 10.2 and 10.3)

Describe the main symptoms that Mrs Chaltu presents with and identify to which priority mental health disorder(s) they are likely to relate.

SAQ 10.2 (tests Learning Outcomes 10.4 and 10.5)

What more do you need to know about Mrs Chaltu before you can assess the level of suicide risk more accurately? Describe some of the questions you would ask Mrs Chaltu to try to assess the level of future risk of self-harm or suicide.

Study Session 11 General Management Principles in Mental Health Care

Introduction

As described in Study Session 9, mental illnesses are common in the community. However, most communities in Ethiopia receive little benefit from either general health services or the scarcely available mental health services. This may be because of lack of knowledge, skill and attitude, both among healthworkers and in society at large. Therefore, your training will help you in identifying and giving care to people with mental health problems. In this study session you will learn about ways to talk to clients, how to identify their problems and needs, recognise and handle emergency psychiatric conditions and help clients to cooperate in accepting medicines and other treatment methods. We will also discuss how to follow up on cases.

Learning Outcomes for Study Session 11

When you have studied this session, you should be able to:

11.1 Define and use correctly all of the key words printed in **bold**. (SAQs 11.1 and 11.2)

11.2 Outline the key principles of how to approach people with mental illness. (SAQ 11.1)

11.3 Describe how people with a mental illness can be identified. (SAQs 11.2 and 11.3)

11.4 Describe the emergency management of urgent mental health problems. (SAQs 11.2 and 11.3)

11.5 Describe the referral process for people with mental health problems and how these clients should be followed up in the longer term. (SAQs 11.3 and 11.4)

11.1 General approaches to people with mental health problems

To be able to help people with a mental illness it is important to think carefully about how you approach people with mental health problems. In your practice, when you see a person with a mental illness, you may show emotional reactions, which directly or indirectly determine your approach to the client. A common response is to try to keep away or avoid them. Many people may think: 'Why should I bother, he is mad'. However, with this approach it is difficult for clients to develop trust in you and they may therefore be unlikely to accept your help. Many clients recognise and understand your reactions and respond accordingly. If you trust them and treat them with love and affection, they will also do the same towards you. If you are helpful, they will cooperate. People with mental health problems like to be treated as responsible and respectable individuals. You should treat them as individuals who are in real need of your understanding and help. A good starting point is to ask them about their problems and listen to them patiently (see Figure 11.1).

Figure 11.1 A healthworker interviewing a client at home.

After the client has given their version of their problems, obtain information from their family members regarding how they see the problems. If you find differences between the two accounts, do not get alarmed or angry. Draw their attention to the discrepancies and kindly request them to clarify the issues for you, so you understand their points of view. When you are interviewing the client or the family members, ask the essential questions without going into unnecessary details. It is important to develop your skills in recognising, identifying and giving care to people with mental illness. Below we outline a few key principles in how to approach people with mental health problems and their relatives.

11.1.1 Listening with interest

Your ears are two of your most important tools.

For a good understanding of your clients' problems it is necessary to listen to them with interest and patience. People like to relate their own personal feelings and ideas. It is important to provide adequate privacy and give the clients ample time to tell their story. **Active listening** involves careful attention not just to what is being said but also to how it is said and to the feelings expressed by your client. Based on what you hear and observe you can then adjust your response to the client. To show your client that you are an active listener it can also be helpful to refer to earlier conversations and discussions. Active listening requires respect for the client's view even if you do not agree with them.

11.1.2 Acceptance people's beliefs

Every community has a rich experience and varying views and beliefs on all aspects of life, including mental health problems. These views and beliefs are often embedded in the community's history and shaped by observations and events that happened in the past.

- In your past life or work experience you may have come across people with serious medical conditions, such as epilepsy. Recall one such situation and describe what people in the local community thought was the cause of this illness. You may also want to refer back to Section 9.2.2 in Study Session 9, on explanatory models and cultural context, before answering this question.

- We don't know what exact situation and medical condition you recalled, and the people in your local community may have responded in different ways. One common belief in rural Ethiopia is that epilepsy is caused by being possessed by the devil. The person with epilepsy or their family may therefore think that medical treatment is unnecessary.

A simple technique to understand what people think about mental health is to ask them a specific question and allow them to narrate their views in their own words without too many interruptions. It is important to accept that people may have different ideas about mental health. This respect for the existing values and beliefs allows you to subsequently plan and execute your care. For example, in the situation described above, about the person with epilepsy who thinks they are possessed by the devil, you would make sure to give your client some essential education about epilepsy and encourage them to take appropriate drug treatment. The topic of epilepsy is discussed in more detail in Study Session 15.

11.1.3 Interest in individuals

Any activity carried out with interest is likely to give better results. You will regularly visit families in your catchment area as part of various healthcare activities. When you do, it would be helpful to know their names, their family situation, and their individual circumstances, and to speak to them about their backgrounds. This helps in building a relationship with your clients and will make them feel more comfortable, so that they are more likely to share their problems with you. Knowing about the history of your client also helps in devising an appropriate treatment plan.

11.1.4 Encouraging emotional expression

Your job may expose you to individuals who have experienced traumatic events, such as illnesses, accidents or the death of someone they love. As a consequence your client can appear to be emotionally very upset. You should encourage the expression of emotions by asking your client about their feelings, their fears and the effect the event has had on their life. Such emotional expression is part of the treatment and may relieve their stress. Sometimes your client's emotion may be expressed in the form of irritation, anger or crying. When this happens it is important to remain patient and try not to criticise or judge your client.

11.1.5 Recognition of the needs of people with mental health problems

As a consequence of their mental illness, people with mental health problems often have difficulty with functioning in normal daily life. They are likely to want more attention, love and affection. They may also complain a lot and express dissatisfaction with their family and other significant individuals. This does not mean that the individual is finding fault with others and should not be responded to in any judgemental manner. In such situations you can react by saying it is understandable to feel this way when having such an illness.

11.1.6 Reassurance

Mental health problems can be very unexpected and stressful. These problems may make your client and their relatives feel very uncertain about the situation; it is natural for everyone to expect support during this period. Reassurance from someone like you who knows what is happening and whom they can trust can be valuable to help them to get over a crisis situation. You should always provide reassurance where you can, for instance by informing your client and their family about the lack of harmful effects of medicines. However, it is best to avoid unrealistic reassurance in situations beyond your capacity.

11.1.7 Non-judgemental attitude

You may be approached by many people from your local community, because most people feel comfortable with healthworkers. In your role it is important to avoid quick judgements and telling people that they are right or wrong. At no point should you refer to the public as unintelligent, illiterate, dumb, or useless. Instead, your efforts as a healthworker are essential in bringing about changes in people's attitudes and knowledge about mental health. You are there to assist everyone to achieve a higher level of health by providing care and health education.

11.1.8 Maintain confidentiality

As a healthworker, you are likely to get private and sensitive information from a client during the assessment and management process. It is very important to maintain **confidentiality**, that is, to keep the information private and not to share it with anyone outside the medical team involved in taking care of the person. Your duty is to assure clients that their information will be kept confidential and to ensure that it remains so. This will help in building trust between you and your client.

11.2 Management of people with mental illness

Many people with mental health problems do not get any meaningful treatment. Along with your regular healthcare responsibilities, there are several steps you can undertake to help (see also Figure 11.2):

- Identify all the persons with mental illness and epilepsy in the population covered by you.
- Provide necessary care including emergency care.
- Refer the identified persons to the next level health centre or hospital.
- Conduct regular follow-ups with the patient and their family members to check how they are doing, and to enquire about possible adverse effects of medication and adherence to treatment.

Each of these aspects of mental health management will be discussed in more detail in the remainder of this study session.

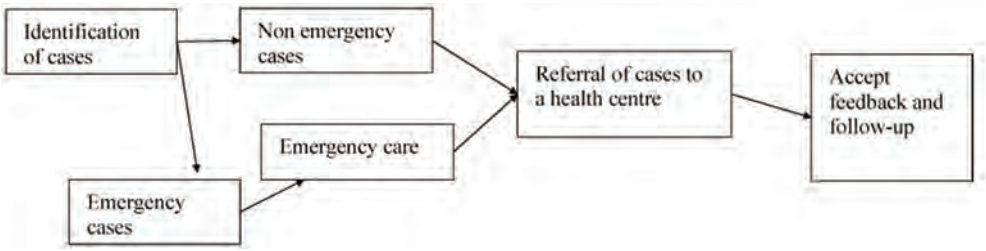


Figure 11.2 Schematic representation of the process of mental health management.

11.2.1 Identification of people with mental illness in the community

In order to identify people with mental health problems, you should perform routine enquiries during your practice in the community. You can identify people with mental health problems during your daily work. For instance, when you go to a village for your routine work, talk to important people like the village *shimagle*, neighbours, *kebele* or village leaders, teachers, youth leaders, women's association leaders and shopkeepers. Ask them to tell you about individuals they hear saying they are possessed or bewitched, or who appear to be suffering from a mental health problem. Inform them that these conditions can be helped and that such help is available at the nearest higher-level health facility. Request them to refer such people to you or to the nearest health centre or hospital. Every time you meet them, remind them to do this.

Likewise, when you visit people's homes, ask tactful questions (without offending any family members) to obtain information about anyone in that family or neighbourhood who may be suffering from mental health problems. When you go to a school to carry out school health activities, ask teachers and students about any children who have fits, or have behavioural or learning problems. Lastly, it is important to be sensitive to possible mental health problems in those who contact you for other health-related problems.

Using this approach, you can identify people who may need help during your routine duties. Make sure that you identify who they are and get their details, so that you can refer them to a doctor who specialises in diagnosing and treating mental health problems (see Section 11.2.3).

- Suppose that on one of your village visits the village leader informs you that Mr Abdissa appeared to be drunk frequently in the last few weeks. You decide to pay Mr Abdissa a visit to see how he is doing. Based on what you have so far learned in Study Sessions 10 and 11, what kinds of questions would you ask Mr Abdissa?

- As you may recall from what you have learned so far, it is important to show an interest in the people in your village and to be an active listener. Before asking Mr Abdissa sensitive questions about his problems, you would start making friendly conversation, for instance about village events, or how Mr Abdissa's crops are growing. After having created a friendly atmosphere you would try to get to know more about Mr Abdissa's possible alcohol problems by asking questions such as: 'Have you been worried about drinking too much alcohol recently?' and 'How much money and time have you been spending on alcohol recently?'

In your work you may encounter individuals who need emergency care. In the next section we will discuss how you can manage these situations.

11.2.2 Care of people with emergency mental health conditions

You may be in situations where people will be in need of urgent help but the doctor is too far away or not available. Under these circumstances, you must offer immediate help. In this section we will describe four different situations in which urgent help is needed, and what you should do in these circumstances.

Agitated and violent person

People with **agitated and violent behaviour** are individuals who are restless, unable to sit still, angry looking and who threaten to attack. Because of the threat of violence this is an emergency situation and you will need to use special techniques to approach them. Box 11.1 (on the next page) explains how you could manage a situation like this.

Box 11.1 How to deal with a violent or agitated person

- Get help from someone in whom the person has confidence.
- Advise others not to talk or behave in a way that might irritate or provoke the person.
- Tell individuals whom the person does not like to keep away.
- Keep some distance from the person while you try to find out what the reasons are for their anger and what is troubling them.
- Try to gain the person's confidence by asking them: 'What are your problems? Why are you so angry? What is troubling you? I am here to help you.'
- Do not argue with the person or provoke them.
- When the person calms down, see that he or she takes some fluids and food.
- Try to convince them that they need medication and that it is better if they see the doctor.
- If the person is not in a position to listen to you, organise people to throw a blanket, *gabi* or *netela* on the person and hold them with the help of others. Take them to the hospital immediately.
- Do not use thread, rope or chain to restrain the person. If necessary, use only a towel or long cloth to tie their hands.

Withdrawn person

A **withdrawn person** is someone who avoids any form of social contact. This may be caused by the presence of suicidal thoughts or plans. Whenever someone threatens to kill themselves, take their words seriously (see Section 10.5 in the previous Study Session). Make sure that there is always someone else present with the person until they are taken to a doctor. Box 11.2 helps you to know what to do when you see a withdrawn person.

Box 11.2 What to do when you see a withdrawn person

- Take time to talk to the person as they may have a delayed response.
- Persuade them to eat something.
- Ask family members for possible reasons for withdrawal.
- Find out whether they feel like ending their life, and if so, try to find out what the reasons are for the suicidal thoughts.
- Listen with sympathy, encourage the person to talk about their problems in detail, and reassure them that you will assist them to solve the problems.
- Take the person to the doctor yourself or refer them immediately, along with a supportive relative or friend.

Paranoid person

You may come across people who have disturbed thoughts. They may be suspicious of other people's motives, and may think all other people are against them. They may have delusions (as part of psychosis) or the suspiciousness may be due to alcohol abuse or depression. It may not be easy to approach a person in a paranoid state, because they might think you are one of the people who are against them. You must be careful how you go about it; the methods outlined in Box 11.3 may serve as your guidelines.

Box 11.3 What to do when you meet a paranoid person

- Be fair and honest. Do not tell lies or hide information.
- Do not question the person's beliefs or suspicions. Do not tell them that their beliefs are wrong, baseless or false.
- Allow the person to talk about their suspicions. Collect more information. Do not pass judgement on them.
- Draw their attention towards their possible other problems, like sleeplessness, decreased appetite, etc. Try to convince the person to see the doctor and to take necessary medication.

Confused person

Persons with extreme **confusion** may not recognise the time of the day, where they are or where they live, or may not recognise people they have known before. Confusion may be caused by head injury, infectious disease, alcohol withdrawal, or diabetes mellitus, but could also be due to other causes. It is important that you recognise people who are in a confused state, as they need a quick evaluation and urgent referral to a health centre or hospital (see Box 11.4).

Box 11.4 What to do when you see person in a confused state

- Find out whether the person had jerky movements of the limbs. The confused state could be the consequence of an epileptic fit.
- Find out whether the person is a known case of diabetes or high blood pressure.
- Enquire whether the person has had a recent head injury or has consumed alcohol.
- Tactfully find out whether the person has consumed drugs (perhaps with the intention to commit suicide).
- Examine the person to see if they have high fever.
- All people with significant levels of confusion should be referred to a health centre as soon as possible.
- Because of the risk for an epileptic fit, avoid giving drink or food.
- Avoid the presence of strangers and unwanted disturbances around the person as it may aggravate the confusion.

11.2.3 Referral

Following identification of the mental health problem and giving first aid if the person is injured or has hurt someone else (recall Study Session 7), you will need to refer the person to a health centre. In the case of an emergency situation the person should be referred to a health centre as quickly as possible. Find out who the leader of the family is and give this person the responsibility to get the patient to the health centre. You should accompany the patient whenever possible. Urgent cases need to be referred based on the referral criteria outlined in Box 11.5.

Box 11.5 General criteria for an emergency mental health referral

- Severe illness, violent and unmanageable at home
- History of recent head injury
- Person has fever, severe headache, vomiting or fits
- Person has attempted suicide and is still threatening to commit suicide
- Person has frequent epileptic fits (more than 3 times a day or continuously).
- A mother shows disturbed behaviour following childbirth (see Study Session 13 in this Module and Study Session 3 in the Module on *Postnatal Care*).

Figure 11.3 A man with mental illness taking his medication.

When the situation is not urgent you can refer the person using the regular referral route. In this case you should send a referral note to the doctor giving all the relevant details you have noted. During your next visit to that family, find out whether they consulted the doctor. If they have not done so, find out the reasons why and encourage them to still do so.

11.2.4 Follow-up

Following your referral, the doctor at the higher health facility will examine the person with mental health problems, diagnose the nature of the illness and prescribe the appropriate treatment if necessary. After the treatment is initiated (Figure 11.3) it is essential to have follow-up visits to your clients and their family members to discuss how they are doing. Follow-up is important to achieve adherence to treatment and improve the overall outcome. If for any reason the patient discontinues the prescribed treatment, all your efforts and the efforts of the doctor and the family members will have been fruitless. Box 11.6 outlines some of the questions you should go through during the follow-up visits to a client who has been on prescribed medication.

Box 11.6 Questions to ask during follow-up

- Is the client taking their medicines regularly as prescribed?
- How much improvement has the client made?
- Has the client developed any side effects following the drug use?
- Has the client started working again?
- Has the client seen the doctor for follow-up and review?

Based on the information you collect during the follow-up visits, you may identify some continuing issues that need to be addressed. In the remainder of this section we will discuss how you can deal with some of the problems that are likely to arise during follow-up of clients who are taking medication.

Adverse effects of medication

Some of the people who take medication to treat their mental illnesses may experience **unwanted effects** (also known as *adverse* effects). Different types of medical drugs are used to treat different mental health problems, and some drugs may produce side effects that are unpleasant to the client. Some of these effects are mild, in which case you can reassure the patient; for example, when a client complains about dryness of the mouth, light-headedness or constipation, reassure them that it is temporary. Dryness of the mouth can be helped by taking more water. However, severe unwanted effects, such as unclear speech, walking unsteadily like a drunken person, stiffness of the limbs, or twitching of the tongue, mouth, neck, hands or legs can also occur in some people. A patient may also experience drooling of saliva or drowsiness. If any of these side effects occur you should refer the patient to the doctor immediately. Any necessary changes in the drug dosage will be carried out by the doctor.

When a person is very agitated they are often put on a high dose of medication. As they get better over time a lower dose is needed to adjust to the new situation. Because of the risk of **relapse** (return of the previous symptoms of mental illness), the drugs should not be stopped suddenly. Similarly, people who are very sad and depressed and receive drugs to treat their problems should not suddenly stop their treatment when they start to feel better. Instead the drugs should be reduced gradually and then stopped, always in consultation with the doctor, to avoid relapse.

Making sure your client takes their medication

For a very ill or unmanageable person, one member of the household should be made responsible to make sure that the patient takes their medication. A neighbour or any other individual in the village who is close to the patient could also be given this responsibility. If the family is taking less interest in treating the person with mental illness, or if the family mainly has faith in traditional cultural methods of treatments talk to them repeatedly to convince them to (also) accept modern treatments for the patient. Geographical distance, financial difficulties and absence of a family member to accompany the patient to the health centre can also be reasons for not starting or continuing medication. You can solve these problems by mobilising other help, such as another person from the same village. In some cases, you could collect the drugs from the doctor yourself and deliver them to your client directly.

A person with mental health problems who shows improvement over time is the best example for others. Use these examples to demonstrate the value of modern treatment to other people with mental health problems and to the people in your community in general.

Summary of Study Session 11

In Study Session 11, you have learned that:

1 In the process of helping people with mental illness, it is important to recognise your own reaction towards your client and try to control it. Your clients are sensitive to your approach and respond accordingly.

2 Calling the client by their name, listening to them with interest, understanding and respecting their views about illness are some important principles of a good approach to people with mental health problems.

3 There are several methods, such as talking to relevant individuals in your community, to identify people with mental health problems.

4 There are situations that require emergency care. You should respond to these situations in different ways depending on the type of problems observed. Emergency situations require an urgent referral; non-emergency cases can be referred using the regular referral system.

5 After a person with mental health problems is identified and referred to the health centre, they should be followed up to ensure their future wellbeing.

Self-Assessment Questions (SAQs) for Study Session 11

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 11.1 (tests Learning Outcomes 11.1 and 11.2)

Which of the following statements are false? In each case explain why it is incorrect.

A Clients who receive medication for their aggressive behaviour should be informed about the possible unwanted side effects of the treatment.

B People with traditional beliefs like the idea that mental illness is caused by a curse should be directly challenged and told they are wrong and silly.

C If a patient behaves aggressively you should apply physical punishment.

D Encouraging emotional expression and keeping a client's sensitive information confidential are two principles of a good approach.

SAQ 11.2 (tests Learning Outcomes 11.1, 11.3 and 11.4)

Neighbours of Mr Teklu reported to you that they have heard him talking loudly when there was no one there. He thinks everyone in the neighbourhood is against him. Identify what type of problem Mr Teklu has and what you can do in this situation.

SAQ 11.3 (tests Learning Outcomes 11.3, 11.4 and 11.5)

(a) While doing your routine health care activity, you meet Mrs Mulu, a 27-year-old married mother of one, who acts in a confused way. You are informed that she has fallen on her head following a fit. Explain what Mrs Mulu's problems are and how you should proceed.

(b) A few months later you meet Mrs Mulu again. After a period of treatment, Mrs Mulu failed to take her medication and developed frequent fits that took a long time before she regained consciousness. How should you handle this new situation and prevent it from happening again in the future?

SAQ 11.4 (tests Learning Outcome 11.5)

Suppose a man with psychosis has received treatment at Amanuel Hospital with a drug called chlorpromazine. After treatment he improved and was sent to you for follow-up. List which aspects are important to discuss during follow-up.

Study Session 12 When Somebody has Low Mood or Depression

Introduction

Depression, a mental illness characterised by low mood (sad mood), is one of the most serious and common mental disorders. In your practice you will see many people with depression: as many as 1 in every 10 adults and possibly 1 in every 30 children that you see on your house-to-house visits may have depression.

It is normally easy to identify people with depression in your community. However, it is important to realise that low mood is also part of a normal human experience, and fortunately in most people low mood does not develop into a serious depression. In this session you will learn about the common presentations of depression, the common causes of depression and what you should do if you suspect depression in a person in your community.

Learning Outcomes for Study Session 12

When you have studied this session, you should be able to:

12.1 Define and use correctly all of the key words printed in **bold**. (SAQ 12.1)

12.2 Describe what depression is and how it commonly presents. (SAQs 12.1 and 12.2)

12.3 Describe the common causes of developing low mood. (SAQ 12.3)

12.4 Explain how you talk with someone who has depression. (SAQ 12.4)

12.5 State what to do if you suspect someone has depression. (SAQs 12.4 and 12.5)

12.1 What depression is and why it is important

Usually people's feeling state (**mood**) varies depending on the events that happen around them. Sad events such as sickness or the death of a loved one produce a sad mood. Happy events, such as attending a wedding, induce a happy mood. These changes in emotional state or mood enrich the experience and enjoyment of life and are normally under the control of the individual experiencing them. However, sometimes individuals lose control of these changes in their emotions (see Figure 12.1).

Figure 12.1 A depressed woman and man.

There are three ways in which such loss of control happens:

1 Their mood fails to change according to the circumstances, i.e., happy situations fail to induce happiness and sad situations fail to induce sadness.

2 Their mood changes excessively or for longer than it should, i.e., a sad event induces a much deeper level of sadness or protracted sadness, and a happy event induces excessive happiness.

3 Individuals develop intense sadness or happiness for no clear reason or unrelated to outside circumstances. When such loss of control over the emotions happens for a long time, it is likely to be an expression of depression (low mood) or mania. Mania is discussed in more detail in Study Session 13.

Depression is a serious illness. When a person is depressed, the person has feelings of sadness that are excessive for the situation that has brought them on or the sadness lasts for an unusually long time. These feelings are so severe that they interfere with daily life.

Depression is important because it affects many people and causes a high level of distress. It impairs a person's ability to deal with day-to-day problems or to carry out their responsibilities. People with depression have increased risk of death from suicide and from other physical conditions. Depression is also important because it is often under-recognised but can be treated.

About 15% of people in the world will have an episode of severe depression at some point in their lives. Women are more likely to develop depression although this has not been confirmed in Ethiopia.

Figure 12.2 Depression is a real illness and not a sign of weakness: known world leaders had it. The people depicted here (Abraham Lincoln, Mahatma Gandhi and Winston Churchill) all had depression at some point in their life.

Depression can affect people of all standing (Figure 12.2) and of any age, including children. A depressed person often loses interest in things that they used to enjoy or like. Depression can cause a wide variety of physical, psychological (mental) and social symptoms (summarised in Table 12.1).

Table 12.1 The main symptoms of depression.

Psychological symptoms	Biological/physical symptoms	Social symptoms
Continuous low mood or sadness Feelings of hopelessness and helplessness Low self-esteem Tearfulness Feelings of guilt Feeling irritable and intolerant of others Lack of motivation and little interest in things Difficulty making decisions Lack of enjoyment Suicidal thoughts or thoughts of harming someone else Feeling anxious or worried Reduced sex drive	Slowed movement or speech Change in appetite or weight (usually decreased, but sometimes increased) Constipation Unexplained aches and pains Lack of energy or lack of interest in sex Changes to the menstrual cycle Disturbed sleep patterns (for example, problems going to sleep or waking in the early hours of the morning)	Not performing well at work Taking part in fewer social activities and avoiding contact with friends Reduced hobbies and interests Difficulties in home and family life

12.2 How to assess a person with depression

For a variety of reasons it may sometimes be difficult to assess a person with depression. The person may not know that they are depressed and may therefore be unlikely to tell you about their low mood. Instead they will often complain about physical symptoms, such as headache and back pain. They may not feel like talking and you may feel pushed away by them. Some patients with depression are easily annoyed or irritable and you may find it difficult to talk to them. Finally, they may be feeling that nothing is going to help them and may think it is pointless to talk about their problems.

These are only examples of the potential barriers for assessing depression. Whenever you suspect that someone might have depression, ask directly about their mood. A person is very unlikely to be upset if you ask them directly if they have been feeling low or depressed.

- We have been talking about some of the symptoms a person with depression may have. In Study Session 10 you have learned about how to ask someone general screening questions about their mental health. Now can you stop and think what questions you would ask a person who may have depression?

- When you see a person who you think may have depression, just talk to the person in a natural way, listening to their problems and difficulties. This will give you the opportunity to understand the kinds of problems the person may be having as well as to explore their emotions. The questions you ask and the emphasis are likely to vary from person to person, but there are general and specific questions that you can use to screen for depression. Some simple questions that you can use are:

  - Have you been feeling sad or irritable?
  - Have you given up doing things that you normally like to do?
  - Since you started to feel sad or low, have you been feeling more tired than usual?

- Have you been sleeping normally or is there a problem with your sleep?
- Since you began to have a sad mood, has your appetite changed? Have you lost or gained weight recently?
- Have you been able to focus on things as well as you used to?
- Since you began feeling low, have you been feeling guilty or regretful about things that you have done or you have not done?
- How do you see the future?
- Are there times when you feel fed up and wish you were dead?

12.3 What causes depression?

There are many different factors that can trigger depression. These causes are generally divided into three broad groups – biological/physical, psychological and social, described in more detail in Study Session 9.

Biological or physical: Chemical changes in the brain may contribute to the onset of depression. For example, a person's mood can change with hormone levels going up and down. This is sometimes seen in women when depression may occur with the menstrual cycle, childbirth and the menopause. Depression can also follow other known diseases such as goitre (caused by deficiency of iodine in the diet) or low thyroid hormone level, anaemia and some infections. Drinking excess alcohol or some prescribed medications, for example, anti-hypertensive drugs (drugs taken to reduce high blood pressure), can occasionally cause depression.

Psychological: For some people, upsetting events, such as bereavement, divorce, illness and job or money worries can be associated with depression.

Social: Poverty, lack of adequate support and doing fewer activities or having fewer interests can lead to depression. Withdrawal from social contact may happen because of depression and this can lead to a cycle of worsening of depression.

Family history may also play a part. When there is a history of depression in parents or siblings (brothers and sisters), there is a slightly increased risk of developing depression. On the other hand, many people who have a family history of depression never develop the condition.

You should note that depression does not always have an obvious cause. Moreover, there is rarely one single cause of depression — usually, different causes combine to trigger the condition. For example, you may feel low after an illness and then experience a stressful life event, such as bereavement.

12.4 Grief and depression

Grief and depression share similar characteristics; however, there are important differences between the two. Grief is a natural response to a loss and depression is an illness. But it can sometimes be hard to distinguish between the two. An important distinction is that people who are grieving are still able to enjoy things and can look forward to the future. But those with depression tend to have constant feelings of sadness and have little enjoyment or positive expectations of the future.

12.5 Mood disorders in the postnatal period

The first two months after childbirth (see Figure 12.3) are associated with increased risk of depression. The most common condition is called postnatal blues, which is a mild and transient depression occurring in the first five days after the child is born in about 50% of mothers. The mother feels easily upset, tearful and less confident about herself and her role. Support and reassurance from husband and family is sufficient. Some simple traditional practices that give a sense of security, such as keeping a metallic item under the pillow, and practices indicative of support from husband and family, are also important. But the blues can progress into more severe depression.

Figure 12.3 Mother and child shortly after birth.

- What do you think are the similarities and differences in symptoms of postnatal depression and depression occurring at any other time?

□ If you thought that the symptoms are generally similar, you would be correct. The reason why postnatal depression has a separate name is because depression is common in this period.

Additionally, in postnatal depression, mothers tend to worry a lot about their child and their ability to look after the child. They also worry about their appearance and whether their husband has the same affection towards them. The treatment is similar to ordinary depression. But note that the child could be at risk of harm from either violence or neglect by the mother (see Section 10.4 of Study Session 10). Therefore, enhancing support and managing potential risk are important.

12.6 What can you do when you suspect someone has depression?

You will find that many of the individuals you find with depression in your community will have a mild illness and their depression will improve with some support from you, their family and friends. There is only a small group of people who will develop severe depression. Before discussing what exactly you can do to help both the individuals with mild and more serious depression, let's talk about the key principles that will form the basis for your actions (Box 12.1).

Box 12.1 Key principles to consider when you encounter someone with depression

- Determine how bad the depression is.
- Ask if the person had a history of mania (excessive happiness or excitement).
- Assess the level of risk (see Study Session 10).
- Determine possible triggers of the depression.
- Determine what kind of support is available for the individual.
- You may need to refer if depression is severe or longstanding or if you are worried about the level of risk.

12.6.1 Determining how bad the depression is

Determining the severity of depression will allow you to decide whether you need to refer the individual with depression to the next health facility for further assessment. The severity of depression depends on the following:

- *Number of symptoms*: if the individual has many symptoms of depression, (as listed in Table 12.1) the depression is likely to be more severe.
- *Nature of symptoms*: if the individual has certain symptoms, such as severe hopelessness, suicidal thoughts, severe problem with sleep, **significant weight loss** (loss of about 1 kilogram a week over the preceding weeks), restlessness, or symptoms indicative of psychosis, the depression is likely to be severe. When these symptoms occur in the context of understandable life stress, they indicate that depression has developed.
- *The possibility of significant risk*: risk of suicide or violence (detailed in Study Session 10).
- *History of suicide or mental illness* in the person's family.
- *History of mania*.

Based on the above criteria, you can classify depression into three types: mild depression, moderate depression and severe depression (see Box 12.2).

Box 12.2 Classifying the severity of depression

Mild depression

- Person has few (3–4) symptoms of depression (refer to Table 12.1)
- Person can do their day-to-day activities with minimum problems caused by the depression

Moderate depression

- Person has about five symptoms of depression
- Person experiences problems in carrying out their daily responsibilities and it can take them longer to finish a task because of the depression

Severe depression

- Person has 8 or more symptoms of depression (usually more)
- Person has very clear difficulty carrying out normal responsibilities, or has stopped working or carrying out daily responsibilities
- May have suicidal thoughts or plans; may even have attempted to commit suicide
- Other severity indicators such as psychotic symptoms can also occur

12.6.2 What you do next

Treatment of depression usually involves a combination of self-help, drugs and specialised treatments. **Specialised treatment** refers to treatment provided by specialist mental health services. But most depression does not require specialised treatment and there is a lot that you can do at the community level.

Mild depression

In most cases of mild depression you need to just regularly monitor how the person is doing. You need to monitor the person for any worsening of symptoms, and for improvement in the problems that may have led to the development of the mild depression. You especially need to check for deterioration in the level of self-care and for any indications of risk of self-harm or harm towards others. Tell the person that if they feel worse, they should let you know. In Section 12.9.2 we will discuss some practical advice you may give to people with depression.

When mild depression becomes a persistent problem (a depression lasting for two years or longer), you should refer the person to the next higher level of the health system. If the illness becomes more severe or you identify risk of self-harm or harm to others, you should also refer the person. Another reason for referring someone with mild depression is when you suspect their depression may be related to a physical illness such as diabetes, hypertension or other life-threatening condition.

Moderate or severe depression

Individuals with moderate or severe depression require evaluation at a higher health facility, so you should refer them. Between visits to the higher health facility you should continue to monitor the patients in your community, similarly to what you would do with someone with mild depression.

12.7 What you should know about medication

There are effective medications available to treat depression. You will not be prescribing any medication but people from your community who take medication may want to discuss this topic with you. We will therefore be telling you a little bit about this here. In Ethiopia, the four main drugs currently available for treating depression are called:

- amitriptyline
- imipramine
- fluoxetine
- sertraline.

Although all these medications are safe, amitriptyline and imipramine can be dangerous if a patient takes too many of these tablets. The person will not improve from their illness by taking too many tablets but their heart could be seriously affected and they could die as a result.

Please note that some individuals may wish to take part in traditional healing practices, for example wearing amulets, attending for prayers and holy water, etc. Some individuals may even benefit from these traditional interventions. The important thing to remember here is that, if someone has benefited from these practices, there is no need to discourage them. However, it is important to encourage patients to continue taking their medication while taking part in these traditional practices.

12.8 What you should know about the course of depression

Depression is mostly a **self-limiting condition**. A condition is called self-limiting when it goes away without specific medical intervention. This is the case for about half of the cases of depression. However, the other 50% of individuals who have their first episode of depression will go on to have a second episode. And most of these individuals (about 85% of them) are likely to have more episodes.

Unfortunately, the main complication of depression is death from suicide. Up to 15% of individuals with severe depression (about 1 in 7) will die from suicide unless they are properly treated and followed up. Additionally, those with depression are more likely to develop other medical problems such as hypertension, other heart conditions, diabetes mellitus or infectious conditions.

12.9 What you should tell a person with depression

There are four issues you need to raise with your patient:

1 Explore why the person might have become unwell

2 What might and might not help with the depression

3 What happens after you refer a person for further assessment and treatment

4 Be prepared to discuss whatever questions the person may have.

Each of these points will be discussed in more detail in the sections below.

12.9.1 Exploring why the person might have become unwell

This discussion with your patient partly depends on what you have learned from the story of the person. Reflect this back. For example, if there has been an ongoing difficulty (e.g. job problems) or a loss event (e.g. death in the family), you can say that these things may have contributed. You can then tell them that these difficulties do trigger changes in the brain that can lead to depression. But let them also know that depression is common and that we don't always know why people become depressed. Some people associate depression with personal weakness. In that case it is important to explain that the condition has nothing to do with personal weakness and that they should not blame themselves for becoming depressed.

12.9.2 What might and might not help with the depression

When you visit a person with depression, allow them to speak to you about their problems and discuss how they can solve these problems. Rather than you telling them what they should and should not do, allow them to come up with solutions to their problems that they think would work. Not all problems can be solved. When there are problems that cannot be solved, encourage the person to try to accept this. Some practical points of advice you can give to people with depression include: encourage the person to eat regularly; to continue doing the things that they enjoyed before they became depressed; to be active; to mix with people and to visit their friends and relatives as much as they can.

12.9.3 What happens after you refer the person

People with depression and their families may feel more comfortable and reassured when they receive information about what will happen after referral. It is best if the person is referred to a familiar place. They will feel less confused; it will be easy for the family to travel with them and for them to get additional support should they need to. However, it is sometimes unavoidable for the person to be referred to a distant place, like Amanuel hospital in Addis Ababa. Explain to the person that because they are being referred for depression it does not mean they will be treated differently. Tell them that they will get an opportunity to discuss their difficulties further and that if required they will get additional laboratory investigations. If the doctor confirms the diagnosis of depression, they may get some counselling and come back with or without treatment. If someone has severe depression, for example, if they are suicidal, they may have to stay in hospital for a brief period of treatment. If they are prescribed medication they can continue it from home; reassure them that you will be prepared to support them.

12.9.4 Be prepared to discuss whatever questions the person may have

Some people with depression may not think they have an illness; in that case you should explain to them that depression *is* an illness. Others may ask you about medication, so you can give them the information provided in Section 12.6. Please remember that you are not likely to know all the answers to the questions a patient with depression and their family and friends may have. You should not feel you should and this study session is not intended to prepare you to have the answers to all the questions. When you don't know the answer to a question, tell them politely that you don't have the training to know the answer to that particular question. But you may be able to judge whether the question is an important one that should be answered. If you are unsure about a particular issue raised by a person with depression, or a family member, you may need to consult another professional colleague. When you think the question is less important, you can reassure the person.

You have now come to the end of the session on depression. To finish let's summarise the most important issues you have learned.

Summary of Study Session 12

In Study Session 12, you have learned that:

1 The common symptoms of depression include sad/low or irritable mood, loss of interest and enjoyment, loss of energy, poor concentration, sleep, appetite and weight, self-blame (guilt) and suicidal thoughts or behaviours. People with depression don't always complain of feeling sad or depressed. They may often come to you with physical complaints such as pain in various parts of the body.

2 Depression affects up to 15% of Ethiopian adults. It occurs in both men and women and can occur at any age. Although most depression is mild and self-limiting, it does affect the day-to-day functioning of individuals as well as their families. People with chronic medical conditions such as diabetes mellitus or HIV/AIDS are at increased risk of depression.

3 Factors such as sickness or death of a family or friend, financial difficulties and related stresses can lead to depression. Having poor social support can lead to depression. The period after having a child is a particular risk period for depression. Physical health problems, such as low thyroid hormone or infections, can also lead to depression.

4 Depression can be classified as mild, moderate or severe, based on the number of symptoms of depression, the extent to which the symptoms interfere with the person's ability to carry out their normal daily responsibilities, and whether there is a history of severe symptoms in the person in the past or in their family. If the depression is moderate or severe, the person should be referred to the next level health facility.

5 Although depression is a serious problem, it responds well to treatment, which may include medication and other specialist treatment at a higher health facility.

6 Simple support and activities at the community level can help most people to recover from mild to moderate depression.

Self-Assessment Questions (SAQs) for Study Session 12

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

Read Case Study 12.1 carefully and then answer the SAQs below.

Case Study 12.1 Mrs Woynitu

Mrs Woynitu is a 35-year-old married woman living in one of the villages you are responsible for. She seems to have changed in her behaviour of late and appears irritable and non-caring whenever you visit her house. She does not seem interested in talking much. You have been wondering whether she has some problems with you personally. However, in one of your regular visits, she tells you that she often has headaches and back pain and has not been able to carry out her household work because she has been feeling more tired than usual.

When you talk to Mrs Woynitu further, she tells you that she has been feeling this way for about three months now. Three months ago she had a major conflict with her husband, who would have assaulted her had it not been for the intervention of neighbours. Her relationship with her husband has been bad since that time. She had struggled to get the work done because of her tiredness and lack of concentration on activities. She does not like it when neighbours visit and talk. She has also lost her enjoyment in coffee. She has lost her appetite and has lost weight. She thinks that her son's school problems are her fault although she is unable to say what exactly she has done wrong. She sometimes thinks bad things may happen to her and her family. She even sometimes thinks life is not worth living and wishes she were dead.

SAQ 12.1 (tests Learning Outcomes 12.1 and 12.2)

Which of the key symptoms of depression are present in Mrs Woynitu's story, suggesting that she has depression?

SAQ 12.2 (tests Learning Outcome 12.2)

Why do you think it may be difficult to assess Mrs Woynitu and to consider depression as a possibility?

SAQ 12.3 (tests Learning Outcome 12.3)

Why do you think Mrs Woynitu may have developed depression?

SAQ 12.4 (tests Learning Outcomes 12.4 and 12.5)

Describe how you may help Mrs Woynitu.

SAQ 12.5 (tests Learning Outcome 12.5)

Would you refer Mrs Woynitu to a higher level health facility? If yes, why, and if no, why not?

Study Session 13 Psychoses

Introduction

Global research and studies in Ethiopia show that psychoses affect between 1 and 2% of the population. Psychoses are among the most serious mental health problems that you will have to deal with in your community. They are serious for patients because they can result in serious functional and social impairments and may leave them coping with severe long-term disabilities. They are serious for the families of patients because of the negative impact on family stability and finances, often resulting in conflict and poverty for other family members. They are serious for Ethiopia because the negative impact of psychotic illnesses goes far beyond the patient and their family, causing reductions in productivity that damage the economy.

Psychosis is pronounced 'sye-koh-sis' and is the singular of psychoses ('sye-koh-seez').

Of all the mental health problems discussed in this Module, psychotic illnesses pose the most difficulty for risk management, i.e. the identification, assessment and prioritisation of risks, and interventions to minimise, monitor and control the probability and/or impact of these risks. This usually involves efforts to reduce the 'risk factors' and support the 'protective factors' associated with a patient and their condition. In this study session you will learn about how best to manage the risks posed by psychotic illnesses, including the risks to patients and their families from traditional ideas about mental illness which can lead to cruelty and abuse. We discuss how best to challenge these negative beliefs and how to reduce the risk that people with psychotic illnesses may pose to others.

Your skills as a trained health worker are very important in achieving prompt detection and response to the early signs of psychotic illness in your community. Following referral, your role in monitoring the patient's recovery when they return home, and in educating them, their family and their community about psychotic illnesses, is central to the task of managing the risks posed by these serious conditions. In this study session, alongside your practical training, you will learn how to identify the symptoms of psychotic illness, handle urgent problems, and help clients and their families further.

Learning Outcomes for Study Session 13

When you have studied this session, you will be able to:

13.1 Define and use correctly all of the key words printed in **bold**. (SAQ 13.1)

13.2 Describe the general symptoms and signs of psychosis. (SAQ 13.2)

13.3 Identify the major different forms of psychosis and their specific signs and symptoms. (SAQ 13.2)

13.4 Outline the criteria for referring people with psychosis. (SAQ 13.3)

13.5 Explain how to manage people with different types of psychosis. (SAQs 13.1 and 13.4)

13.1 What are psychoses?

We begin by examining what psychosis involves, what the general symptoms and signs are, and how you reflect on these to distinguish between different types of psychosis. In most cases of psychosis, it is not possible to identify a single cause. It is most likely that several factors interact to result in the

illness (see also Study Session 9 in this Module). In some people, psychosis occurs following various bodily illnesses or damage to the brain, but this is not the case in the majority of affected people.

13.1.1 The effects of psychosis

Psychoses are a group of severe mental illnesses characterised by loss of reality contact (where the patient cannot differentiate between reality and their imagination), delusions and/or hallucinations. This leaves affected people vulnerable to strange and potentially very distressing experiences, such as hearing voices or seeing things which others around them cannot. They may also express these delusions in a way that may disturb others. For instance, they may insist that they are God, or complain that there is someone else inside them giving them orders.

Figure 13.1 A person suffering with psychosis may neglect their personal appearance.

Often, as a consequence of their illness, people with a psychosis struggle to meet the ordinary demands of daily life, such as routine household responsibilities, work and social interaction with others. For example, they may lose the ability to look after themselves and their personal needs properly, appearing unconcerned about their appearance and neglecting personal grooming (Figure 13.1). They may also have an inadequate or mistaken understanding of their condition, blaming malevolent spirits or other community members for placing a curse on them. Challenging such views may prove difficult, as their impaired thinking often leads them to reject evidence that contradicts such traditional beliefs.

Psychotic illnesses make sufferers personally distressed and also cause distress to others in their family and neighbourhood. The level of distress (and the risk of permanent disability) is increased by the duration and severity of the symptoms.

13.1.2 Classification of psychoses

There are four different forms of psychosis, classified in terms of their onset, duration and possible outcomes. Being able to identify, and distinguish between, these four types is the starting point for effective treatment. They are:

- Acute psychoses
- Chronic psychoses
- Recurrent psychoses
- Organic psychoses.

We will discuss each of them in turn.

13.2 Acute psychoses

Acute psychoses are ‘acute’ because they begin suddenly (either with or without an obvious cause or reason) and don’t usually last longer than 1 month.

13.2.1 Signs and symptoms of acute psychoses

People with acute psychoses may hear voices when no one is present, and they may behave in an odd or aggressive way. They may for instance loudly express rather odd beliefs, or exhibit socially unacceptable behaviour. While this can be very disturbing for family and neighbours, it is important to

remember that it is also extremely distressing for the person. A psychotic person is likely to be confused and frightened by the distorted situation they find themselves in, further disorientated by the inability to understand that what they are experiencing is not real.

Keep this in mind as you read the case study of Mr Goitom, whose experience is typical of people suffering from acute psychosis (Case Study 13.1).

Case Study 13.1 Mr Goitom's story

Mr Goitom is a 27-year-old man who was happily married and a respected member of the community until he suddenly started to behave strangely. He began to say and do the oddest things, neglected his responsibilities and his wife (who tells you that 'he just isn't the same man any more') and stopped eating and sleeping.

After 10 days without food or sleep, during which his behaviour to others became increasingly aggressive, his wife took him to the holy water, hoping this would cure him. However, this failed to work, with Mr Goitom shouting and screaming at his wife and others. Unable to cope with this behaviour and fearful for his wife's safety, relatives carried him home and tied him with rope to a stake to keep him under control.

Neither Mr Goitom nor his family have any understanding of psychotic illness. Mr Goitom himself thinks he may have been bewitched by one of his neighbours. This seems believable to his wife, as she remembers he had a bitter disagreement about land ownership with this neighbour shortly before he became ill. Since then he has been obsessed by this neighbour, shouting loudly that he aims to get revenge by attacking his assumed persecutor.

- From your life or work experience, have you ever come across a case like that of Mr Goitom? What kind of behaviour was involved? How did the family respond to this?
- If you have experienced such a situation before, it may be that, just like Mr Goitom's case, the family did not realise that the patient had a mental illness. It could also be that, because of the strength of traditional beliefs, the family, neighbours and others in the community accepted a supernatural — rather than a medical — explanation.

Clearly, Mr Goitom's behaviour posed some risk to himself, to his neighbour, and possibly to others – including his wife. However, the best way to manage these risks would be for the family to acknowledge that Mr Goitom is ill and needs to see a doctor for assessment and appropriate treatment. This would be far more effective than tying him to a stake — a practice likely to increase the risk by further distressing him. Later in this study session, you will reflect on what you can do to tackle the negative aspects of traditional beliefs and increase community understanding of psychotic illnesses in situations like that of Mr Goitom.

13.3 Chronic psychoses

Chronic psychoses are 'chronic' because they begin gradually, but continue for a long time (over six months), with an increasing deterioration (getting worse) as time passes. They tend to affect younger age groups than other psychoses (15–30 years), and without treatment they can have terrible consequences for the sufferer. Many of the mentally ill people who are avoided by others because they are perceived as 'mad' are likely to be suffering from a chronic form of untreated psychosis.

13.3.1 Signs and symptoms of chronic psychoses

People with chronic psychoses may have difficulties with thinking rationally or with concentrating over a long period of time. They are likely to show disturbed speech, may hear voices, and have persistent unfounded beliefs, for instance that they are being persecuted or controlled. These symptoms can cause problems in managing work, studies or relationships, and lead to social isolation and/or hostility from other members of the community. During relapse, people with chronic psychoses may have symptoms similar to acute psychoses. A common form of chronic psychosis is called schizophrenia.

Schizophrenia is a severe, chronic mental illness that affects about one in a hundred people at some point in their lives. As with other psychoses, they experience episodes in which they perceive reality differently. They may have hallucinations or delusions (see Box 10.3 in Study Session 10). The first acute episode, when the symptoms are experienced for the first time, can be very stressful, because the people experiencing the illness and their family and friends are unprepared and have no idea what is happening to them (see Case Study 13.2).

Case Study 13.2 Mr Abebe's story

Mr Abebe is a 25-year-old farmer and a married father of two children. He lives near his parents. Both his parents and wife were always proud because Mr Abebe was a well-liked and respected member of the community and known as a 'good family man'. However, about a year ago, he started to behave in an increasingly strange manner. His wife reported to his father that Mr Abebe was 'not himself any more', becoming withdrawn, moody, inactive and unsupportive. Gradually, his condition became worse. He neglected his work and family and was often seen whispering to himself, smiling and laughing for no apparent reason when alone. When he talked to people, what he said no longer made any sense, so people began to avoid contact, leaving him even more socially isolated. His parents and wife were terribly worried and took him to a traditional healer to cure his strange 'curse'. The healer gave him some herbs to drink and a ritual healing ceremony was performed, but there was no improvement.

Mr Abebe's case illustrates the key features of someone who is suffering from a chronic psychosis: his illness started gradually without any clear cause and he progressively deteriorated over a prolonged time. Without treatment, people like Mr Abebe are likely to face a miserable future as their worsening condition leads to the loss of family and friends, and they become increasingly unable to support themselves. However, with treatment, about

60% of patients recover to lead full and useful lives. Ensuring access to such life-changing treatment is a key part of your work.

13.4 Recurrent psychoses

Recurrent psychoses occur episodically (that means they come and go), usually with complete recovery between attacks. A common form of recurrent psychosis is bipolar disorder (previously known as manic depression). This is a condition in which a person's mood can swing from one extreme to another. It is characterised either by manic episodes, (periods of mania), or by mania alternating with depression (which you learned about in Study Session 12). Mania is a state of abnormally elevated or irritable mood, arousal and/or energy levels, which in some respects represents the opposite of depression.

13.4.1 Signs and symptoms of recurrent psychoses

People with recurrent psychoses such as bipolar disorder may suffer from unrealistic or 'grandiose' thinking, in which they see themselves as very important people – more important than anyone around them – often with important tasks or 'missions' they must complete. During the manic episode, they will tend to have increased energy levels, high moods and difficulty in controlling their impulsive behaviour. They often speak very quickly and tend to jump from one topic to the other (also called 'flight of ideas'). They also often find themselves unable to sleep and are easily distracted. Because they think they are very important and successful, they may engage in bizarre behaviour like giving away their personal property for no apparent reason. When you see people with mania, they may appear unusually cheerful and make jokes all the time.

Manic episodes can vary in intensity, from mild to extreme forms. Some people will retain sufficient control to function normally, while others will be severely affected and requiring treatment. People with sever bipolar disorder are often unaware of their condition. When considering referral, you should also be wary: during an episode of mania, affected individuals can often be mistaken for having taken drugs or other mind-altering substances.

13.5 Organic psychoses

Organic psychoses occur as a direct result of physical illness or brain damage. In addition to the general features of psychoses already described, there are likely to be alterations in the person's conscious state. For example, they may appear disorientated or confused, and show symptoms of underlying physical illness. There are two types of organic psychosis: acute and chronic.

13.5.1 Signs and symptoms of acute organic psychoses

Acute organic psychoses are characterised by sudden onset, usually over hours or days, where the person appears disoriented and struggles to make sense of their surroundings, and may exhibit 'clouded' thinking and distorted awareness, a fluctuating level of consciousness and poor memory recall. These symptoms can impact on the person's relationships with others, increasing their social isolation and reducing the support they might receive from their community. People with acute organic psychosis may be alert and responsive to your questions, but may rapidly become drowsy and inattentive. Alternatively, they may fail to comprehend the questions put to them and appear disoriented and confused.

Diseases causing fever (such as chest infection or infection of the brain), head injury, fits, the excessive use of alcohol or other drugs, diabetes and high blood pressure can all be causes of acute organic psychosis. These conditions are usually reversible and short-lived, and can be cured by appropriate treatment.

13.5.2 Signs and symptoms of chronic organic psychoses

Chronic organic psychoses are forms of psychosis arising from permanent physical and/or brain damage. A common feature of chronic organic psychosis is progressive loss of memory, usually combined with other, more general, psychotic symptoms. Loss of memory without psychotic features is called dementia (see Study Session 15 of this Module).

13.6 Early recognition and identification of psychoses

In your work, you should consider the possibility of a psychosis if you see a person whose behaviour has any of the features listed in Box 13.1.

Box 13.1 Recognition of psychoses

Suspect possible psychosis if someone is:

- talking and acting strangely or in a manner that you and others consider to be abnormal
- becoming very quiet and avoiding talking to, or mixing with, other people
- claiming to hear voices or see things that other people don't
- being very suspicious, perhaps claiming that other people are trying to harm them
- being unusually cheerful, exhibiting high levels of confidence in their own abilities and expressing an exaggerated sense of their own importance in relation to others.

For details of the most effective questions to assist your assessment, refer back to Study Sessions 10 and 11 of this Module.

When you suspect someone is suffering from a form of psychosis, you need to ask the patient (and others) questions to find out the type and severity of the condition (Figure 13.2).

Figure 13.2 A healthworker needs to find out everything she can about a person with psychosis.

13.7 Referral

If, following assessment, you think that a person may be suffering from one of the psychotic illnesses detailed above, you should consider referral to a health centre or the nearest institution with mental health specialists. Using the criteria outlined in Table 13.1, decide whether the person needs referring and whether this is an urgent or non-urgent referral. People with acute psychoses or acute organic psychoses, or suffering a psychotic relapse, should be referred urgently. For such emergency cases, you should arrange immediate transport to a higher health facility, either taking them yourself or arranging for others to do so. For less urgent cases, you can use the regular referral route.

People with acute psychoses, or acute organic psychoses, or suffering a psychotic relapse, should be referred *urgently*.

Table 13.1 Criteria for urgent or non-urgent referral for psychoses.

Urgent referral	**Non-urgent referral**
If you think a person may be suffering from acute psychosis	If a person has chronic psychosis (organic or non-organic) or recurrent psychosis
For a person with acute organic psychosis	If there is non-compliance with treatment
If there are signs of relapse or if there are complications from treatment (see also Study Session 11)	Failure of treatment

13.8 The management of psychoses

Early identification is crucial in the management of psychoses. This is because (as you discovered earlier) treatment can be highly effective if it is provided before the condition has time to deteriorate further. For example, the early identification and treatment of patients with acute psychosis often results in complete recovery. Medication is one central component of treatment for a range of psychoses, and is often highly effective in reducing the patient's difficulties and providing emotional stability. Here, you should seek to gain the support of the family (or others close to the patient) to ensure their adherence to treatment and to guard against relapse. Adherence means agreeing to and following the advice and treatment prescribed by the health professionals.

Each type of psychosis requires specific management. This will be the topic of discussion for the remainder of this study session.

13.8.1 Management of acute psychoses

When you suspect that someone in your community is suffering from an acute psychosis, your first responsibility should be the management of risk. This involves concern for the risk posed to the patient by the illness, by the patient's own actions or inaction, and by the actions of others, and also the risks posed by the patient to property, family and friends, and to others in the community (see also Section 10.4 of Study Session 10).

Remember, people suffering with acute psychoses can often respond very well and very quickly to interventions, if these are undertaken in a supportive and confident manner. There is a great deal you can do to calm and reassure such people, just by talking to them. You should also try to involve family and

friends to create a supportive environment that will be there to assist the patient when you are not present.

If the patient or their family have traditional views about mental health, you will need to be very careful in challenging these, as such challenges are unlikely to improve the relationship with the patient or gain you the community support you will need to manage the various risks (see Study Session 9).

After you have provided emergency care, if appropriate, you should arrange an urgent referral to a health centre or a hospital where the patient can continue their treatment. When the person returns, it will be your responsibility to follow up this treatment by arranging continuing care within the community.

13.8.2 Management of chronic psychoses

The main objectives in the management of chronic psychoses are:

- to maintain good mental health
- to support the person's rehabilitation and resettlement in the community, including their return to work and/or normal domestic activities
- to minimise the risk of permanent disability arising from the illness.

Anyone identified with a chronic psychosis should be referred to the local health centre or hospital, where they may receive a course of antipsychotic medication (drugs used to treat psychosis). Once the patient has completed their in-house treatment at the health centre or hospital, they will return to the community, where you should draw on their support networks to ensure their continued adherence to treatment as prescribed by the doctor (see also Section 11.2.4 in Study Session 11).

If you decide that there is a need for an adjustment in the medication, or you believe that a relapse has occurred, the patient should be referred back to the treating doctor. In most cases, the use of antipsychotic medication continues for at least six months after the symptoms disappear. Clear information should be given to the patient and their family about their illness and the importance of adhering to the instructions for their medication. You should also stress to the patient (and their family) the serous risks of taking this medication while also using other substances. Inform them that cigarettes, *khat*, cannabis and alcohol are all likely to reduce the effectiveness of medication and — particularly in the case of cannabis and alcohol — may make the symptoms worse or result in relapse. Table 13.2 lists the two most commonly prescribed antipsychotic drugs in Ethiopia, with their usual dosages.

Table 13.2 Two commonly prescribed antipsychotic drugs.

Drug	**Usual adult dose**
Chlorpromazine	50–300 mg orally/day (one or divided dose)
Haloperidol	2–6 mg orally/day (one or divided dose)

13.8.3 Management of recurrent psychoses

The objective of treating people with recurrent psychoses is to control the acute symptoms when they occur. For example, an agitated patient suffering a manic (or depressive) episode may require emergency treatment to stabilise their condition and keep them safe. When the episode resolves, regular

antipsychotic medication should prevent a recurrence with little need for further intervention, other than monitoring the patient's state.

Patients can also be encouraged to take an active role in their own care by helping them recognise and identify early warning symptoms like sleep disturbance, excessive or elevated moods, abnormal levels of energy, etc. When a patient notices such symptoms, advise them to return to the treatment centre and request a review and/or an adjustment in their medication.

13.8.4 Management of organic psychoses

The main objective in the management of organic psychoses is to address the immediate risks to the patient and to others. The aim should be to identify people with acute organic psychoses quickly and make an urgent referral for medical treatment. In the case of chronic organic psychoses, refer the patient via the usual route for further management and identification of any community care needs.

13.8.5 Management algorithm

In all cases of psychosis, you not only identify and refer patients to specialist or other health facilities, it will also be your responsibility to respond to feedback from the higher level by arranging follow-up and continuing care at the community level. Figure 13.3 summarises this process.

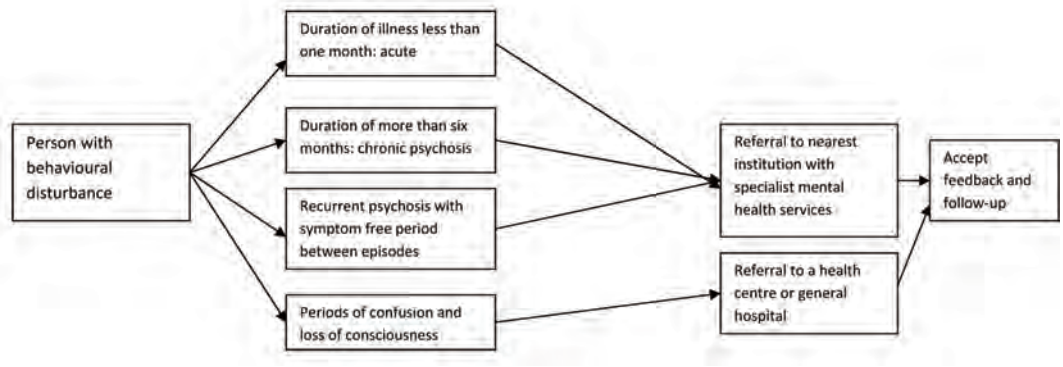


Figure 13.3 Summary algorithm for the identification and management of different forms of psychosis.

13.9 Advice and support for patients and their families

The advice and support that you give to patients and families can be a tremendous help. It can comfort the patient and can reduce the anxiety felt by family members and carers. It also gives carers an insight into your professional knowledge about how best to handle disturbed patients in a humane and caring manner. Such knowledge is perhaps the most effective way of counteracting negative traditional approaches to mental illness.

When assessing someone with a psychotic illness and deciding on a treatment plan, it is important to include the patient and their family, and to emphasise the importance of adhering to the medication. If the illness is one where the possibility of relapse is high, work with the patient and family members so they know how to identify early warning signs.

In terms of rehabilitation, patients should be encouraged – as much as possible – to return to their normal work and other daily activities. Family and

carers should reduce sources of stress for the patient by being supportive, and by avoiding verbal criticism or confrontation, which may aggravate the psychosis.

Summary of Study Session 13

In Study Session 13, you have learned that:

1 Psychoses are characterised by disturbances of thought such as delusion, hallucination and/or loss of reality contact. People with psychosis often do not realise they are ill.

2 There are four different forms of psychoses: acute psychoses, chronic psychoses, recurrent psychoses, and organic psychoses.

3 Early identification of psychoses involves considering the symptoms listed in Box 13.1.

4 Once it is recognised that a person is suffering from an acute episode of psychosis or from a psychotic relapse, it is essential that they are referred urgently to a higher-level health facility with appropriate mental health services.

5 People suffering from psychoses should not be subjected to criticism or abuse. Respect, honest advice, and support from you, their family and the community are the most effective means of ensuring adherence to treatment and successful recovery.

Self-Assessment Questions (SAQs) for Study Session 13

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 13.1 (tests Learning Outcomes 13.1 and 13.5)

Which of the following statements is false? In each case say why it is incorrect.

A Acute psychosis always has an obvious cause.

B A patient suffering from acute organic psychosis should be kept at home tied up because there is no risk of medical complication.

C A patient who has recovered from psychosis should be encouraged to fulfil their responsibilities, like working or preparing food.

D Criticising or embarrassing a person who is suffering from psychosis will help them stop thinking in strange ways.

SAQ 13.2 (tests Learning Outcomes 13.2 and 13.3)

Read Case Studies 13.1 and 13.2 again. Is there a difference between these two cases? Explain in what ways they are different.

SAQ 13.3 (test Learning Outcome 13.4)

While doing your routine healthcare activities at a place where malaria is common, a man from the *kebele* told you that a woman in the neighbourhood appeared very confused following her fever. What do you think is the client's problem, and how would you handle such a case?

SAQ 13.4 (tests Learning Outcome 13.5)

A young man, who is an active member of the youth association in your area, comes to you and asks you to help one of his friends who has been behaving strangely, talking senselessly to himself. He has already been prescribed antipsychotic medication but this does not seem to be working. He also chews *khat* all day, drinks alcohol and smokes many cigarettes. How would you manage this case?

Study Session 14 Substance Use Problems

Introduction

Throughout history human beings have used **substances** to alter their state of mind. Substances can alter thoughts, emotions, sleep, appetite and social interactions. They are also used to relieve pain and tension. There are a wide range of substances used, and the number of people using substances has increased alarmingly in recent years. In many countries, including Ethiopia, substance-related problems are a major public health concern. It is important that steps are taken at the community level to prevent the increasing problem of substance use.

In this study session, we use the term 'substance' to mean any drug, both legal (e.g. alcohol, tobacco) and illegal (e.g. cannabis) that can cause dependence.

In this session you will learn about commonly used substances in Ethiopia, their effects, early recognition, referral and treatment, and what can be done to prevent people using substances.

Learning Outcomes for Study Session 14

When you have studied this session, you should be able to:

14.1 Define and use correctly all of the key words printed in **bold**. (SAQ 14.1)

14.2 Describe the immediate and long-term effects of alcohol and other substances that are abused. (SAQ 14.2)

14.3 Explain how to correctly use a screening tool to identify harmful use of alcohol. (SAQ 14.3)

14.4 Describe how to manage people with substance use problems at the community level. (SAQ 14.4)

14.5 Explain the reasons for referring people with substance use problems and where to refer them. (SAQ 14.4)

14.1 Substance use problems

In this section we will define commonly used terminology in connection with substance use and abuse. We will also discuss the process of substance use initiation and how this can develop into addiction.

Psychoactive substances are substances which, when taken into the body, have a major effect on the brain and can alter physical and psychological functioning. Many people enjoy the psychological changes in mood and thoughts that psychoactive substances can bring about. As a result, people often develop a habit of taking the drugs more frequently. These substances are therefore also referred to as **habit-forming substances**.

14.1.1 Why do people initiate substance use?

There are many reasons why people start to use and continue to use substances. The substances may be taken to reduce stress and alleviate pain, or alternatively to stay alert, to stimulate the mind in order to study or to better perform some task, or simply to have fun with friends. People with mental health problems may take substances to 'treat' symptoms (although you should recall from Study Session 13 that this is very unwise because it can aggravate symptoms and limit the effectiveness of antipsychotic medication).

Some disadvantaged members of the community (for example, people who are unemployed or youth out of school) may use substances to occupy their time. Young people often initiate drug use out of curiosity or because of peer pressure. You may be wondering why people continue to use substances. After repeated drug use, 'deciding' to use substances is no longer voluntary because the substances induce changes in brain function, which leads to addiction (Figure 14.1).

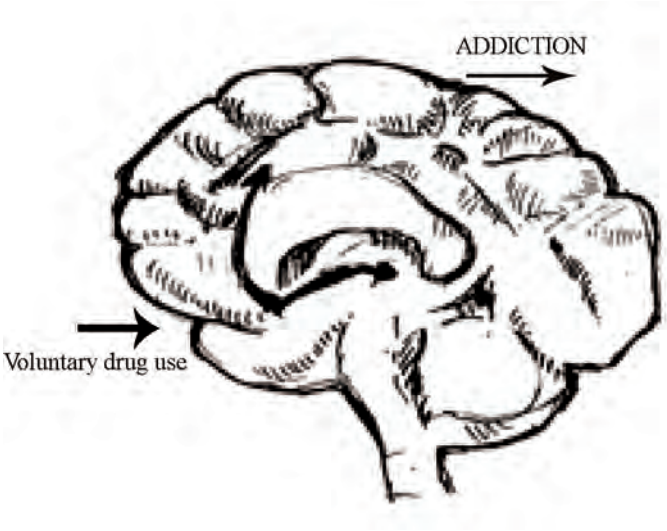


Figure 14.1 Process of development of addiction: voluntary use induces changes in brain processes, which in turn lead to addiction.

14.1.2 How substances affect the brain

Substances interact with the brain and affect its function in many ways. For example, by changing a person's mental processes and behaviour, substances can affect memory, attention and the way people talk. They can also increase impulsiveness, which can lead to aggression and violence. You may also notice changes in the level of alertness and perception of the world.

Addiction (also called **dependence)** is a complex illness characterised by **compulsive behaviour** (the person has a compelling need to use a substance), and uncontrollable **cravings** (having a strong desire to get the substance). People who are addicted to psychoactive substances persist in using the drug even in the face of extremely negative consequences (e.g. family or job problems, being jailed).

People with addiction typically need increasingly high doses of the drug to achieve the same effect (this is called **tolerance**), and when they try to stop or reduce the intake of the drug they develop adverse physical and/or psychological symptoms, called **withdrawal effects.**

Substance abuse is frequent use of a substance despite negative consequences. Not all drug use is bad. Many people have the occasional glass of alcohol and don't develop any negative effects. It is only when someone shows harmful use of substance (e.g. excessive drinking that is damaging to physical and mental health) that problems develop.

- From you own observation, what kinds of substances do you think are commonly abused in Ethiopia?

- Alcohol, cigarettes, *khat* and cannabis are all drugs that frequently lead to addiction in Ethiopia.

Habit-forming substances can be divided into different classes according to their effect (Figure 14.2).

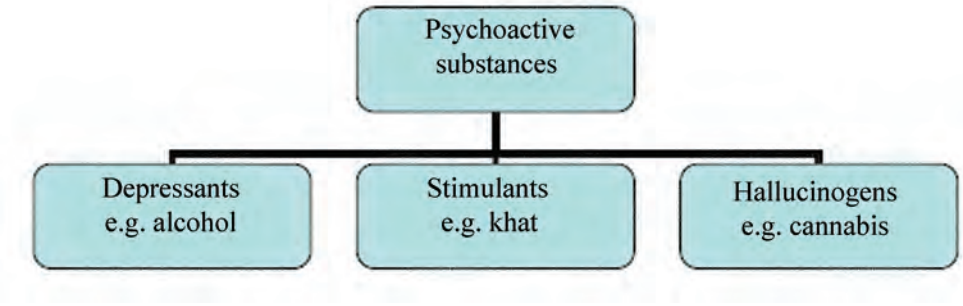


Figure 14.2 Classification of substances according to their effects.

Depressants are substances that have a relaxing effect on people by reducing the activity in the brain. Examples of depressants include alcohol and drugs prescribed for sleep problems.

Stimulants are substances stimulating the brain, e.g. *khat* and tobacco.

Hallucinogens are substances producing hallucinations, e.g. cannabis may produce hallucinations if taken in large amounts.

14.2 Alcohol use

Alcohol is a habit-forming substance that is present in varying amounts in beer, wine, and spirits. Examples of Ethiopian local drinks that contain alcohol are, *tella*, *tej*, and *areki* (Figure 14.3).

Figure 14.3 People enjoying themselves using local drinks.

Moderate use of alcohol does not have major consequences for health; the substance use becomes problematic when someone uses a lot of alcohol, and/or consumes alcohol throughout the day, especially in the morning. Box 14.1 sets out the guidelines for healthy alcohol use. In addition to these guidelines, a person who drinks in the morning may well have health and social problems related to alcohol consumption.

Box 14.1 Maximum alcohol limits a person can drink

For men = 21 units per week (or on average three units per day)

For women = 14 units per week (or on average two units per day)

(1 standard unit = 6–8 grams of alcohol: a shot of spirit or *areki* contains approximately 1 unit of alcohol, a bottle of beer contains about 1.5 units and a glass of wine about 2 units.)

- What is the recommended daily limit of beer intake for men?
- Men are advised not to drink more than two bottles of beer (or three alcohol units) on average per day.

14.2.1 Immediate effects of alcohol use

The immediate effects of alcoholic drinks are seen soon after drinking excess amounts of alcohol. A typical effect on mental status is **sedation** (it makes people sleepy). There are also other effects on the body, e.g. a lower heart and respiration rate, a slower **reaction time** (speed of reaction of a person to an incident requiring a fast response), impaired coordination (e.g. difficulty in walking straight), and even loss of consciousness in the case of very heavy alcohol intake.

14.2.2 Long-term complications of alcohol use

The long-term effects of alcohol are seen after drinking alcohol for years. Alcohol affects most organs of the body including the brain. Long-term heavy alcohol use can lead to brain damage, which may in turn lead to loss of memory. People with alcohol abuse may, for instance, forget familiar places (e.g. they walk aimlessly, often missing their own houses) or may no longer recognise people who are familiar to them. The brain damage may also cause slurred speech and decreased motor coordination. Alcohol abuse can also lead to deficiencies in nutrition. People with alcohol problems often eat poorly (limiting their supply of essential nutrients) and alcohol interferes with the nutritional process in the body, so that the nutrients are not fully absorbed. Alcohol may also affect the fetus if a pregnant woman consumes alcohol. The use of alcohol increases the risk of delivering a low birth weight baby and may increase the child's risk of developing learning difficulties later in life.

14.2.3 Withdrawal effects of alcohol use

Withdrawal effects of alcohol use can occur when people with alcohol use problems suddenly decrease or stop using alcohol. The majority of people with alcohol use problems have mild to moderate withdrawal symptoms, including **tremors** (shaking hands), sweating, sleep disturbance, decreased appetite and nausea. These withdrawal symptoms usually disappear in less than seven days with or without treatment. Sometimes the withdrawal symptoms can be very severe, and lead to an emergency medical condition called delirium tremens. **Delirium tremens** is characterised by loss of consciousness, agitation, restlessness, tremor, **disorientation** (difficulty in knowing place and time or recognising familiar people), sweating and high fever, visual hallucinations, and paranoia. It commonly occurs three to seven days after drinking has stopped.

14.2.4 Identification of people with drinking problems

The best way of identifying people with alcohol use problems in your community is to ask routinely about drug and alcohol use. The questions in Box 14.2 come from a screening questionnaire called CAGE. These questions will help you to identify people with alcohol use problems.

Box 14.2 Identifying someone with a drinking problem

Questions to ask the family or friends:

- Has the person been drinking recently?
- Are your worried about his or her drinking? Why?
- Has the person been drinking in the mornings?

Screening questions to ask the person (CAGE questionnaire):

- Have you ever felt you should **C**ut your drinking?
- Have people **A**nnoyed you by criticising your drinking?
- Have you ever felt bad or **G**uilty about your drinking?
- Have you ever taken a drink first thing in the morning (**E**ye opener) to steady your nerves or get rid of a hangover?

Yes to two or more questions suggests the person has a harmful drinking problem.

Whilst you talk to the person, look out for signs of tension, nervousness, the smell of alcohol, bruises, scars or other signs of injuries. When these signs are present it is possible that this person is suffering from alcohol-related problems. After identifying the person with alcohol-related problem, the next step is to help them solve the problem.

14.2.5 Management of people with alcohol-related problems

The goal of treatment is to help the individual live a normal life without alcohol use. This would include the acute phase of withdrawal when medical help is needed and the longer phase of readjustment to normal life and rehabilitation.

The first step is to help the individual and family to accept the problem. In the process, it is important that you understand the patient's perspective and attitude towards drinking. Successful treatment depends on the attitude and confidence of the patient. For patients willing to stop, advise them to set a definite date to quit. The preferred goal of treatment should be abstinence. However, abrupt abstinence for a person with a heavy alcohol drinking habit may lead to severe withdrawal symptoms (as described above).

When you deal with people with alcohol problems, you should explain the benefits of reducing or stopping drinking alcohol to them. Stopping using alcohol can save them money, reduce the risk of liver disease, depression, weight loss, brain damage, sleep disturbances and accidents. There is also the benefit of reducing problems at work with their employer or workmates, reducing criticism and insults from the family, and avoiding legal problems (e.g. being arrested for fighting and other criminal acts while under the influence of alcohol).

The second step for your client is to seek assistance from the nearest health facility. Advise the patient and refer them for medical treatment at the health centre or nearest hospital.

- ■ Why should a person withdraw from alcohol under medical supervision in a health facility? Think about what you have read in Section 14.2.3.
- □ Sudden withdrawal can result in severe symptoms, including delirium tremens. Such patients should be referred because medical supervision is important.

14.2.6 When you should refer a person

You should refer the person if they are drinking large amounts of alcohol or have developed a severe withdrawal reaction, or when there is a serious medical condition like diabetes mellitus, or chronic liver disease. If a person has a severe mental illness (SMI, see also Study Session 10) in addition to their alcohol use, then they should be referred to the nearest mental health service. When the person is taking multiple substances, in addition to alcohol, they should be referred to the nearest substance treatment centre or mental health centre with an in-patient service.

14.2.7 Other advice you can give your local community

Apart from your role in identifying individuals with alcohol-related problems in your community and managing their problems, you can play an important role in educating people about the effects of alcohol. Box 14.3 lists some ways in which you can be of help.

Box 14.3 How can you help to reduce alcohol use problems?

As a locally trusted healthworker you can help to reduce alcohol use problems in your community in the following ways:

- By being available and helping people with alcohol use problems to accommodate to changes in their lifestyle.
- Educating people about the immediate and long-term adverse effects of alcohol use.
- Giving information to patients and their families that alcohol dependence is an illness with serious consequences.
- Mothers should be advised against drinking during pregnancy because drinking may harm the fetus.
- People with physical diseases and/or dependency should be recommended to abstain from taking alcohol.

14.3 Tobacco use problems

Tobacco products contain the chemical compound nicotine, which is addictive. Other components in tobacco, especially tar, affect the respiratory system and increase the risk of lung cancer and other chronic respiratory problems. People in the rural community of Ethiopia use tobacco through smoking, chewing and putting a bolus of tobacco under the tongue.

Globally about one in three adults smokes i.e. 1.2 billion people. By 2025 the number is expected to rise to more than 1.6 billion, so smoking is clearly a worldwide problem.

14.3.1 Immediate effects of tobacco use

The popularity of tobacco mainly stems from its immediate effects which – users state — include feeling happy and relaxed and improved concentration. However, evidence suggests that smokers are actually less able to be happy or relaxed or concentrate than non-smokers when they do not have access to tobacco (see Section 14.3.3). The immediate physical effects of smoking tobacco include increased blood pressure, respiration and heart rate. With regular tobacco use, levels of nicotine accumulate in the body during the day and persist overnight. Thus, daily smokers or chewers are exposed to the effects of nicotine for 24 hours a day. Nicotine stimulates the brain (see Section 14.1). Stimulation is then followed by depression and fatigue, leading the user to seek more nicotine.

14.3.2 Long-term effects of tobacco use

Long-term use of tobacco can lead to a wide range of health problems including cataracts of the eye (see Study Session 5) and greatly increases the risk of cardiovascular and respiratory diseases including lung cancer (see Study Session 3). Smoking during pregnancy is especially harmful as it may result in delivery of a low birth weight baby, which in turn is a risk factor for later mental and physical problems in the child. **Passive smoking** (when somebody is exposed to smoke through the smoking of someone else) can also cause lung cancer in adults and increases the risk of respiratory illnesses in children and sudden death in infants.

14.3.3 Withdrawal effects of tobacco

Research has found that when chronic smokers are deprived of cigarettes for 24 hours, they display increased levels of anger, hostility and aggression, and are less inclined towards social cooperation. Tobacco users suffering from withdrawal also take longer to regain emotional equilibrium following a stressful experience. During periods of abstinence and/or craving, smokers tend to show decreased motor activity and concentration, and loss of interest in work.

14.4 *Khat* abuse

Khat is an evergreen shrub grown in east Africa and used as a stimulant. *Khat* contains more than 40 chemicals. Most of the stimulant effect of *khat* is thought to come from the chemicals cathinone and cathine. *Khat* can be chewed, or may be brewed as tea. It can also be swallowed with a soft drink. The prevalence of *khat* use in different parts of Ethiopia is variable ranging between 0.3% and 64%. People usually prefer to chew *khat* in groups (Figure 14.4).

Figure 14.4 People chewing *khat* in a social group.

14.4.1 Immediate effects of *khat* use

People chew *khat* because they believe that, like tobacco, it improves their concentration. During and immediately after chewing *khat*, people state they feel euphoric and wakeful, and have increased energy. They are also likely to have a decreased appetite (and are consequently often underweight) and an increased body temperature. *Khat* can also provoke paranoia and aggressiveness.

14.4.2 Long-term effects of *khat* use

People who have used *khat* for more than a few years may manifest with a range of serious symptoms (see Figure 14.5), including depression, anxiety, irritability, anger, sleep disturbance, fatigue, suspiciousness, hallucinations, panic attacks, suicidal thoughts, dry mouth, burned lips, worn teeth, disturbances in heart rhythm, heart attack and loss of libido.

Figure 14.5 Long-term use of *khat* can lead to many problems, including bad teeth. This man grinds the *khat* in a pestle because his teeth are too worn to chew it. (Photo: Basiro Davey)

14.4.3 Withdrawal effects of *khat* use

The withdrawal effects of *khat* use are usually seen in people who have been using *khat* for long time. These are especially visible during early afternoons when many people chew *khat*:

- Sadness
- Loss of interest in work and social interaction
- Reduced activity
- Vivid unpleasant dreams, popularly called *dukak* in Ethiopia.

14.5 Cannabis (hashish or marijuana)

Cannabis is a dry, shredded green/brown mix of flowers, stems, seeds and leaves of the plant *Cannabis sativa*. It has many informal names (e.g. 'ganja', 'weed', 'torpedo', 'dope') and is usually smoked as a cigarette (Figure 14.6), but it can also be eaten. Marijuana smoke has a distinctive sweet smell. The active ingredient in cannabis is called delta-9-tetrahydrocannabionol (THC). THC has a direct effect on the brain.

Figure 14.6 Mother checking her son for smoking hashish.

14.5.1 Immediate effects of cannabis

Cannabis is rapidly absorbed and metabolised when smoked, less so when ingested (although this can produce a more intense effect). The immediate effects include a sense of relaxation, increased appetite, mood change, reduced thinking capacity, suspicion and paranoia, and impairment in balance. Cannabis may also cause hallucinations, delusions, agitation and panicky feelings in vulnerable individuals. If you observe a person during or immediately after smoking, you may notice the strong smell, and the smoker may have red eyes and a flushed face.

14.5.2 Long-term effects of cannabis

Long-term frequent cannabis use leads to lack of motivation and poor performance at work or in school compared to individuals who do not consume this drug. People with cannabis use problems often appear tired and seem to not care about what happens in their life, have no desire to work regularly, and have a lack of concern about the way they look. In people who have a genetic vulnerability to psychosis, using high doses of cannabis for a prolonged period may act as a trigger to induce psychotic episodes (see Study Session 13).

14.5.3 Withdrawal symptoms of cannabis

Withdrawal from cannabis can provoke a range of both physical and psychological symptoms. These include interrupted sleep or — in extreme cases — total insomnia. When long-term heavy users of cannabis reduce or stop taking the substance, they may lose interest in eating and experience nausea and diarrhoea. They may also become irritable and restless and sweat excessively.

14.6 Identification of people with tobacco, *khat* or cannabis use problems

If you see a person with poor physical health or who is prone to repeated accidents, or has a reputation for failing to live up to their responsibilities, ask if they use any of the substances mentioned above. Ask the questions in Box 14.4 to help you to identify and help people with tobacco, *khat* or cannabis use problems.

Box14.4 Identifying someone with a tobacco, *khat* or cannabis use problem.

Questions to ask family and friends:

- Have you noticed any change in their behaviour or that of their friends? If yes, what is the nature of this behaviour and when did it start?
- Do you suspect they are chewing *khat*, smoking cigarettes or using cannabis?
- How do you feel about this? (This question is helpful because the attitude of the family towards substance abuse is an important factor in treatment, especially in developing countries such as Ethiopia.)

Questions to ask the person using tobacco, *khat* or cannabis:

- Have you been chewing *khat* or smoking cigarettes and/or cannabis?
- In what situations do you chew *khat* or smoke cigarettes and/or cannabis?
- How is the use of *khat*, cigarettes or cannabis affecting your health? Your family? Your work?
- Have ever you tried to stop chewing *khat*, or to stop smoking cigarettes or cannabis on your own?
- Would you like to stop using *khat*, cigarettes and/or cannabis?
- Who is supporting you now? (This question is relevant because the presence of social support is an important factor in the success of treatment.)

14.7 Management of people with cigarette, *khat* and cannabis use problems

The goal for treatment of people with cigarette, *khat* and cannabis problems is to help them live a normal life without substance use, so that they can function normally both in their daily social life and in their work. Treatment starts by assessing the degree of motivation and motivating them to pass through the process of change in their lifestyle. It involves increasing awareness; enhancing motivation, and helping them through the process of change. The next step is to seek assistance from the nearest health facility. Advise and refer the patient for further treatment at a health centre, the nearest hospital, or a substance abuse treatment centre for further evaluation and treatment.

14.7.1 When to refer for these substances

People with substance abuse problems should be referred to a health centre or general hospital when there is a serious medical condition, for example, diabetes mellitus or chronic liver disease. If the patient has a severe mental disorder, like psychosis, they should be referred to the nearest mental health service for better evaluation and management (see also Study Session 13). When people use large amounts of substances and/or multiple substances, or if they are unable to stop despite your guidance, they should be referred to a substance abuse treatment centre or to a hospital with a psychiatrist.

Summary of Study Session 14

In Study Session 14 you have learned that:

1 Addiction is a condition where a person has uncontrollable drug cravings and takes the drug compulsively, despite the negative consequences associated with the substance use.

2 People start using drugs for different purposes. When substances are taken frequently and excessively they may result in brain change. As a result addiction may occur and the addicts' control of their substance use may become increasingly difficult.

3 People with substance abuse problems often need increasing amounts of drugs to achieve the same effect (tolerance) and they show withdrawal symptoms after decreasing or stopping the use of the drug.

4 Some of the immediate effects of popular substances are pleasurable. The drug can for instance have a relaxing effect (e.g. in the case of alcohol), or improve concentration (e.g. tobacco, *khat*). Long-term substance abuse, however, has serious adverse effects, including brain damage (alcohol), lung cancer (tobacco), depression and anxiety symptoms (*khat*) or paranoia and psychosis (cannabis).

5 Alcohol, tobacco, cannabis and *khat* use can be identified by asking specific questions to the person and their family. People with substance abuse problems should be encouraged to stop using the drug by educating them about the negative effects and supporting them in making the necessary lifestyle changes.

6 In cases of serious withdrawal symptoms, severe medical conditions or mental health problems, the person with a substance use problem should be referred to the nearest health centre for further assessment and treatment.

Self-Assessment Questions (SAQs) for Study Session 14

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 14.1 (tests Learning Outcome 14.1)

Which of the following statement is *false*? In each case explain why it is incorrect.

A Every psychative substance will cause dependence.
B Tolerance refers to the need to increase the amount of psychoactive substance to achieve the same effect.
C People who are addicted to alcohol and cannot stop drinking only have themselves to blame.
D The presence of withdrawal symptoms is one sign of dependence.

SAQ 14.2 (tests Learning Outcome 14.2)

Read Case Study 14.1 and answer the question that follows it.

Case Study 14.1 Mr Thomas

Mr Thomas is a 39-year-old merchant and a married father of two. He has been drinking local *areki* on a daily basis for the last 10 years. He initially took up drinking to socialise with his friends, but over time he has greatly increased the amount of *areki* he drinks. He feels a craving to get *areki* all the time. His wife is worried about his forgetfulness, his loss of interest in work, the lack of money to feed the family and the many domestic arguments they have. He exhibits irritable behaviour, tremor, sweating and nausea. His wife says he looks tense and fearful whenever he has a day without drinking *areki*.

Outline the withdrawal symptoms and long-term effects impacting on Mr. Thomas of his *areki* drinking.

SAQ 14.3 (tests Learning Outcome 14.3 and 14.5)

After reading Case Study 14.1, what questions would you ask Mr Thomas to find out whether he has an alcohol use problem?

What would make you decide whether to refer Mr Thomas for medical treatment?

SAQ 14.4 (tests Learning Outcomes 14.4 and 14.5)

Mr Nuredin has been chewing *khat* and smoking cigarettes for more than 15 years. He comes to you and asks you 'Is there a need to stop chewing *khat* and smoking cigarettes?' How would you respond?

Study Session 15 Epilepsy and Dementia

Introduction

People with epilepsy have recurrent seizures characterised by a brief period of involuntary shaking. Some people fail to respond to antiepileptic drugs, but more than 70% who receive treatment achieve complete freedom from seizures, usually within five years of diagnosis. Dementia is associated with an ongoing decline of the brain and its abilities, causing problems with thinking, language, memory, understanding and judgement. There is no cure for dementia and symptoms tend to get worse over time. However, there are a number of effective treatments that can help people to cope better with their symptoms and improve their quality of life.

Both epilepsy and dementia are common conditions and you are very likely to come across people with these illnesses in your community. In both cases, the early identification of epilepsy and dementia can have a big impact in terms of effective treatment and management of these problems. In this study session you will learn to recognise the common signs and symptoms of both conditions, the different forms they take, and their common causes. You will also discover what you can do to help people with these conditions. This is very important in Ethiopia because – as with mental illness and the other non-communicable conditions discussed in this Module – significant treatment gaps exist for epilepsy and dementia, particularly in rural areas. So providing help and support to people with these conditions will also be effective in reducing the negative effects of poverty and social inequalities within rural communities.

Learning Outcomes for Study Session 15

When you have studied this session, you should be able to:

15.1 Define and use correctly all of the key words printed in **bold**. (SAQs 15.1, 15.2, 15.3 and 15.4)

15.2 Describe the common types and causes of epileptic seizures. (SAQs 15.2 and 15.3)

15.3 Explain how to provide emergency treatment for person who is having a seizure, and how to minimise the risk of further seizures. (SAQ 15.3)

15.4 Understand the reasons for referring people with epilepsy and what should be done to support and manage this condition in your community. (SAQ 15.3)

15.5 Describe the main features of dementia. (SAQ 15.4)

15.6 Describe the possible care and treatment of people with dementia in the community. (SAQ 15.4)

15.1 Epilepsy

Epilepsy is characterised by recurrent **seizures** (sometimes called **fits**). A seizure is caused by a sudden burst of excess electrical activity in the brain, causing a temporary disruption in the normal messages passing between brain cells. This disruption results in the brain's messages becoming halted or mixed up.

These seizures may be partial, involving only one part of the body, or they may be generalised, involving the entire body, and they may be accompanied by loss of control of bowel or bladder function. People who get seizures can suddenly lose consciousness and collapse, wherever they are (see Figure 15.1). Their limbs become stiff and the 'fit' is characterised by sharp, shaky movements.

Figure 15.1 A person having an epileptic fit.

The brain coordinates all the functions of your body, so what is experienced during a seizure will depend on where in the brain the epileptic activity begins and how widely and rapidly it spreads. For this reason, there are different types of seizure.

15.1.1 Types of seizure

Grand-mal seizures

Grand-mal seizures (also called 'tonic-clonic' seizures) are the most common type of generalised seizure. **Generalised seizures** affect all or most of the brain. The person will lose consciousness and won't remember what happened. During the **tonic phase** of an epileptic attack, the person may lose consciousness, have stiff muscles, which can make them lose their balance and fall to the ground, cry out, or bite their tongue or cheek. During the **clonic phase** they may have jerking muscles, lose bladder or bowel control, or become very pale. Tonic seizures are often followed by clonic seizures; however, people may also have either the topic or the clonic phase alone. The epileptic attack (also called the *ictal phase*) is usually preceded by a phase in which the person feels unhappy and fearful, and may experience unusual sensory events, such as the perception of a strange light, or an unpleasant smell. This period just before the attack is also called the *pre-ictal phase*. After the attacke (the *post-ictal phase*) the person often feels drowsy and confused and may have a headache.

Petit-mal seizures

Petit-mal seizures (also called 'absence' seizures) happen mainly in childhood. This kind of seizure doesn't involve falling down or having involuntary jerking movements. Instead, the person may lose awareness, look blank and their eyelids might flutter. They may look as if they're daydreaming. Common between the ages of five and nine years, petit-mal seizures may disappear in adolescence**,** giving way to grand-mal seizures.

Partial seizures

Partial seizures are seizures that only affect a part of the brain. People with a partial seizure may not lose their consciousness. But these partial seizures may be a precursor to a larger seizure, resulting in a generalised seizure, such as the grand-mal seizure described above.

15.1.2 Features of seizures

Following the seizure, people may experience additional symptoms including headaches, vomiting, aches and pains, extreme tiredness, slurring of speech, weakness, or paralysis of the limbs. The experience of a seizure can drain the body (both physically and psychologically) so, afterwards, people may prefer to rest. Some may exhibit confused or odd behaviour after the seizure.

Nocturnal seizures occur when the person is asleep — in the day or the night.

Seizures may occur in irregular intervals. This may be as frequently as several times in a day or a few times a week. In other instances, they may occur only a few times in a year. The attack may occur when the person is asleep (known as **nocturnal seizures**), when alone, or while walking on the street or working in the field. Thus in any situation, anywhere, any time, the person can have an attack. The attack may place the person in peril, for instance, when it happens near fire or in the water, or when the person is climbing, operating machinery, or driving a vehicle. The fall following the seizure may result in trauma or burn injury.

Many people with epilepsy find that certain circumstances, or substances, can trigger a seizure. These **epilepsy triggers** include: stress, lack of sleep, alcohol (particularly if a large amount is drunk in a short time), and health conditions that cause a high fever. Also, some women may find that they are more prone to having seizures just before, during or after their menstrual period. This is because the hormones released by the body during this time can change the chemical composition of the brain, making seizures more likely. Also the changes in mood many women experience before their period — premenstrual tension (PMT) — can make them feel stressed and anxious, which again increases the chance of a seizure.

Most people with epilepsy have something that is known as a **seizure threshold**. People with a low seizure threshold will experience frequent seizures and be sensitive to epilepsy triggers. Those with a high seizure threshold will experience less frequent seizures, and epilepsy triggers will have less effect on them.

15.1.3 Attitudes towards epilepsy

People have different views about epilepsy. For example, there is a traditional belief that epilepsy is a form of insanity, caused by supernatural forces or possession by evil spirits (see Study Session 11, Section 11.1.2). There is also a belief that epilepsy is contagious. Such beliefs are not supported by evidence and can result in negative (prejudiced) attitudes towards those who have epileptic seizures, increasing their social isolation and limiting their access to treatment.

■ Look back to Study Session 9 (Section 9.2.2) and Study Session 11 (Section 11.1.2). When you have done so, answer the following questions:

(a) What views and beliefs do people in your community have about epilepsy?
(b) How might you address the negative consequences of such views?

□ Your answer may have included some of the following points:

(a) It is likely that you will encounter a range of views about epilepsy, including traditional beliefs where those who have seizures are feared and shunned. As we have stressed throughout this Module, it is important to think carefully about how you can work *with* such beliefs. This involves listening patiently to people's concerns and, wherever possible, responding in a way that is sensitive to traditional explanatory models and local cultural contexts.
(b) The best way to challenge the more negative aspects of traditional views is not through confrontation but through the provision of sound, professional knowledge. Educating the community about mental health issues is a key aspect of your role and this can be highly effective in challenging the more negative features of traditional beliefs. For example, people are less likely to assume that epilepsy is the work of spirits if they have accurate information about its medical causes.

15.1.4 The causes of epilepsy

For most people — six out of ten, in fact - there is no known cause of epilepsy and this is called *idiopathic* epilepsy. But sometimes the reason epilepsy develops is clear. It could be because of a severe blow to the head, a stroke, or an infection of the brain such as meningitis. Epilepsy with a known cause is called *symptomatic* epilepsy. Epilepsy can also be caused by drug and alcohol misuse, by conditions that affect the structure of the brain, such as cerebral palsy, by birth defects or by problems during birth which cause a baby to be deprived of oxygen (such as the umbilical cord getting twisted, or compressed, during labour).

The causes of oxygen deprivation (hypoxia) in newborns is covered in the *Labour and Delivery Care* Module.

Sometimes children below five years of age can have a seizure when they have a high fever. This is called **febrile convulsion**. If epilepsy occurs for the first time after the age of 20 years, it is usually symptomatic epilepsy, due to detectable brain damage such as a scar or healed wound in the brain, bleeding inside the brain, or damage because of long-term, excessive use of alcohol.

The diagnosis of epilepsy is mainly based on the description of the seizure given by the person themselves and any eye witness accounts. Box 15.1 provides examples of some of the questions you should ask the person and their family after a seizure has taken place.

Box 15.1 Useful questions for assessing epileptic seizures

Questions to ask the person:

- How did you feel before you had the seizure, for example hot, cold, hungry, tired, etc.?
- Did you experience any unusual symptoms beforehand, for example, nausea, dizziness or chest pain?

- Had you drunk any alcohol or taken any drugs of any kind?
- Did you have any warning beforehand? If so, what?
- Do you remember anything about the seizure? If not, what happened when you came round?
- Did you fall over and/or injure yourself?
- Were there any symptoms after the seizure?
- How many seizures have you had?
- Are there any other factors which could suggest epilepsy, for example, head injury, previous seizures, other people in your family with epilepsy?

Questions to ask witnesses:

- What was the person doing when the seizure started?
- What exactly happened when they had the seizure?
- How long did the seizure last?
- Did they appear confused after the seizure?

A useful method for gaining insight into the recurrence of seizures is to encourage the person to keep a seizure diary (or mental record), noting the date, type of seizure, the time it occurred and its duration, and any thoughts they may have about possible epilepsy triggers or other relevant features.

15.1.5 Emergency treatment for epilepsy

Epilepsy is not usually a life-threatening condition. However, a small number of people die from epilepsy each year, usually as a result of accidents or status epilepticus (see below). In this section you will learn what you can do if you come across someone during a seizure.

The best response to a seizure attack is simply to prevent the person from self-injury by moving them away from dangerous sharp edges, placing a soft pillow under their head, and carefully rolling the person into the safe lateral position (see Figure 15.2). To prevent injury, objects should not be placed in the person's mouth during the seizure. It is also important not to light matches, give the person anything to drink, or to try to stop the fit by force or by holding them tight.

This is a position in which the person is put on their side, to avoid fluid going into the lungs.

Figure 15.2 Protecting a person during a seizure attack.

If a seizure lasts longer than five minutes (or the seizures begin to come in 'waves' one after the other), this may be a sign of **status epilepticus**. Although rare, status epilepticus is a serious medical emergency characterised by two or more seizures occurring in succession without the person regaining consciousness.

This may occur because of the sudden discontinuation of antiepileptic drugs, alcohol withdrawal (in chronic alcoholics), or as the result of an infection of the central nervous system or an accident involving trauma to the head. Status epilepticus could occur without previous history of seizure disorder. Individuals with status epilepticus can be helped by being put in the safe lateral position, by checking blood pressure frequently, and by referring them urgently to the nearest general hospital, accompanied by a close relative or yourself.

After a seizure (whether as a single fit or status epilepticus), the person should not be allowed to wander about unsupervised until they have returned to their normal level of awareness. The person should remain observed until they have completely recovered. It is helpful if those present at the time of a seizure make notes (see the section on seizure diaries at the end of Section 15.1.4) as these could prove useful in diagnosis.

15.1.6 Drug treatment of epilepsy

Although there is no cure for epilepsy, it is treatable and can be controlled with regular medication. Epilepsy is a long-term condition and, with treatment, the outlook is very good for most people. Symptoms can usually be controlled using a class of medication known as **antiepileptic drugs** (**AED**).

It can take some time to find the right type of AED, and the correct dose, before the seizures are brought under control. With a clear understanding of epilepsy and effective management in the community, the risk of seizures can be minimised. A general guide about the use of antiepileptic drugs is given below.

AEDs do not cure epilepsy, but they do prevent seizures from occurring. There are many different AEDs, but they all tend to work by either altering the electric transmissions in the brain or altering the chemicals in the brain. Adverse effects of medication (see also Section 11.2.4 of Study Session 11) are common when people begin taking AEDs and may include nausea, abdominal pains, drowsiness, dizziness, irritability, and mood changes. For some people, the side effects will pass within a few days, whereas for others, the effects may persist for many months. Some side effects, which produce symptoms that are similar to being drunk, occur when the dose of AEDs taken is too high. They include unsteadiness, poor concentration, drowsiness, vomiting and double vision. If someone tells you that they experience any of these symptoms, you should advise them to attend the health centre *immediately*, so that their medication can be revised.

It is also important that you emphasise the importance of adherence to treatment. Advise the person (and their family) that they should never suddenly stop taking an AED because doing so could cause a new seizure. While taking AEDs, they should not take any other medicines, including traditional medicines, without consulting a doctor. This is because other medicines could cause a dangerous interaction with their AED and cause a seizure.

If the person remains seizure-free for more than two years, it may be possible for them to stop taking their AED. However, they should not do this until it has been agreed by the doctor.

15.1.7 Reasons for referral

You should refer in the following circumstances:

- If you come across a person with epilepsy who has never been treated.
- If you suspect a person is having a seizure for the first time and is above the age of 40 years.
- If the seizure occurs in a child under two years of age.
- If the person is pregnant.
- If there has been a recent increase in the frequency of seizures, despite the use of AED medication and in the absence of any explanation.
- If you suspect status epilepticus.
- If there is evidence of psychiatric illness (requiring psychiatric drug treatment).
- If there are severe side effects.

15.2 Dementia

Dementia is a common problem which, like epilepsy, is related to problems with the functioning of the brain. Dementia affects a person's mental ability, personality and behaviour. People with dementia commonly experience problems with memory and the skills needed to carry out everyday activities. They may also have problems controlling their emotions or behaving appropriately in social situations. Aspects of their personality may change. Most cases of dementia are caused by damage to the structure of the brain, leading to the death of brain cells. There are many different types of dementia; the most common type is called Alzheimer's disease.

Although it can occur at any age, dementia is more common in older people (but it is not part of normal ageing). The older people get, the more likely they are to develop dementia. Dementia usually gets worse slowly, often over many years, and may mean that the person affected can no longer live independently. The disease therfore affects both people who develop dementia and the people who care for them. It can shorten people's lives and is an important cause of disability.

Reflecting the ageing global population (with people living longer lives), dementia is a growing problem. There are currently no treatments that can cure or stop the progression of most forms of dementia. However, drugs and other treatments can improve symptoms in some people. There is a significant treatment gap in the provision for people with dementia. Symptoms of dementia can also develop as a result of other long-term health problems, such as epilepsy, alcohol-related brain damage and head injury.

Alzheimer's disease can develop in people with Down syndrome (see Study Session 17) and this usually happens around the age of 30. The signs and symptoms are similar to those seen in people without this syndrome. Sometimes people with AIDS develop AIDS-related dementia, including forgetfulness, difficulty in concentrating, personality changes and loss of coordination.

Although there is no expectation that you will be involved in the diagnosis of dementia, it is important to reflect on the symptoms above so that you are aware when a referral for treatment is necessary. A useful technique is to use the questions in Box 15.2 to gain greater understanding of the specific features of dementia in the person you are supporting.

Box 15.2 Useful questions for assessing dementia

Questions to ask the family or friends:

- When did you first notice a problem?
- How did the illness start? Does the person have problems remembering things?
- Does the person have difficulty in everyday activities such as eating, bathing and using the toilet?
- Do they behave in odd manner?
- Have they seemed sad or lost interest in daily life?

Questions to ask the person with memory problems:

In the following, you should award each correct answer with a mark. If a person answers less than six questions correctly then there is a possibility that they have dementia and should be referred for assessment.

1 How old are you?
2 What time is it now?
3 Which *woreda* do you live in? (*kebele*, and village and address)
4 What is the month and year?
5 What is the name of the health institution or home address you are at?
6 Do you recognise the people around you?
7 Do you know when you were born?
8 When did the current Ethiopian government win the first election?
9 Who is the prime minister of Ethiopia?
10 Name the days of the week backwards.

15.2.1 Treatments for dementia

Memory loss cannot be reversed, but you can minimise suffering in people affected by dementia by using these tips. It is important that you give tips to a person with memory loss, so that they do not have to learn new information, which is the most difficult thing for people with dementia.

- Put your keys in an obvious place.
- Put labels on cupboards, drawers or boxes.
- Instruct family members to remind you when you forget things.
- Try to memorise unfamiliar things by associating them with well-known things.

Try to review regularly the person's ability to perform daily tasks safely, behavioural problems and their general physical condition. You need to make sure the person and their family understand that the condition may impair their ability to function properly, and to encourage the family to give support in the care of the person.

There are no medical treatments that reverse the effects of dementia. Drug treatment can, however, help manage some symptoms and improve the lives of people with dementia and their families. Drugs can be used in people with dementia to treat:

- Cognitive symptoms (symptoms that affect thinking and reasoning)
- Behavioural symptoms (symptoms that affect behaviour)
- Depression
- Anxiety
- Sleep problems.

For example, if depression is a problem, antidepressants (see Study Session 12) can be given by a doctor. Similarly, behavioural disturbances or psychosis associated with dementia can be treated by antipsychotic drugs (see Study Session 13).

15.2.2 Prevention of dementia

While it is not possible to prevent age-related dementia, there are some measures that can help the person avoid some types of dementia, as well as cardiovascular diseases, such as strokes and heart attacks. The rule here appears to be 'What is good for your heart is also good for your head.' You should inform people that the best ways to guard against dementia are to:

- eat a healthy diet
- maintain a healthy weight
- get sufficient and regular exercise
- drink alcohol in moderation
- not smoke.

For detailed discussion of these disease prevention strategies please refer to Study Sessions 1, 14 and 18 of this Module.

Summary of Study Session 15

In Study Session 15, you have learned that:

1 Epilepsy and dementia are conditions arising from problems in the functioning of the brain. Neither can be cured but treatment can significantly improve the quality of life of both sufferers and their families.

2 There is a very large treatment gap (defined as the difference between the need for treatment and its availability) for epilepsy and dementia in developing countries, including Ethiopia.

3 Traditional beliefs about epilepsy and dementia can result in prejudice and/or shame and limit the take-up of effective treatment. You should address such beliefs carefully and sensitively.

4 Epilepsy can be symptomatic (when the cause is known) or idiopathic (when it is not).

5 Knowledge of the details of an epileptic seizure could be useful to doctors in diagnosis.

6 You should refer for immediate assessment if you suspect status epilepticus.

7 Many people with epilepsy can lead symptom-free lives using antiepileptic drugs (AEDs) but should be monitored carefully in the community as seizures can return as a result of non-adherence to this medication.

8 Although there is no cure, there are a range of medical and non-medical treatments for managing the symptoms of dementia.

9 As with many physical conditions, it is important for people to maintain a healthy lifestyle.

Self-Assessment Questions (SAQs) for Study Session 15

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

Read the following case studies and answer the questions at the end.

Case Study 15.1 Mrs Mulu

Mrs Mulu is a 30-year-old married mother of one. She has a history of epileptic seizures that have not been helped by her previous non-adherence to treatment. She did not take her medication because of bad side effects and because she was ashamed of her condition, as her husband's family had told her that it was her fault for making the spirits angry. Three years ago, her failure to take her antiepileptic drugs (AEDs) resulted in the need for emergency treatment for status epilepticus. Since then you have visited her regularly and discussed the importance of medication. She now takes her AEDs and has not experienced a seizure in over two years.

However, on a recent visit she complains to you that she is again experiencing some side effects. These are different to before and make her behave as if drunk (although she has never drunk alcohol). She is also worried about her 8-year-old daughter, Meron, who has been behaving strangely in school and at home. On a number of occasions she has been found in a trance-like state, staring into the distance with fluttering eyelids. Mrs Mulu's husband and his family believe that this is caused by possession by evil spirits because they are angry that Mrs Mulu continues to take her AEDs. Given their views and the absence of seizures, Mrs Mulu wants your permission to stop taking her medication.

SAQ 15.1 (tests Learning Outcomes 15.1, 15.2 and 15.4)

Should you give Mrs Mulu permission to stop taking her medication?

SAQ 15.2 (tests Learning Outcomes 15.1, 15.2 and 15.4)

How might you explain Meron's strange behaviour to the family and school? What else should you do?

SAQ 15.3 (tests Learning Outcomes 15.1, 15.2, 15.3 and 15.4)

What should you do if Mrs Mulu or her daughter has a seizure during your visit? Describe both your emergency care role and what you would do after the seizure has ended.

SAQ 15.4 (tests Learning Outcomes 15.1, 15.5 and 15.6)

First read Case Study 15.2 and then answer the questions that follow it.

Case Study 15.2 Mr Teklu

Mr Teklu is a 62-year-old man. He was once a school teacher and he and his wife were highly respected in the village. However, the couple were not blessed with children and, since his wife died four years ago, Mr Teklu has become withdrawn. He no longer recognises former pupils by name and seems to have lost all joy in life. When old friends try to talk to him he often makes little sense, saying strange things and sometimes laughing or crying for no reason. As a result, they keep away. Without support, Mr Teklu appears to be getting worse and struggles with keeping himself clean and tidy or looking after himself.

When you visit Mr Teklu at home it is clear that he is struggling to cope alone. His home is a mess and he appears undernourished. He tells you that he has been feeling depressed and uses khat and alcohol to make him feel better. This leaves him little money to buy food and he finds it hard to remember how to cook his favourite meals.

(a) What would you do to find out whether Mr Teklu is suffering from dementia?
(b) How might you help Mr Teklu?

Study Session 16 Mental Health Problems in Daily Life

Introduction

In the course of your daily work, you will commonly find people who have the following problems:

- physical complaints that don't seem to have a medical cause
- worries that seem too much
- difficulty with sleep.

People may be very troubled by these problems and need help. Without treatment these problems can interfere with a person's work and relationships. Sometimes, but not always, these symptoms indicate the presence of mental disorder. In this session you will learn how to assess people who have these problems and detect any underlying mental health problems. A small proportion of people will need referral for further assessment, but many people can be helped with simple interventions. You will learn how to give advice on relaxation, ways of managing anxiety and panic, and sleep problems.

Another common experience that can affect a person's mental health is exposure to violence or life-threatening accidents. Individuals can be exposed to violence by being the victims of it or because they have witnessed violent acts on others. Violence can occur at home, in the fields, in meeting places, in the bar and in other places. It affects children, women and men. Although violence is often assumed to be physical, it can also be **psychological violence** (violence that negatively affects the self-confidence and dignity of an individual). A person who experiences a life-threatening accident can also suffer from disabling mental health problems. The expectation, after completing this study session, is that you will understand the serious nature of violence, the common mental health consequences of violence and life-threatening accidents, and what you can do to support people who suffer from these kinds of mental health problems.

Learning Outcomes for Study Session 16

When you have studied this session, you should be able to:

16.1 Define and use correctly all of the key words printed in **bold**. (SAQ 16.1)

16.2 Describe what somatisation is, identify when it may be present and explain how you could help. (SAQ 16.3)

16.3 Explain how you would give advice to a person who is worrying too much. (SAQs 16.1 and 16.2)

16.4 Explain how you would help people with sleep problems. (SAQs 16.1 and 16.2)

16.5 Describe how you would detect mental health problems arising from violence or life-threatening accidents. (SAQ 16.4)

16.6 Explain how you would help women who are victims of intimate partner violence. (SAQ 16.4)

16.1 Physical complaints without an identifiable medical cause

It is a common experience in primary healthcare that a person comes with a physical complaint but no medical cause can be found. The most common explanations for this situation are:

- A medical cause is actually present, but can't be detected with the facilities available.
- The physical complaint is due to undetected depression or anxiety.
- The physical complaint is due to **somatisation**. This is when mental or social distress (e.g. chronic poverty, marital problems) comes out as a physical symptom (Figure 16.1). Often the person doesn't realise that this is happening. For example, a woman who is distressed because she is not able to get pregnant may develop a chronic headache as a result of her distress. Somatisation can also occur as part of depression.

Figure 16.1 A person with multiple physical complaints characteristic of somatisation.

Studies from Ethiopia have shown that around one in five people attending a general medical out-patient clinic with a physical symptom actually have an undetected mental health problem. This is very similar to the situation in other countries. It is important to recognise when a person's physical health complaint is being caused by an underlying mental health problem, otherwise there is a risk that they will repeatedly attend health services without getting relief. They may spend a lot of money on traditional treatments that don't help, or may receive inappropriate treatment or investigations; for example, they may be given antimalarial medication for a headache that is actually caused by depression. Ultimately, they continue to suffer and be disabled because they don't get the treatment they really need.

Some of the physical symptoms that can be caused by depression or anxiety are shown in Table 16.1.

Table 16.1 Physical symptoms in depression and anxiety.

Depression	**Anxiety**
Loss of appetite Weight loss Fatigue Low energy Headache Multiple aches and pains Constipation	Tremor/shaking Sweating Poor digestion Tense muscles Heart racing Shortness of breath Chest pains Dizziness/fainting

In Ethiopia, there are some other physical complaints that seem to be more typical of somatisation than a medical illness or condition. These are listed in Box 16.1. In your area you may know of some additional physical symptoms that people use to express their mental or social distress. Make a note of them here.

Box 16.1 Common somatisation symptoms in Ethiopia

- Burning sensations on the head or body
- Buzzing in ears
- Crawling sensations under the skin
- Stabbing/pricking pains
- Fluid in the head
- Back pain.

Some indicators that physical symptoms might be related to a mental illness or somatisation are as follows:

- Medical investigations give no abnormal results
- The person has three or more physical complaints
- The physical symptoms don't fit in with usual patterns of any known disease
- Other features of depression (e.g., low mood, hopelessness, loss of interest, guilt, etc.) or anxiety (e.g., excessive worry) are also present (depression was covered in Study Session 12 and you will learn more about anxiety in Section 16.2)
- The symptoms are chronic
- The person has repeatedly consulted healthworkers.

■ Read Case Study 16.1 about Mrs Abeba carefully. List which features of her case are indicators of possible mental health problems and which features make it more likely that she has a physical health problem.

Case Study 16.1 Mrs Abeba

Mrs Abeba is a happily married woman with two healthy children. The family does not have any major financial concerns. One morning she noticed a pain in her lower back while she was picking up a bundle of wood. She tried to ignore the pain but it quickly became worse and would not go away. The pain was particularly bad in the mornings and became so severe that she would often cry. Antipain medication only helped for a short while before the effect wore off. She was seen by a hospital doctor three times within just two weeks, but he was not able to find anything significantly abnormal. There was a small cyst which the doctor removed in case it was the reason for the pain. However, the pain continued. The doctor thought the pain was due to a mental disorder and referred her to a mental healthworker.

□ Indications that Mrs Abeba's back pain could have a physical cause are: that the pain is very severe, it is the only symptom Mrs Abeba has, there is no evidence of depression/anxiety and there are no obvious psychosocial stressors (i.e. stressful circumstances in her life). On the other hand, the doctor could not find any cause and the pain had become chronic, which could suggest a psychosocial cause.

Even if you think an unexplained physical complaint is due to mental illness, review if new symptoms develop – don't miss a physical cause!

This is a real case. Mrs Abeba went on to develop some other symptoms – including fluid coming out of her spine and loss of feeling in her leg – and was eventually diagnosed as having tuberculosis of the spine. This example shows the importance of keeping an open mind and being prepared to review the original diagnosis when new information becomes available.

16.1.1 Physical complaints without an identifiable medical cause: what can you do to help?

When somebody from your local community has physical complaints that don't seem to have a medical cause, the first things you need to do are:

- make sure that the person has been properly medically assessed
- screen for depression, anxiety and alcohol misuse/abuse.

If any of these conditions are present then refer for treatment.

If the physical complaint doesn't seem to be due to a medical cause, or to depression, anxiety or alcohol abuse, it might be due to somatisation. In this situation there are a few things that you can do to help:

- Reassure the person that there doesn't seem to be a serious or dangerous cause for their symptoms.
- It can be difficult to explain to people that their physical symptoms may come from mental distress. They may think that you don't believe them or that you are saying they are crazy. Instead, ask them about any life difficulties.
- You can explain that:
  - Physical symptoms can be made worse by worrying about life's problems.
  - Worry can make people tense their muscles which in turn can lead to pain, e.g. tension headaches.
  - If we feel sad, worried or frightened then we become more sensitive to pain.
- If the person is repeatedly attending different health facilities or looking for treatment from traditional healers, build up their trust and encourage them to come to you first if they have any new physical complaints.
- Be prepared to review the assumption that symptoms are due to somatisation. If an underlying physical condition is present then it will usually progress and become easier to detect with time.
- Medication is not indicated unless the person also develops depression. In that case, the health centre staff may prescribe antidepressant medication (see Study Session 12).

16.2 Anxiety disorders: worries that seem too much

All of us worry about things from time to time, especially if we have a lot of problems, but for some people the worry can become excessive. Anxiety disorders occur when a person worries without sufficient reason (Figure 16.2). Some examples of *normal* worry could be a student worrying on the night before an exam, a woman worrying about her child who is ill, or a man worrying about how he can provide for the family after the crops have failed. Some examples of *abnormal* worry (an anxiety disorder) could be a student who worries all the time, even when their exam results are good, a woman who worries constantly about her child even though the child is healthy and happy, and a man who worries about the harvest even when the crops are growing well.

Figure 16.2 A person who is suffering from anxiety.

Anxiety can be distressing and disabling, for example, preventing people doing things that they used to such as going out of the house and meeting up with other people. As well as causing a person to worry too much, anxiety can lead to physical symptoms (as you have already discovered in Table 16.1). Anxiety often goes hand-in-hand with depression. Also, people who are worrying too much may use alcohol and *khat* as a way of trying to cope with their symptoms. Although this might help them to feel better in the short term, alcohol and *khat* usually make anxiety worse in the longer term (see Study Session 14).

Here are some ways that you can help a person if they are suffering from an anxiety disorder (worrying too much):

- Show the person that you take their problem seriously.
- Screen for depression and refer for treatment if needed (see Study Session 12).
- If they are using alcohol and/or *khat* then advise them to stop (see Study Session 14).
- Suggest cutting back on coffee as this can make anxiety worse.
- If they have sudden attacks of severe anxiety, tell them to breathe into a paper bag. This will help to calm them down.
- Depending on the person, regular exercise could help.
- For the person who worries about lots of different things at the same time, **problem solving** (a simple, structured way to approach problems; see Box 16.2) can also be a useful approach.

If none of these approaches helps or the anxiety is severe, refer to the next level health centre for further assessment.

Box 16.2 Problem solving for the person with many worries

- Sit with the person and help them to make a list of all their worries.
- Focus on just one worry – the main one.
- Help the person to think of step-by-step actions to tackle that single problem.
- Involve a family member if appropriate.
- Encourage the person to try to solve the problem and check on their progress.

Next we would like you to complete Activity 16.1.

Activity 16.1 Learning how to use problem solving

Think of something that you are worried about (or have been worried about in the past) and try to use the problem-solving approach on yourself. Once you feel confident, try it on a friend or family member.

Write about your experiences of trying this technique in your Study Diary and discuss them with your Tutor at the next Study Support Meeting.

This activity is also relevant to SAQ 16.2.

16.3 Difficulty with sleep

Figure 16.3 A woman who is unable to sleep at night.

Sleep problems are common: in the USA 1 in 10 people have chronic **insomnia**. This is when a person has difficulty getting enough good quality sleep (Figure 16.3). Not everybody needs the same amount of sleep, but most adults seem to need between 7 and 9 hours of sleep in order to function properly. Children need more sleep and older people don't need so much sleep.

■ From your general knowledge, can you think of five reasons why somebody might have problems sleeping?

□ Common causes of sleeping problems include: bad sleeping habits, undetected mental illness (depression, anxiety, psychosis), social problems (e.g. somebody has died, not enough food for the family), stimulants or other drugs (coffee, alcohol, *khat*, prescribed medications), a physical health problem (e.g. painful conditions, diabetes, breathing problems, epilepsy), late pregnancy, having a young child, something in the environment (uncomfortable sleeping place, cold, noisy).

Sleep problems can be very frustrating and distressing. People with sleep problems are more likely to be involved in road accidents because they are tired and don't concentrate properly. Sleep problems can also lead to mental illness or make mental illnesses worse. People may try to treat their sleep problems through self-medication, either with sedative medication (usually diazepam) or alcohol. **Sedative medication** is medication that makes a person feel sleepy. Both alcohol and diazepam can lead to addiction and, instead of

solving the sleep problem, can make it worse. Because of all these reasons, it is important to take sleep problems seriously. Simple advice can be very helpful.

If somebody tells you that they have a sleep problem, you need to do the following:

- Try to work out whether there is an obvious reason for it.
- Screen for depression (see Study Session 12) or anxiety (Section 16.2). If present, refer for treatment.
- Ask the person about their use of alcohol, *khat* and coffee. If present, explain that these stimulants may be affecting their sleep and advise them to cut down or stop.
- If you think they have got into bad sleeping habits, you can use the advice in Table 16.2 on **sleep hygiene** — that is, getting into good sleep habits.

Table 16.2 Advising people on good sleep hygiene.

Do's	**Don'ts**
Go to bed and get up at regular times Make sure you have regular exercise Take time to talk with family and relax before trying to sleep If you are worried about something, write it down/tell somebody about it and deal with it in the morning	Sleep during the day Eat a heavy meal just before bed Drink coffee in the afternoon or evening Chew *khat* Smoke a cigarette Use alcohol to help you sleep

16.4 Violence, accidents and mental health

If a person experiences or witnesses very severe violence (e.g. due to physical or sexual assault, or fighting in a war) or a life-threatening accident (e.g. being thrown off a horse, a serious road traffic accident) then it is normal for them to become mentally distressed. In most cases, their distress will get better with support from family and friends, and with the passing of time.

16.4.1 Mental health problems due to life-threatening violence or accidents

For some people the effect of violence or major accidents on their long-term mental health will be very serious and they may develop one of the following mental illnesses:

- Depression (see Study Session 12)
- Anxiety (see Section 16.2 above)
- Alcohol misuse (see Study Session 14)
- Post-traumatic stress disorder.

In **post-traumatic stress disorder** (PTSD), the person remains very distressed because of the violence or accident they experienced. You can screen for PTSD by looking for the following symptoms:

- horrible and persistent memories or nightmares about the bad event
- unable to relax because they are expecting more bad things to happen
- avoiding anything that reminds them of the bad event.

The person with PTSD may not be able to work properly and they may develop problems in their relationships with other people. In Box 16.3 are

some suggestions for how you can help when a person develops mental health problems as a result of life-threatening violence or accidents.

Box 16.3 How you can help with the mental effects of life-threatening violence or accidents

- Reassure the person — usually mental distress lessens with time
- Encourage family and friends to be supportive
- Talking about their experience doesn't always help – let the person decide if they want to discuss it or not
- Encourage the person to continue with their normal activities as much as possible — having a routine is helpful
- If they are very severely distressed, refer to the next level health centre straight away
- If the person's distress lasts for more than one month, screen for mental illness (depression, anxiety, alcohol problems, PTSD) and refer if signs of these disorders are present
- You can explain to the person and their family that PTSD can be helped by medication and by talking to a trained health worker.

16.4.2 Intimate partner ('domestic') violence

Figure 16.4 A woman being beaten in her home.

Violence against women, usually carried out by their husband or another family member (**intimate partner violence**, Figure 16.4), is sadly common in all cultures and societies around the world. Studies show that Ethiopia is no exception: nearly 3 out of 4 women experience violence at some point in their life. Of course, men can also be the victims of violence carried out by women, but this is much rarer and so we won't focus on that problem here. Violence against women can be physical (e.g. beating), sexual (e.g. rape) and/or psychological (e.g. saying things that make the woman feel bad about herself). Violence tends to be worse when a woman is pregnant. Women who have just given birth may also be at increased risk because the tradition means that they should stay inside their home after giving birth and so they may not be able to escape from a bad situation.

Women who experience violence are at increased risk of developing mental illnesses. These women are more likely to develop depression or anxiety disorders, somatisation (see Section 16.1) and/or become so desperate that they consider ending their lives (suicide).

- Read about the case of Mrs Alemtsehay, a postnatal woman living in a rural area (Case Study 16.2). This shows you the effect of violence on one woman's mental health (this is a real case but the woman's name has been changed). As you read about Mrs Alemtsehay's experience, can you identify possible symptoms of mental illness?

Case Study 16.2 Mrs Alemtsehay's story

'First, we quarrelled and then he [her husband] started to beat me. I cried. I became angry about having a baby at that time. I was irritated. After that day, I couldn't sleep. All I did was cry. … At that time, had I been God or had I been the person who can do anything, I thought of

killing her [her baby] and killing myself. … Since I didn't have the guts to kill the baby or kill myself, I just thought about it.'

□ Mrs Alemtsehay is showing possible symptoms of depression: sleep problems, crying, hopelessness and suicidal thoughts. It may not be abnormal for a woman to feel like this if she is being beaten by her husband, but it is important to check that she hasn't also developed a depression. The thoughts of wanting to harm her child suggest that severe depression is present. If she does have depression, this might make her situation even worse. She may even try to end her life. If her depression is treated, she might be able to think more clearly and be more motivated to try to find ways to solve the problem.

As well as mental health effects, violence can lead to physical injury (see Study Session 7). If a pregnant woman is the victim of violence can lead to pain or bleeding and even cause her to lose her baby. If the baby survives, violence can cause the baby to be born early, have a lower birth weight or develop other health problems.

A woman who is the victim of violence may not know how to get help. Often women blame themselves even when it is not their fault. For example, they might say 'I deserved to be beaten because I forgot to fetch the water', or 'He is my husband so it is his right to have sex with me even when I don't want to have sex'. They may also be frightened that the violence will get worse if they tell an outsider (and this could be true). If they have also developed depression, this may be another obstacle that stops them looking for help.

See Box 16.4 for some ways in which you can help with the mental health effects of intimate partner violence.

Box 16.4 Intimate partner violence: what can you do to help?

- Educating the community to prevent violence happening in the first place. (We will discuss this further in Study Session 18.)
- Be ready to detect violence, particularly among pregnant and postnatal women.
- When asking a woman about violence, make sure the discussion is private.
- If you find out that a woman is the victim of violence:
  - Be supportive by listening to her difficulties
  - Screen for mental illness and suicidal thoughts or plans
  - Encourage her to speak with another family member or community elder
  - Advise her of any local organisations or charities that offer help to vulnerable women
  - Offer to speak with a community elder who could then help to sort out the problem.

Summary of Study Session 16

In Study Session 16, you have learned that:

1 Physical complaints without an identifiable medical cause are often caused by depression, anxiety and/or somatisation.

2 It is important to detect and treat the mental health causes of a person's physical complaints so that their suffering can be relieved, they won't spend lots of money on unhelpful treatments, and they won't repeatedly attend health facilities.

3 Always remember that unexplained physical complaints could have a physical cause that is difficult to detect – be prepared to review the diagnosis of somatisation if new evidence comes to light.

4 People who worry too much can be helped with simple advice and the specific techniques of relaxation exercises and problem solving.

5 Sleep problems are common and disabling. You can help to identify the cause of the sleep problem, refer for treatment if needed and advise on healthy sleep habits.

6 Self-medication of anxiety and sleep problems, for example by drinking alcohol, chewing *khat* or taking sedative medication, is a common problem and often makes the problem worse.

7 If a person is exposed to severe violence or a life-threatening accident then they are at increased risk of developing a mental illness.

8 Intimate partner violence is a common problem that mainly affects women. You can help by detecting the problem, screening for mental illness and informing the woman of any local organisations that could help them.

Self-Assessment Questions (SAQs) for Study Session 16

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 16.1 (tests Learning Outcomes 16.1, 16.3 and 16.4)

Which of the following statements is *false*? In each case explain why it is incorrect.

A Sleep hygiene means making sure that a person is clean before they go to sleep.

B Problem solving involves telling a person how to solve their problems.

C Sedative medication is good for people who can't sleep.

D In post-traumatic stress disorder the person keeps remembering the bad event that happened to them.

E Avoiding drinking coffee after lunchtime can help to improve sleep problems.

SAQ 16.2 (tests Learning Outcomes 16.3, 16.4)

Case Study 16.3 Mr Ato Debela the farmer

Mr Ato Debela has always been somebody who tends to worry about things more than other people. But since his father died a year ago, his worry has increased. Mostly he worries about how he is going to manage to provide for his wife and three children. He has lots of aches and pains in his muscles, especially in his head and neck. His hands shake and he sweats a lot. He also feels his heart beating faster than usual and sometimes feels as though he can't breathe properly. At night time he finds it difficult to sleep because he is thinking so much about different things. At the health centre he was given some vitamin tablets but they haven't helped. He is unable to work properly because of his condition.

(a) Identify the possible symptoms of anxiety.
(b) What advice could you give Mr Ato Debela to help improve his sleep?
(c) How could you help him with his anxiety?

SAQ 16.3 (tests Learning Outcome 16.2)

One of the nurses working in the nearby health centre tells you about a patient who keeps coming to the clinic with different complaints – one week they have abdominal pain, another week they complain of headaches, the next week they say they feel dizzy. The patient has had a proper examination and all investigations are normal. The nurse asks whether you can help.

(a) What do you think the problem could be?
(b) What extra information would you like to find out from the patient?
(c) Can you suggest how you could work together with the health centre nurse to help this patient?

SAQ 16.4 (tests Learning Outcomes 16.5 and 16.6)

Look back at Case Study 16.2. How could you help Mrs Alemtsehay?

Study Session 17 When Children Have Problems

Introduction

A happy and healthy childhood is very important for the future of children (Figure 17.1). Children who have problems in early life often continue to have problems in adulthood. By preventing or treating childhood problems, we can help to establish a mentally healthy population. Children need to be given the opportunity to grow intellectually, emotionally, and behaviourally as well as physically. Most childhood problems arise when development in these areas is slow or abnormal. In this session you will learn about the most common and most important problems in the intellectual, emotional and behavioural development of a child. You will also learn what to do when you suspect a child may have these problems.

Figure 17.1 A happy rural child posing for a picture. (Photo: Rosa Hoekstra)

Learning Outcomes for Study Session 17

When you have studied this session, you should be able to:

17.1 Define and use correctly all of the key words printed in **bold**. (SAQs 17.1 and 17.2)

17.2 Identify important and common problems that occur in childhood. (SAQ 17.2)

17.3 Explain how you support families with children who have intellectual disabilities. (SAQ 17.1)

17.4 Describe what enuresis is and what you can do to support the family and the affected child. (SAQ 17.2)

17.5 Describe the common forms of child abuse and its impacts. (SAQ 17.1)

17.6 Identify the main reasons for referring a child with problematic behaviour. (SAQ 17.3)

17.1 When children develop normally

There are large variations in the way children develop. But there are some characteristics in physical, language and emotional development that all children have in common. Table 17.1 and Figure 17.2 (on the next page) present some important **developmental milestones** (significant events in development that are achieved by most children around a particular age) in early childhood. The exact age by which these milestones are achieved varies from child to child, but when there is a serious deviation from these typical developmental milestones, there is reason for concern. In the following sections we will discuss a few important conditions in which the typical development is delayed or abnormal.

Table 17.1 Normal childhood developmental milestones.

Age	Physical development	Language development	Emotional development
0–1 years	4 months: sits with support 8 months: stands 9 months: crawls	4 months: laughs aloud 8 months: repetitive responding 10 months ma-ma, ba-ba	Issues of trust are key 9 months: stranger anxiety; exploratory and solitary play 10 months: plays peek-a-boo
1–2 years	13 months: starts to walk 2 years: walks alone	2 word sentences	Imitates No is favourite word
2–3 years	High activity level Eats, drinks by self	Parents understand more of what the child says	Selfish Imitates mannerisms and activities May be aggressive
3–4 years	Toilet trained. But bladder control may be delayed up to the age of 5 years	Complete sentences Understands much more	Gender-specific play Takes turns Knows full names and gender
4–5 years	Hops on one foot Avoids simple hazards	Can tell stories	Nightmares and fear of monsters Imaginary friends
5–6 years	Complete toilet control	Asks the meaning of words	Important to conform with peers

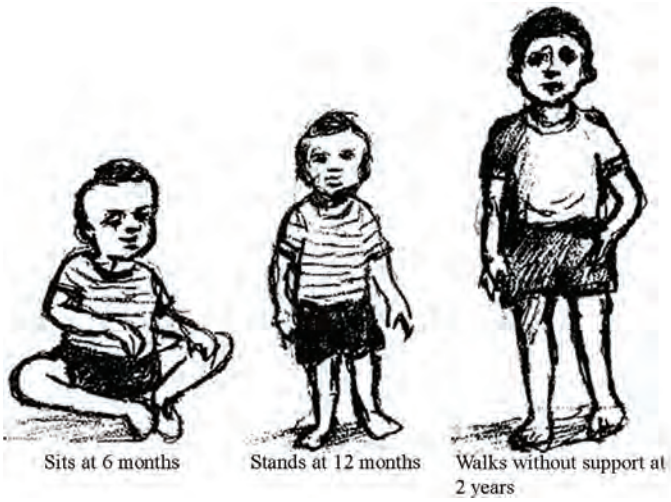


Figure 17.2 Examples of developmental milestones.

17.2 A child who develops slowly

In the previous section you learned about the typical developmental milestones. When there is significant delay in achieving these milestones, you should think about the possibility of **intellectual disability (ID)**, formerly referred to as mental retardation. ID is characterised by a delay in the intellectual development of a child compared with children of the same age. ID impairs the ability of a child to carry out expected day-to-day activities adequately. Children with ID may, for instance, have difficulty in the following areas:

- Simple skills such as getting dressed, feeding oneself, and washing
- Skills to communicate or engage with others (being able to understand what others say and to be able to answer back)
- Certain social skills to get along with friends and family members.

17.2.1 What causes intellectual disability?

The primary cause of ID appears to be problems with the development of the brain. In most children with ID we do not know precisely why the children have ID. But some of the factors that we know about include:

- Problems before the child is born: poor nutrition or excessive alcohol consumption by the mother during pregnancy, exposure to certain types of infections prenatally.
- Problems during childbirth: prolonged labour.
- Problems in the first year of life: infections of the brain; accidents or severe malnutrition.
- Some genetic conditions, for example Down syndrome.

Down syndrome is the commonest identifiable cause of ID in Europe. A child with Down syndrome is usually of short stature and has physical characteristics (including an unusually round face, a protruding or oversized tongue and unusually shaped eyes) that make them look different from other children. The mother's age is the commonest risk factor in relation to Down syndrome: at age 28, the risk is about 1 in 800 live births, at the age of 38, the risk increases to about 1 in 200; and by the age of 48, this rises dramatically to about 1 in 10 live births. Given this, one of the things you can do in your community is to encourage women to try and avoid pregnancy after the age of 40.

Other risk factors that may affect the intellectual development of a child include problems in the way the child is being looked after, such as poor stimulation, child abuse and emotional neglect.

17.2.2 What can you do when you suspect ID?

There is no cure for ID. But there are things that can be done to make sure that there are no treatable problems affecting intellectual development that are being missed.

■ Tessema, a 3-year-old toddler, appears withdrawn and unhappy. His parents tell you that he has grown well physically but has problems talking. They also tell you that when he was 3 months old, he had a fever and discharge coming from his ear. They are concerned that, because he has not been able to talk, he may have ID. How would you proceed?

□ ID is not just about a child having problems with language development. ID is more pervasive and affects a child's physical and emotional development as well. Language is an important indicator of intellectual development but it is not the only indicator. The first thing to consider in the case of Tessema is whether a problem with his hearing has caused a delay in his talking. At 3 months he had what appears to be an ear infection, which may have caused the problems with language development. However, before concluding that Tessema's problem is *just* to do with his hearing, confirm that there are no problems with his physical and emotional development (Table 17.1 and Figure 17.2). If you suspect hearing problems, or if you are unable to exclude this possibility, refer Tessema to the next healthcare facility for further assessment and advice.

As noted above, under-stimulation can also make a child appear developmentally slow. As Tessema is withdrawn, this is a possibility, although it is relatively uncommon. You should check how Tessema's family interacts

with him. If you find that there is very little interaction between him and the family, you can gently suggest ways in which the family might encourage stimulation. For example, you can ask the family to try and talk to Tessema regularly, to take him out of the house on a daily basis, and to allow him to play with other children.

Although ID cannot be cured, there are several other things that can be done. You can play a key role in educating the parents, other relevant family members and the child's teachers about the child's difficulties, and give them information on how to best support the child.

17.2.3 Educating parents

Emotional reaction of parents

The birth of a child with ID can be a shock for the parents. Parents who have a child with ID are likely to experience a range of strong emotions. Some parents feel guilty when a child has ID. You should help them understand that it is not their fault and can happen to anyone. Some parents also feel ashamed to have a child with ID. Explain to them that ID is more common than they may think. They may not know other children with similar problems simply because their parents also don't want other people to know about it.

Living with a child with ID can, at times, be stressful. For example, when the child becomes ill but has difficulty in communicating their distress or describing their problems; or when the child becomes an adolescent and their behaviour changes in response to the challenges of this difficult developmental period. Caring can itself be a cause of stress and mental health problems and parents will require support, particularly during these times of stress. Despite these difficulties and challenges, most parents of a child with ID have a good quality of life. Many parents discover that their children – as well as having special needs – have special qualities that add to the joy of family life.

What parents should expect

It will take parents a long time, in some cases years, to accept that their child has significant limitations. It is important to be sensitive and tactful when you discuss these difficulties or talk about the child's future. You should be open and honest with parents in providing advice and information, but you should do this in a way that is sensitive to their fears and concerns.

In general, what can be expected will depend on the cause of the ID and its severity. When ID is moderate to severe, the child will require a lot of support. Some will be able to take care of themselves, in terms of eating for themselves, dressing and the like. Others may require support in these areas. Children with mild ID (which is the majority of cases) will be independent in the above functions. Many will be able to attend school but their teachers need to understand and be able to respond to the specific needs of these children. Children with ID are also likely to experience difficulty in making friends as they grow up and, as adults, in finding and sustaining paid employment.

- You have probably seen many children with ID helping their parents in different activities, for example on the farm. Can you provide other examples of activities where those with ID may be able to help their parents/carers?

- Children with ID can do many simple errands like washing and cleaning, looking after cattle, fetching water, picking up shopping, etc. Some may be able to hold paid employment and help their families financially. The list given here is only an example; there are probably many more chores you can think of.

Specific things parents can do to support their child

Just like typically developing children, children with ID are sensitive to the emotions of their carers. It is thus important for them to experience love from their carers (Figure 17.3). Some other concrete things that parents could do to develop their child's skills are listed in Box 17.1.

Figure 17.3 Growing up in a loving and affectionate family is important for the development of a child with ID.

Box 17.1 Tips and suggestions for parents

- Parents should not overprotect the child, but should let the child do whatever they can do on their own (Figure 17.4). This will make the child more confident and self-reliant.
- Parents should stimulate the child even if they feel it is pointless. For example, they could talk to the child, beginning by using simple language then raising the level as the child's language skills improve.
- Parents can provide training in simple social skills such as greeting someone and saying goodbye
- When parents want something from the child, they should explain clearly what they expect from the child and how something is to be done.
- It does not help to be irritated or annoyed with the child. Most of the time, the child does not do it deliberately.
- It is better to praise the child when behaving well and to ignore them when their behaviour is not satisfactory.

Figure 17.4 A mother allowing her child with ID to do what he can do on his own.

17.2.4 Sexual adjustment

The sexual development of those with ID follows a normal course in most cases. It is important that children with ID learn about human sexual relationships and marriage. They are also likely to require education about the physical aspects of sexual intimacy and body function. Parents may find such conversations difficult but it is important that they take place. One reason for this is that, given their intellectual difficulties, those with ID may be open to exploitation and abuse if they have no understanding of sexual matters. Both boys and girls with ID should know about the potential dangers and appropriate protection in this area.

17.2.5 Preventing ID

Once ID has developed it is an irreversible condition. But several steps can be taken to prevent ID. You will be able to support these actions in your community (Box 17.2).

Box 17.2 ID prevention strategies

During pregnancy:

- Antenatal care: good antenatal follow-up
- Avoid medications as much as possible
- Advise mothers to not smoke, consume alcohol or take other drugs during pregnancy
- Prompt treatment if ill
- As much as possible, avoid pregnancy after the age of 40 (because the risk of having a child with problems increases markedly after this)
- Adequate nutrition
- Having a child with ID caused by genetic or congenital problems is a risk factor, increasing the probability that subsequent pregnancies will result in similar problems. Parents should be aware of these risks.

Birth:

- Avoid trauma of the head at birth
- Prevent asphyxia (lack of oxygen) during childbirth.

Early childhood:

- Immunisation against common infections
- Avoid head injury
- Treat infections promptly
- Provide adequate nutrition.

17.3 Enuresis

Enuresis is a term that refers to involuntary urination, either during the daytime or at night, and occurring at an age when complete bladder control is expected. As mentioned in Table 17.1, such control normally occurs around the age of 5 years. If the child had never managed to attain control, this type of enuresis is **primary enuresis.** If enuresis occurs after a period of complete control lasting 6 months, it is called **secondary enuresis.**

17.3.1 How common is enuresis and what is its impact?

Enuresis is one of the most common complaints in childhood. At the age of 5 years, about 20% of children have enuresis. At the age of 7, around 5% of children have this problem, while around 1% of 18-year-olds still experience enuresis. Enuresis has an impact on both the child and the family. The child loses self-confidence, may be teased by siblings and friends, and often faces punishment by the parents. The family or parents looking after the child worry about the wellbeing of the child. They may feel frustrated and think that the child can stop wetting if they try harder. But it is very unusual for a child to intentionally wet themselves. Punishing or shaming a child for it will frequently make the situation worse, as the child may feel ashamed and lose confidence in their ability to overcome this problem.

17.3.2 What causes enuresis?

Most enuresis is a developmental or maturational problem and is not related to any physical or mental health problem (Box 17.3). Only 5–10% of children with enuresis have a physical or mental health problem that is causing the enuresis. Enuresis is more common in boys than in girls.

Box 17.3 Some causes of enuresis

- Developmental — 9 out of 10 children with enuresis
- Genetic — if a family member has a history of enuresis, the risk of enuresis is higher
- Infection — infection of the kidney, bladder or urinary passage (urethra). This will result in other symptoms of infection, such as pain during urination, frequent urination and fever
- Physical abnormalities — a small number of children have this problem (for example, a small bladder)
- Constipation
- Stress — such as conflict within the family, birth of a new baby, sickness and anxiety.

17.3.3 Treatment of enuresis

Most parents will manage their child's enuresis problems in their own way and you may therefore not see many children with enuresis. However, the way the parents manage enuresis may affect the child negatively. Your role is mainly in educating parents about the most effective approaches (see Box 17.4).

Box 17.4 Specific recommendations for managing enuresis

- Waiting — most enuresis is due to a delay in maturation. By waiting a little, the child can often achieve bladder control without intervention.
- Parents should know that punishment does not work. Enuresis is not a condition that a child can control and punishment damages a child's self-confidence. Some children with enuresis develop behavioural problems, such as disruptive and aggressive behaviour. These behavioural problems can get worse with punishment.
- Parents can try a procedure called dry bed training**.** In **dry bed training** parents follow a strict schedule with the child. They make sure that the child urinates at normal times during the day and evening and does not hold urine for long periods of time. They make the child urinate before going to sleep and also wake the child up at night to let them go to the toilet. The goal is to get the child to wake up by themselves in the longer term. Parents should not restrict fluid excessively. Dry bed training however has limited success.
- Parents should praise the child when they have dry nights. But when the child wets the bed, they should ignore it and appear as if they have not noticed.

If you think the child may have underlying physical health problems, you should refer the child to the nearest healthcare facility.

When these methods are unsuccessful the child may be referred for further assessment and treatment, e.g. using medication. If you suspect underlying physical causes, such as infections, diabetes or problems with the bladder, the child should also be referred.

17.4 Child abuse

Child abuse is a very difficult issue to deal with. This is partly because aspects of abuse are common due to a poor understanding of its impact on the child. As a health professional working with the community, it is important that you understand what child abuse is and explain to others the negative impact of this practice on children. You will then be able to teach the community about healthy childrearing.

Child abuse can be defined as the mistreatment of a child that adversely affects the child's health and development. There are three main types of abuse: physical abuse, emotional abuse and sexual abuse.

Figure 17.5 A boy being beaten by his father.

Physical abuse occurs when a child is frequently and severely punished (Figure 17.5) so that damage is caused to the child's emotional or physical

health. Sometimes children may be punished or beaten so severely that they sustain serious injuries including broken bones.

Emotional abuse is the commonest form of abuse and can take different forms. It may involve verbal abuse, in which the child is frequently shouted at, mocked and insulted. It may also involve treating one child preferentially while ignoring another. Neglect (in which the child does not receive sufficient love or affection) is another form of emotional abuse that may have very negative consequences for the child's development.

Sexual abuse occurs when an adult uses a child for sexual pleasure. The adult may touch the child's sexual organs, make the child touch their sexual organs, or even try to have sexual intercourse with the child.

All these forms of abuse, particularly sexual abuse, may have a lasting emotional impact.

17.4.1 What do you do if you suspect child abuse?

Dealing with child abuse is difficult. It is important to be sensitive and tactful. Your priority must be the health and safety of the child. If you suspect the child is being abused, you may wish to discuss this with the child and – if appropriate (see below) – with other family members. If family members know about the problem, ask what they have done to try to stop it. If they were not aware, ask them about their opinion and what they think should be done. Formulate a plan with the family and then monitor the situation. If the abuse is being done by one or more members of the family, tell them of the potential consequences of what they are doing.

The family should also be aware of the legal protection of the child and that it is a serious criminal offence to harm a child in this manner. Again, monitor the situation. If there is no change and you continue to be concerned, you should do what is locally appropriate. This may include involving other family members, neighbours and local elders in safeguarding the child. It also helps to know what kinds of programmes are available to support children who are victims of abuse. In many parts of the country, there are special police officers with expertise in dealing with victims of abuse. If you have reason to believe that the child's life is in danger, it will be necessary for you to act immediately in informing the appropriate authorities.

17.5 Other childhood problems

Many children experience behavioural problems growing up, such as feeding difficulties, temper tantrums and sleep problems. These problems usually improve with time, so that no intervention is necessary. However, there are some serious childhood problems where more support may be needed. An example is conduct disorder.

Children with **conduct disorder** show persistent socially inappropriate behaviour that often involves breaking rules, such as damaging property or stealing. While most children will improve their behaviour when appropriately disciplined by their parents, children with conduct disorder are unresponsive to this. Common symptoms of conduct disorder include temper tantrums, defiance and aggression, irritability, lying and stealing. These children may come to your attention following accidents and injuries. You may be able to support the family of the child, but helping the child with conduct disorder requires more specialist input. If you suspect these problems you should therefore refer the child to the nearest next level health facility.

Children may also have emotional problems such as depression and anxiety (see Study Sessions 12 and 16). These children will appear unhappy and the family may tell you that they are often tearful. They may also have poor appetite, and if the emotional problems are severe the child may start to lose weight. If this happens, you need to refer the child. Emotional problems often develop in response to problems at home or in school. If you identify specific problems you can help the parents to address these. Simply explaining what you see to the parents and allowing the child to talk about their problems will often help. Medication is usually unnecessary unless there is some underlying health problem or the depression is severe.

There are two more conditions that we will mention briefly: autism and attention deficit hyperactivity disorder (ADHD). Children with **autism** have great difficulty with social interaction and communication, and often show repetitive behaviours (such as rocking or flapping their hands) or a very narrow range of interests and activities. Children with autism often also have ID and delay in their development, especially in their language development, may be one of the first problems noted by the parents.

ADHD is another common developmental condition. Children with ADHD are restless and experience difficulties concentrating on tasks at hand. They often have problems sitting through class, which may get them into trouble with their teachers. They also tend to do things impulsively, without thinking much about the possible consequences of their actions.

If you feel that a child has significant problems with either of these conditions, refer the child to the next level healthcare facility. Children with autism or ADHD are greatly helped by a clear structure in their lives. Their behavioural problems may improve if the children are given a strict daily routine without many unexpected changes or distractions, and by receiving clear instructions from their parents and teachers on what is expected of them.

Summary of Study Session 17

In Study Session 17, you have learned that:

1 A healthy childhood is the foundation for a healthy adulthood and a healthy population.

2 Childhood is a period of physical, intellectual and emotional development. Typical developmental progress in these areas is mapped by developmental milestones that can help you assess the child's development in relation to others of a similar age.

3 Children with intellectual disability have a delay in intellectual development. This impairment is usually first manifested through delays in motor development (for example when the child starts walking), and poor progress with speech and functioning.

4 Having a child with ID requires substantial adjustment on the part of the parents. Despite this, many parents retain a good quality of life and discover special qualities in their children that are emotionally rewarding.

5 Parents can do several practical things to support their child's development, including encouraging the child to do what they can do; praising them when they succeed but overlooking their failures or bad behaviour; helping them to practise and develop basic living skills such as washing themselves and greeting others appropriately.

6 Enuresis is a common childhood problem that often improves with time and without the need for intervention. In children without a physical cause

for enuresis, the best approach is to emphasise support of the child rather than criticism or punishment.

7 Psychical, emotional or sexual abuse of children can have a long-lasting emotional impact. When you suspect child abuse you should, through tactful action, try all you can to stop the abuse.

8 Conduct disorder, depression, anxiety, autism and ADHD are other childhood behavioural conditions that you should look out for in your community. Most of these conditions are helped by firm supportive guidance from family members and teachers.

Self-Assessment Questions (SAQs) for Study Session 17

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

SAQ 17.1 (tests Learning Outcomes 17.1, 17.3 and 17.5)

Indicate whether the following two statements are *true* or *false* and in each case explain why.

A Intellectual disability is incurable and neither parents nor you can do much to help.

B Beating a child is an important part of disciplining a child and will not affect the child's development.

SAQ 17.2 (tests Learning Outcomes 17.1, 17.2 and 17.4)

Childhood enuresis is a relatively common problem. What can you do to support the child and their family?

SAQ 17.3 (tests Learning Outcomes 17.6)

In most instances children with behavioural problems do not require referral to the nearest healthcare facility. What factors would make you decide that referral was necessary?

Study Session 18 Prevention and Promotion Activities for Mental Health

Introduction

This study session will cover mental health promotion and the primary, secondary and tertiary prevention of mental illness. Mental health promotion and prevention involves (1) educating the community about mental illness; (2) screening for mental illnesses as you conduct your house-to-house visits; (3) telling people about ways that they can reduce their risk of developing a mental illness. Preventive activities for people who already have a mental illness can help to reduce the negative impact of their condition and can reduce the risk of suicide. The response of the community to issues of mental illness can be very important in improving (or making worse) the quality of life experienced by those suffering from mental illness. We conclude this study session by looking at the negative effects of stigma and discrimination, the abuse of mentally ill people, and what you can do to mobilise your community to try to solve these problems.

Learning Outcomes for Study Session 18

When you have studied this session, you should be able to:

18.1 Define and use correctly all of the key words printed in **bold**. (SAQs 18.1 and SAQ 18.2)

18.2 Explain the basic facts about mental illness to community members. (SAQ 18.1)

18.3 Advise community members on effective ways to reduce their risk of developing mental illness. (SAQ 18.1)

18.4 Screen for mental illness in your community. (SAQ 18.2)

18.5 Describe ways that you can help to reduce the risk of suicide. (SAQ 18.3)

18.6 Draw on community support to challenge stigmatising attitudes, discrimination and abuse. (SAQ 18.4)

18.7 Apply preventative strategies to decrease some of the negative consequences of mental illness. (SAQ 18.4)

18.1 Raising awareness about mental health

Mental illness is often a hidden problem in the community because people don't know much about mental illness and so they don't notice it. They may also be frightened by mental illness and ashamed if a family member has symptoms of mental illness, and consequently hide away people who are affected by these problems. One of the most important things that you can do to help people with mental illness is to increase awareness and understanding in the communities where you live and work.

18.1.1 What are we trying to achieve?

By raising awareness about mental health and illness, we are trying to achieve the following goals:

- **Mental health promotion** and **primary prevention**. By mental health promotion we mean educating people about ways to improve their mental health. In primary prevention, the aim is to prevent a person from developing a mental illness in the first place. The strategies for improving mental health and avoiding mental illness are similar, so we will group them together.
- **Secondary prevention** means detecting mental illness as quickly as possible so that the person can receive treatment before the illness progresses.
- **Tertiary prevention** means trying to reduce some of the negative effects of a mental illness that has already developed.

In the following sections these promotion and prevention activities will be discussed in more detail.

18.2 Mental health promotion and primary prevention

There are four main areas of focus for improving mental health and reducing the risk of mental illness:

- promoting a happy, healthy childhood
- reducing the exposure to violence
- reducing the use of substances such as alcohol, *khat* and cannabis, and support in coping with life's problems.

Prevention of intellectual disability is another important area and was covered in Study Session 17.

18.2.1 Promoting a happy, healthy childhood

A child who comes from a loving home is more likely to grow up into an adult who can trust other people, have good relationships and cope with life's problems (Figure 18.1).

Figure 18.1 A happy, healthy childhood is important for later mental health (Photo: Rosa Hoekstra)

As you learned in Session 17, children who experience physical, emotional or sexual abuse have a much higher risk of developing a mental illness as an adult. Children can also suffer from the effects of bullying. **Bullying** is when other children say nasty things or are physically violent towards a child.

■ In Study Session 17 you read about things you can do when you suspect that a child is being abused (Section 17.4.1). Can you now think of some ways that you could

(a) help to prevent child abuse from happening
(b) reduce bullying in your community?

□ You can

(a) Educate the community about the importance of a happy, healthy childhood, e.g. by holding an awareness-raising meeting (see Section 18.6).
(b) If you have the chance to speak in a school, you can tell the teachers that (1) bullying is common; (2) bullying can lead to mental illness in the child or later when they grow up; (3) it is important to identify when bullying is taking place and do something about it. You can encourage the school to make a plan for dealing with bullying and supporting the child who is bullied.

18.2.2 Reducing exposure to violence

Violence doesn't just lead to mental health problems in children. Violence can lead to mental illness in adults too.

■ In Study Session 16 you read about things you can do to help a person who is a victim of violence (Section 16.4). Can you now think of some ways that you could help to *prevent* violence among adults in your community?

□ You can

- Educate the community about the negative effects of violence, especially intimate partner violence, on a woman's mental and physical health.
- Screen pregnant women for violence and the associated mental health problems as part of their antenatal care. Pregnant women are at high risk of being victims of violence.
- Make links with any organisations in your area that work to promote women's rights or offer support to women who are victims of violence.
- Talk with community elders. As they often play an important role in sorting out marital disputes, you can find out how they handle this situation and encourage them to be tough on violence.
- Make links with local policemen and encourage them to take complaints of violence against women seriously.

18.2.3 Reducing alcohol and khat use

The abuse of drugs, especially alcohol and *khat*, is often linked to mental illness.

■ In Study Session 14 you learned about ways to help people who are abusing alcohol or khat. Can you now think of ways that you could help to *prevent* alcohol and khat abuse in your community?

□ An effective form of prevention is to educate the community about the effects of excessive alcohol and *khat* use. For example, you might know somebody in your community who used to have a problem with alcohol or *khat* but has now stopped using these substances. Ask them to help you spread the message that alcohol and *khat* can lead to problems for some people, especially when used heavily over an a long period of time.

18.2.4 Coping with life's problems

Sometimes we face difficulties in life and these can disturb us. We can describe these difficulties as **stressful events**. Even good things can be considered a stressful event. For example, getting married is a good and positive thing, but preparing for this celebration can put people under a lot of pressure so that it can be a stressful event.

■ Make a list of all the stressful life events that you can think of.

□ See Box 18.1 for examples of stressful life events.

Figure 18.2 Having a baby can be stressful for the mother. (Photo: Basiro Davey)

Box 18.1 Stressful events

Negative stressful events:

- Somebody close to you dies
- You or somebody you love is very ill or injured
- You lose your job
- You get into conflict with neighbours
- Somebody steals your possessions
- You get into trouble with the police
- The crops fail
- You are separated from your family.

Positive stressful events:

- Getting married
- Having a baby (Figure 18.2).

We all deal with stressful events in different ways.

■ From your own experience, can you think of some good and bad ways that people might use to cope if somebody they love (e.g. their brother or sister) dies?

□ Table 18.1 lists some common ways of dealing with problems (**coping strategies**). They have been divided into 'helpful' and 'unhelpful' coping strategies. People who use helpful coping strategies are less likely to develop mental illness if they experience a stressful event. Unhelpful coping strategies make the person more likely to develop mental illness.

Table 18.1 Coping strategies

Helpful coping strategies	Unhelpful coping strategies
Spend time with family and friends	Drink alcohol heavily
Talk about your problems	Chew *khat*
Speak to someone with a similar problem	Stay in bed all day
Some people find it helpful to pray	Keep your problems to yourself
Exercise	Avoid dealing with your problems
Find a way to solve your problem	Get into fights

18.3 Secondary prevention: screening and early treatment

The earlier that a person with mental illness can get treatment, the better their recovery will be. Different types of mental illness can be detected in different ways. In your day-to-day work you can screen people for mental illness. You can also teach the community about detecting mental illness, and encourage them to take the affected person to a health facility.

18.3.1 Screening for specific mental illnesses

Psychosis

In general, this is the easiest type of mental illness to detect because often the person displays very disturbed behaviour. Remind yourself of typical symptoms (Study Session 13). The community will usually recognise people with these symptoms, but most of the time they will not have taken them to the health facility for help.

Depression and anxiety

These forms of mental illness are more difficult to detect. The person with depression is often quiet and withdrawn. They don't cause a problem for other people and so it is easy to overlook their suffering. (In Study Session 12 you learned some questions that you can ask to screen a person for depression.)

Substance misuse

It may be obvious when a person is drinking too much alcohol, chewing too much *khat*, or using cannabis, but sometimes the problem is hidden. You should suspect a possible problem with alcohol, *khat* or cannabis if somebody is always getting into fights, or in trouble with the law, has a lot of accidents, or problems at work. (Some useful questions to screen for these problems were given in Study Session 14.)

18.3.2 Getting early treatment for mental illness

Whenever you have an opportunity, emphasise the benefits of treatment for mental illness. If people do not know that effective treatment exists then they will not make use of the available services.

In Study Session 9 you learned about competing explanatory models for mental illness (see Section 9.2.2). Ask the people in your local community their beliefs about mental illness. Educate people about the causes of mental illness and the available treatment. For example, explain that spirits and witchcraft have nothing to do with mental illness. Patiently listen to their doubts and experiences.

Do not argue with or confront people and always treat them with respect. Do not make fun of them and do not get angry. Instead, persuade them to try modern medicines and consult the doctor, even if they use traditional treatments at the same time. These beliefs have been part of our culture for many years and cannot disappear in a short period.

18.4 Suicide prevention

Around 3% of the adult population (1.2 million people in Ethiopia) have thought about killing themselves at some time. Suicide is a tragedy and has a very big effect on the family and community. Although it is not always possible to prevent a person from committing suicide, you can help to reduce the risk of it happening. The key ways that you can help to prevent suicide are listed in Box 18.2

Box 18.2 Ways to help to prevent suicide

- Know how to assess the risk of suicide (see Study Session 10).
- Help people who have attempted suicide (See Study Session 10).
- Help people with depression and psychosis to get early treatment so that their suffering is reduced. This will reduce the risk of suicide. Also make sure you screen for suicidal ideas in this high-risk group.
- Help people with an alcohol, khat or cannabis problem to get treatment (see Study Session 14). It is important to ask about suicidal ideas, and also to screen for depression, as this increases the risk of suicide in this group.
- Improve people's coping strategies. Educating the community about 'helpful coping strategies' (see Section 18.1.4 above) may help to reduce the chance that they will turn to suicide if they experience a very stressful event.

18.5 Tertiary prevention: reducing the negative impact of mental illness

In people who have already developed mental illness, there are simple actions that you can take to help them recover more fully and more quickly, and to reduce some of the negative effects of mental illness.

18.5.1 Nutrition and physical health

People with mental illness may neglect their health. For example, a depressed person might lose interest in food and stop eating, while a person with psychosis might neglect their personal hygiene so that they catch more infections. The presence of mental illness may stop the person noticing symptoms of physical disease and looking for help. People with mental illnesses are also less likely to get adequate treatment for physical health problems. Due to stigma and discrimination, healthworkers may not offer a mentally ill person the same level of treatment they would give to others. For instance, they may not take their physical complaints seriously or they may not investigate them as thoroughly as they would if the patient was not mentally ill.

Additionally, some traditional remedies (e.g. beating out demons) are harmful and may affect the person's physical health. Practices such as chaining up disturbed people can lead to physical problems, e.g. sores and muscle wasting, so that they become more disabled. Also, people with mental illness are more likely to smoke cigarettes, chew *khat* and drink alcohol. These habits may negatively affect their physical health.

The unwanted effects of medication (see Study Session 11) can also affect physical health. Some medications can make the person put on a lot of weight and increase their risk of developing diabetes and cardiovascular disease.

Because of all these effects of mental illness on physical health, a person in Ethiopia with severe mental health problems is three times more likely to die young. Here are a few things you can do to help:

- Encourage the family to care for the person with mental illness by giving them shelter, clothing and food, and helping them to care for their personal hygiene.
- Remember that people with mental illness are at higher risk of many physical illnesses. Don't ignore them if they complain of physical symptoms.
- Monitor their weight to detect undernutrition.
- Monitor carefully for other unwanted effects of medication.
- Explain about the negative effects of drinking alcohol, chewing khat and smoking cigarettes or cannabis.

18.5.2 Helping people who are restrained

When you carry out your house-to-house visits, it is important to notice if somebody is chained up or restrained. This person might have a mental illness. Often the families of persons with severe mental illness don't know what to do to help their ill family member. In desperation they may chain the person up. It is essential to find ways to help the family safely release the person.

Now read Case Study 18.1. As you do so, think about the answers to the following question:

■ How could you convince the family to take off the man's chains?

Case Study 18.1 Mr Lemma

In the course of your house-to-house visits you come across a man who has been chained to the wall of his home by the family. They tell you that six months ago he became very aggressive and accused his wife of trying to poison him. They don't even have the money to take him to holy water and explain to you that they had no other choice but to chain him up. Although he has been calm for the last two months, he still believes that the neighbours are trying to ruin his crops. Because of this, the family has been too frightened to set him free.

□ The family may be understandably worried about taking off the chains. In your discussion with Mr Lemma's family, you should tell them that they should take Mr Lemma to the nearest higher level health facility (he should be referred by you for this purpose). You can explain to the

family that this is where he can receive effective treatment for his condition, and that you have heard (or seen for yourself) that people with Mr Lemma's condition can return back to normal life if they get the right treatment. Lastly, you should explain that Mr Lemma has the right to be treated in the same way as any other human being, unless it is an emergency situation and he is likely to harm himself or another person. So, if his condition has improved then the family should try to remove his chains.

18.5.3 Living a normal life

Due to their illness, people with mental health problems can experience difficulty in daily life activities, such as washing, going to work, building relationships with other people and participating in society at large. Moreover, stigma and discrimination can mean that a person with mental illness feels isolated and excluded from normal community life.

To help a person to recover from mental illness, you can encourage the person and their family to do the following:

- Support the person to do as much for themselves as possible.
- Try to get them to have a daily routine.
- Involve the person in family activities.
- Set small goals to get back to normal functioning, e.g. helping with small household tasks and slowly increasing what they can do.

You can also help to reduce the stigma and discrimination towards mental illness in your community by organising awareness-raising activities. These will be discussed further in the next section.

18.6 An awareness-raising meeting in the community

Organising activities in your community, such as meetings (like the one in Figure 18.3) can help to raise awareness of mental health issues and how stigma and discrimination towards people with a mental illness can be reduced.

Figure 18.3 A health worker leading an awareness-raising meeting in the local community.

18.6.1 Who needs to know?

■ From your general knowledge, who do you think you should target to improve awareness about mental health and mental illness?

□ You could make a special effort to target the following people: people with mental illness and their families, community leaders, religious leaders, traditional healers, other health professionals, traditional birth attendants, teachers, and the police. In fact, every contact you make with a member of your community is an opportunity to improve awareness about mental health and illness.

18.6.2 How do I raise awareness within the community?

When you arrange an awareness-raising meeting in your community, a useful approach could be to find someone who has had successful treatment for mental illness and see if they would be willing to tell their story in public. The photographs in Figure 18.4 and Figure 18.5 give you some ideas for raising awareness on specific issues facing people with mental illness.

Figure 18.4 A mentally ill man being released from his chains in Nigeria. (Photo: courtesy of Amaudo)

Figure 18.5 A poster displayed on the street in Addis Ababa, raising awareness about abuse against people with mental illness in Ethiopia. (Photo: Rosa Hoekstra)

Guided Activity 18.1 Awareness-raising.

Table 18.2 gives a structure for an awareness-raising meeting in your community. Some of the boxes have been completed to get you started and others have been left empty for your own suggestions. Think of what you would say in each part of the meeting, and complete the empty boxes. Write about your experience of trying this technique in your Study Diary and discuss it with your Tutor at the next Study Support Meeting.

Table 18.2 Structure and examples for a community meeting to raise awareness about mental health issues.

Structure	**Examples of what you might say**
Introduce the topic	'Today I am going to tell you about the important topic of mental illness'
Find out what people already know	'Is mental illness a problem in your community?' 'What causes of mental illness do you know about?'
Explain why mental illness is important	'Mental illness is common and causes a lot of suffering' 'Anybody can be affected by mental illness during their life' 'Mental illness stops a person from living a full life' 'People with mental illness are more likely to have poor health and die young'
Explain about the different types of mental illness	
Explain how people can reduce their risk of developing mental illness (primary prevention)	
Explain why it is important to identify people with mental illness (secondary prevention)	'Mental illness can be treated in a health facility, just like a physical illness' 'The earlier that treatment is started, the quicker and better the person will recover'
Discuss the treatments for mental illness (tertiary prevention)	'People with mental illness need to continue with their medication, even if they also have traditional treatments' 'Some traditional remedies can be harmful e.g. beating' 'As well as medication, people with mental illness need care and support from people around them' 'If the person has treatment then they don't need to be chained up at home'
Explain about the negative effect of stigma, discrimination or abuse (secondary and tertiary prevention)	
Explain how the community can help (secondary and tertiary prevention)	'You can help to encourage people with mental illness to go to a health facility and take medication' 'You can help by being a friend to the person with mental illness – make them feel included in community life' 'You can help by supporting the family of the mentally ill person'

In the last study session in this Module you will learn about disability and community rehabilitation.

Summary of Study Session 18

In Study Session 18, you have learned that:

1 An important part of mental health promotion and prevention is raising awareness in the community.

2 Telling people about the links between child abuse or violence against women and mental illness in adulthood can help to motivate the community to try to stop these practices.

3 *Khat*, alcohol and cannabis are not always harmless and the community can help to encourage responsible use of these substances.

4 By encouraging people to use helpful coping strategies for life's problems, you can help to reduce the risk of mental illness.

5 Screening for mental illness should be a routine part of your work. Detecting illness early can mean someone gets treatment and gets better more quickly.

6 Suicide prevention is focused on making sure people get treatment for mental illness and helping to support those who attempt suicide.

7 People with mental illness are at higher risk of many physical health problems and so need special attention from health workers.

8 You can give helpful advice to people with mental illness, their families and communities in order to reduce the disability suffered.

9 9 Tackling stigma against mentally ill people can greatly improve their quality of life.

Self-Assessment Questions (SAQs) for Study Session 18

Now you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answer in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of the Module.

SAQ 18.1 (tests Learning Outcomes 18.1, 18.2 and 18.3)

You decide to run an awareness-raising campaign on how to stay mentally healthy.

(a) Is this primary, secondary or tertiary prevention?
(b) Who would you target?
(c) What would your main messages be?

SAQ 18.2 (tests Learning Outcome 18.4)

How could you screen for mental illness, violence and substance misuse in women who come to you for antenatal care?

SAQ 18.3 (tests Learning Outcome 18.5)

List three things that you could do to help prevent suicide in your community.

SAQ 18.4 (tests Learning Outcomes 18.6 and 18.7)

A patient in your *kebele* who is suffering from psychosis develops a persistent cough. When they attend the health centre the nurse prescribes diazepam to treat the psychosis, but no examination of the cough problems takes place. What could you do?

Study Session 19 Disability and Community Rehabilitation

Introduction

In recent years, more and more health professionals have started to distinguish impairment from disability. **Impairment** refers to the physical, intellectual, mental and/or sensory characteristics or conditions that limit a person's individual or social functioning, in comparison with someone without these impairments.

Disability, in contrast, is not something individuals 'have', but has a wider *social meaning*. It is the *exclusion* of people with impairments due to attitudinal and environmental barriers that limits their full and equal participation in the life of the community and society at large (Figure 19.1). It is now accepted that the disabling environmental and social barriers are major causes of the disability experienced by individuals with impairments.

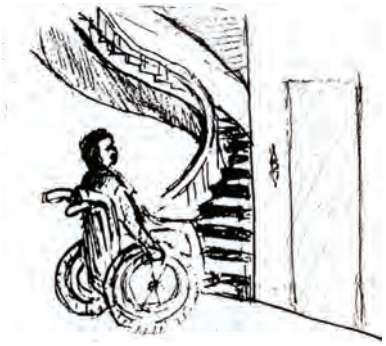


Figure 19.1 An example of an environmental barrier.

It is important to ensure the inclusion of disabled people in society. **Inclusion** refers to the need to make sure that people with disabilities have access to all necessary services and that the barriers and limitations they experience in society are reduced. In this study session you will learn about disability and impairment, and ways to support the inclusion and rehabilitation of people with impairments in your community.

Learning Outcomes for Study Session 19

When you have studied this session, you should be able to:

19.1 Define and use correctly all of the key words printed in **bold**. (SAQs 19.1 and 19.4)

19.2 Differentiate between impairment and disability, and briefly summarise the different 'models' of disability. (SAQ 19.1)

19.3 Describe key aspects of appropriate communication with people with disabilities. (SAQ 19.2)

19.4 Describe the prevalence of disability and the major causes of disability. (SAQ19.3)

19.5 Explain how inclusion can be promoted using the twin-track approach. (SAQ 19.4)

19.6 Explain how you can support community rehabilitation in your catchment area. (SAQ 19.4)

19.1 Models of disability

A good way of understanding the distinction between impairment and disability is to consider some of the ways that disability has been thought of in the past. In this part of the session you are going to look at several models of disability. As you do this, think about what each model 'says' about the person with an impairment. This will help you to understand – and respond to – traditional beliefs about disability.

A 'model' in this context means a particular way of understanding or describing a complex social phenomenon such as disability.

19.1.1 The charity model

Persons with disabilities is generally considered to be the term most consistent with the language used by the United Nations (UN).

The **charity model** of disability is a traditional way of viewing **persons with disabilities** as being dependent and helpless. In this model, people with disabilities are seen as:

- Objects of charity
- Having nothing to give, only to receive
- Being inherently poor, needy and fully dependent on charity or welfare for their survival.

The charity model is often related to traditional cultural and religious beliefs and practices such as the giving of alms. The problem with such practices is that they reinforce the idea that people with disabilities are helpless recipients of 'charity' from a 'caring' society, rather than subjects with rights.

■ Can you think of people in your community who see disability in terms of the charity model? How would you try to change their views?

□ Some of the people in your community who offer alms to people with disabilities (in the form of money, clothes, food, etc.) may think about disability in terms of the charity model. You can discuss this with them sensitively, asking if they have considered that other forms of assistance, such as supporting people with disabilities in demanding better social provision might be more effective in the longer term.

19.1.2 The medical model

The **medical model** of disability focuses primarily on the medical problems of persons with disabilities and emphasises medical solutions. It assumes that:

- The problem of disability is due entirely to the individual's condition or impairment.
- People with disabilities are — first and foremost — 'patients'.
- The problem of disability requires a purely medical solution.

In the medical model the problem of disability is addressed *by* medical experts through providing treatment *for* people with disabilities, rather than asking them what *they* want. Like the charity model, this approach is largely unconcerned with the social or environmental features of disability.

19.1.3 The social model

The **social model** of disability views people with disabilities as being disabled less by their impairment than by society's inadequate response to their specific needs. The social model emphasises that:

- Disability is best thought of as a social problem.
- The problem is not the person with disabilities or their impairment, but the unequal and discriminatory way they are treated by society.
- The solution lies in removing the barriers that restrict the inclusion and participation of people with disabilities in the social life of the community.

The emphasis on the removal of barriers focuses attention on a range of issues ignored in both the charity and medical models. For instance, it challenges inequalities before the law, restrictions caused by physical structures (the way buildings and villages are designed), and **discrimination** – the disabling aspects of negative attitudes towards people with disabilities.

19.1.4 The human rights model

The **human rights model** of disability can be seen as the most recent development of the social model. It states that:

- All human beings are equal and have rights that should be respected without distinction of any kind.
- People with disabilities are citizens and, as such, have the same rights as those without impairments.
- All actions to support people with disabilities should be 'rights based'; for example, the demand for equal access to services and opportunities as a human right.

Like the social model, the human rights model places responsibility for addressing the problems of disability on society rather than on the person with disabilities. It also places a responsibility on *you* to ensure that appropriate legislation designed by the government is complied with at a local level.

19.2 Types of impairments

There are many types of impairments, the most common types will be briefly discussed in this section.

19.2.1 Mobility and physical impairments

There are a variety of physical impairments that impact on functioning and mobility. These include limitations in the use of the limbs, limited manual dexterity, limited coordination of limbs, cerebral palsy, spinal bifida and sclerosis. Physical impairment can be congenital (something one is born with), or it can be the result of disease, accident, violence or old age.

19.2.2 Sensory impairments

Visual impairments

Virtually everyone will experience a visual impairment at some point in their lives. Usually these are minor or treatable, e.g. temporary visual impairments caused by bright lights or headaches, or age-related visual impairment that can be 'self-treated' with reading spectacles. But they can also be serious, e.g. permanent visual impairment or more severe conditions requiring medical treatment. Visual impairment can be congenital (present at birth), due to genetic conditions, or the result of accidents, violence, or diseases such as trachoma, glaucoma and cataracts (you learned about this in Study Session 5).

Hearing impairments

There is a wide variety in the form and severity of hearing impairments, ranging from partial to complete deafness. People who are partially deaf can often use hearing aids to assist their hearing (Figure 19.2).

Figure 19.2 A person with a hearing impairment using a hearing aid.

Deafness can be genetic, be evident at birth, or occur later in life as a result of disease or due to old age. Both deaf and partially deaf people use sign language as a means of communication. The lack of knowledge of sign language amongst the general population can create communication difficulties for deaf and partially deaf people and can also be thought of as a disabling barrier.

19.2.3 Intellectual impairments

Intellectual impairments are characterised by significant limitations in intellectual functioning, which also impact on many everyday social and practical skills. The medical term for these impairments is 'intellectual disability' (see Study Session 17, which also discusses some common causes).

19.2.4 Multiple impairments

Some people have to cope with several impairments, either permanently or for periods of time (e.g. during an illness). Examples of permanent multiple impairments include people who are both deaf and blind, and people with both a physical and intellectual impairment.

Take a little time now to think about the ways in which people with either intellectual or multiple impairments might be further disadvantaged by the social environment in which they live. In wealthy countries (such as the USA and in Europe), or in big cities, the impact of these impairments may be lessened by the use of (expensive) technology. However, access to such technology is often very limited in the villages and rural areas of developing countries. This highlights the fact that, while people may have the same experiences in terms of impairment, their experience of *disability* might be very different.

19.3 Appropriate and acceptable language

There is often much confusion around the language to be used when talking about disability and/or addressing persons with disabilities. Acceptable terminology changes over time and may be different in different countries.

19.3.1 Appropriate and inappropriate terms

In your daily work it is important to keep the following guidelines in mind:

- When describing a person, focus on their abilities and actions rather than their limitations, and avoids words that imply that they are passive 'objects' rather than active subjects. Expressions like 'she uses a wheelchair' or 'he is partially sighted' are preferred to terms such as 'confined to a wheelchair' or 'partially blind'.
- Avoid 'sensationalising' an impairment by using expressions such as 'afflicted with', 'victim of', 'suffering from', and so on (see also Table 19.1).
- Emphasise the individual, rather than the impairment, by saying, for example, 'a person with paraplegia', instead of 'a paraplegic' or 'a paraplegic person'. For the same reason, avoid grouping individuals into generic categories through expressions like *the* deaf, *the* blind, etc.
- When talking about places or buildings designed to overcome the barriers faced by people with disabilities, use the term 'accessible' (e.g. 'an accessible parking space') rather than 'parking for the disabled' or 'for the handicapped'.
- Finally, people without disabilities should not be referred to as 'normal', 'healthy' or 'able-bodied'. People with disabilities are not – as such expressions suggest – 'abnormal', 'sick' or 'unable'.

It is appropriate for you to continue using words such as 'see', 'look', 'walk', 'listen', when talking to people with various disabilities, even if the person is, for example, partially sighted or uses a wheelchair or hearing aid.

Table 19.1 Appropriate and inappropriate terms when discussing disability.

Inappropriate use	**Appropriate use**
The disabled, the handicapped	People with disabilities
Cripple, physically handicapped or wheelchair bound.	A person with a physical disability/impairment or wheelchair user
Spastic	A person with cerebral palsy
Deaf and dumb	A person with hearing and speech impairments
The blind	People who are blind, or partially sighted, or visually impaired people
The deaf	People who are deaf, or hearing-impaired people

19.3.2 Communication with people who have impairments

When introduced to a person with a disability, it is appropriate to offer to shake hands. People with limited hand use or who wear an artificial limb can usually shake hands. (Shaking hands with the left hand is an acceptable greeting.)

When you are talking with a person who has difficulty speaking, listen attentively. Be patient and wait for the person to finish, rather than correcting or speaking for them. If necessary, ask short questions that require only short answers, or a nod or shake of the head. Never pretend to understand if you are having difficulty doing so. Instead, repeat what you have understood and allow the person to respond.

When speaking with a person who uses a wheelchair or a person who uses crutches, place yourself at eye level in front of the person to facilitate the conversation. When speaking with someone with a visual impairment, make sure to introduce yourself by name. When conversing in a group, remember to identify the person to whom you are speaking.

To get the attention of a person with a hearing impairment, tap the person on the shoulder or wave your hand. Look directly at the person and speak clearly, slowly, and expressively to determine if the person can read your lips. Not all people with a hearing impairment can read lips. For those who do, be sensitive to their needs by facing the light source and keep hands, food and drink away from your mouth when speaking.

People with an intellectual disability may have difficulty understanding language that is complex, or contains difficult words. It is therefore important when talking with someone with an intellectual disability to follow the guidelines in Box 19.1.

Box 19.1 Guidelines for talking with a person with an intellectual disability

- Speak slowly and leave pauses for the person to process your words.
- Speak directly to the person, and ensure they feel central to the consultation.
- Speak in clear short sentences. Don't use long, complex, or technical words and jargon.
- Ask one question at a time, provide adequate time for the person to formulate and give their reply.
- If necessary obtain information from parents/caregivers, maintain the focus on the person with the disability through your eye contact, body language and/or touch.

19.4 Myths and facts about disability

In the community, many people do not know much about disability and have a misunderstanding of what it is like to live with a disability. Some common myths about disability are given below in Box 19.2, together with the actual facts so that you can help to challenge these myths.

Box 19.2 Common myths about disability

Myth 1: People with disabilities are brave and courageous.

- Fact: Adjusting to impairment requires adapting to particular circumstances and lifestyle, not bravery and courage.

Myth 2: Wheelchair use is confining; people who use wheelchairs are 'wheelchair-bound'.

- Fact: A wheelchair, like a bicycle or an automobile, is a personal mobility assistive device that enables someone to move around.

Myth 3: All persons with hearing disabilities can read lips.

- Fact: Lip-reading skills vary among people and are never entirely reliable.

Myth 4: People who are blind acquire a 'sixth sense'.

- Fact: Although most people who are blind develop their remaining senses more fully, they do not have a 'sixth sense'.

Myth 5: Most people with disabilities cannot have sexual relationships.

- Fact: Anyone can have a sexual relationship by adapting the sexual activity. People with disabilities can have children naturally or through adoption. People with disabilities, like other people, are sexual beings.

As a healthworker, you can help remove barriers by encouraging participation of people with disabilities in your community through:

- using accessible sites for meetings and events
- advocating for a barrier-free environment
- speaking up when negative words or phrases are used about persons with disabilities
- accepting persons with disabilities as individuals with the same needs, feelings and rights as yourself.

19.5 Situation of disability in Ethiopia

According to available survey results from the 2006 census, of a total population in Ethiopia of more than 73 million, there are 805,535 (or 0.8 million) persons with disabilities. However, relevant government authorities, researchers, and people active in the field of disability all agree that the figures are very low compared to the prevalence of disability in neighboring countries and other developing countries. The number of persons with disabilities in Ethiopia is likely to be underestimated due to inadequate definitions or what constitutes disability and which disabilities should be included in the count. It is also likely that parents are not willing to disclose that they have a child or family member with a disability because of stigma. The actual number of people with disabilities in Ethiopia is therefore likely to be much higher.

Box 19.3 lists some of the major preventable causes of disabling impairments. Poverty is not only a cause, but also a major consequence of disability in Ethiopia. It is estimated that 95% of all persons with disabilities in the country are living in poverty. Many of these people live in rural areas, where basic services are limited and often inaccessible to persons with disabilities and their families. As a result, most persons with disabilities do not have access to services and lack the opportunities to earn a level of income to facilitate independent living. In the remainder of this study session, you will consider what you can do to tackle this problem.

Box 19.3 Major causes of impairment

- Disease
- Poverty
- Wars
- Drought
- Famine
- Harmful traditional practices
- Household, work place and traffic accidents.

19.6 The twin- track approach

To promote and facilitate equal opportunities for people with disabilities and their full participation in society, the **twin track approach** focuses on their inclusion in both a) *mainstream* and b) *disability-specific* development initiatives. Neither track (mainstream or disability specific) is better or more

important than the other. They are both required to ensure that the needs of all people with disabilities are met.

19.6.1 Mainstream programmes and services

Figure 19.3 An inclusive community meeting is accessible to everyone.

The first track focuses on **mainstream programmes and services**, which are not specifically designed for persons with disabilities, such as public health services, mainstream schools, community development programmes, transportation, etc. This track focuses on making these mainstream services more accessible for people with disabilities. The approach in mainstream schools, for instance, might involve the construction of ramps to make classrooms accessible to wheelchair users. Similarly, textbooks and other written materials might be transcribed into Braille copy for students with visual impairments.

What efforts might you make to promote and facilitate the inclusion of persons with disabilities in mainstream programmes and services? One of the things you can do, for example, is to make sure that the meetings you arrange in your community (e.g. your awareness-raising meetings, see Study Session 18) are equally accessible to everyone (Figure 19.3). This way you set a good example that can be followed by influential people in your community.

19.6.2 Disability-specific programmes and services

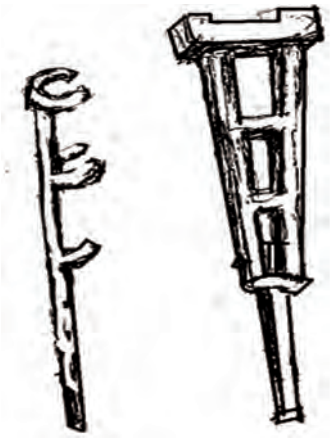


Figure 19.4 Examples of physical aids.

The second track focuses on **disability-specific programmes and services** designed on purpose to address the needs of people with disabilities, such as orthopaedic centres, special schools, etc. You should find out about any such projects that may be operating in your area. You could help in making these disability-specific programmes and services more accessible at community level. For example, you might direct the families of children with motor or sensory impairments to a project that provides physical aids such as crutches (Figure 19.4), hearing aids, braces or wheelchairs (Figure 19.5).

Figure 19.5 (a) A man and a woman with a physical impairment. The woman's mobility is greatly helped by having access to a wheelchair, (b) the man is not. (Photos: Janet Haresnape and Basiro Davey)

19.7 Community-based rehabilitation (CBR)

Community health centres are often the first point of contact for persons with disabilities and their families seeking healthcare. In addition, in some regions, Community-Based Rehabilitation (CBR) programmes provide home-based support to parents and children with disabilities as well as to older people with disabilities. Currently, these CBR programmes are primarily run by the non-governmental organisations (NGOs) that belong to the CBR Network in Ethiopia (CBRNE).

Non-governmental organisations (or NGOs) are non-profit-making organisations that are not part of the government. Examples of NGOs active in Ethiopia include UNICEF and AMREF.

You can support CBR activities by finding out about impairments among children in your locality, focusing on the early identification of impairments, and providing basic interventions to children, youth and adults with impairments. As noted in Section 19.6.2, you can also facilitate links between individuals with impairments and specialised services.

19.8 UN Convention on the Rights of Persons with Disabilities

The **UN Convention on the Rights of Persons with Disabilities** (UNCRPD) aims to protect the rights and dignity of persons with disabilities. Parties to the Convention (including Ethiopia) are required to promote, protect, and ensure the full enjoyment of human rights by persons with disabilities. The Convention was signed in 2007 and ratified by the Ethiopian House of Peoples' Representatives in June 2010.

The UNCRPD introduced the concept of 'reasonable accommodation'. This acknowledges that people with disabilities face many barriers and reasonable accommodation should be made to redress this. **Reasonable accommodation** involves providing the necessary and appropriate modification and adjustments, while 'not imposing a disproportionate or undue burden'. This reflects the fact that addressing *all* the barriers faced by people with disabilities requires a lot of resources that may not always be available. Nevertheless, there are a number of possible reasonable accommodations that providers could make. These include making existing facilities (such as health centres) accessible for people using crutches and wheelchairs, providing sign language interpretation, providing information in Braille, and so on. At a community level, you can help in making these changes.

Summary of Study Session 19

In Study Session 19, you have learned that:

1 Impairments and disability are different. The first relates to the physical aspects of disablement whilst the second relates to the social aspects of disability.

2 The four broad categories of impairment are: physical, sensorial, intellectual and multiple.

3 Different ways of thinking about disability can be seen in the four main 'models' of disability: the charity model, the medical model, the social model and the human rights model.

4 Myths (misconceptions) about people with disabilities and the use of inappropriate terminology when discussing disability is commonplace.

5 Poverty can cause disability, but can also be a consequence of disability, as many people with a disability in Ethiopia do not have a job.

6 The aims of the UN Convention on disability are being pursued in Ethiopia through the use of the twin-track approach and the notion of 'reasonable accommodation'. You should consider using these to play your part in facilitating the inclusion of people with disabilities in mainstream society.

Self-Assessment Questions (SAQs) for Study Session 19

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this module.

SAQ 19.1 (tests Learning Outcome 19.1 and 19.2)

Read the following case study and answer the questions at the end.

Case Study 19.1 Mr Abebe

When Mr Abebe was 5 years old, he was hit by a truck when it passed through his village while he was playing on the road. He was severely injured and as a consequence of the accident his left leg had to be amputated. It took a long time for the young boy to recover, but he gradually learned to walk again with the help of crutches. He became so skilful in using his crutches that, by the time he reached adolescence, he would often take part in the village football game, by leaning on one crutch while kicking the ball. Mr Abebe is now a grown-up man with a small vegetable farm. On Wednesdays he sells some of his products at the local market. Unfortunately Mr Abebe's vision has recently started to deteriorate due to an untreated eye infection. His vision is now so bad that he has difficulty reading. Recently the organisation that manages the local market provided some training documents on food hygiene. Unfortunately Mr Abebe was not able to read these documents, as they were printed in a very small print.

(a) In the case study, identify what type(s) of impairment Mr Abebe has, and how his impairment leads to disability.
(b) Give an example of inclusion from Mr Abebe's case story.

SAQ 19.2 (tests Learning Outcome 19.3)

Read the descriptions of the following three situations of communication with a person with a disability. For each situation indicate whether the communication is appropriate or not. If it is not appropriate, explain why.

A When you speak to someone who uses a wheelchair, sit down so that both your heads are approximately at the same level.

B When someone has difficulty speaking, interrupt them and try to finish their sentence for them so that they have to speak less.

C When you speak to someone who has an intellectual disability, you should ask all your questions at once so that you are finished quickly.

SAQ 19.3 (tests Learning Outcome 19.4)

From the list below, identify which factors are likely or unlikely causes of impairment that could result in disability. If it is an unlikely cause, explain why.

A A genetic condition a person is born with.
B Malnutrition because the crops failed a few years in a row.
C Being possessed by the devil.

SAQ 19.4 (tests Learning Outcomes 19.1, 19.5 and 19.6)

Give one example of how you can improve inclusion for people with disabilities in mainstream programmes and services, and one example of how you can improve access to services designed specifically for people with disabilities.

Notes on the Self-Assessment Questions (SAQs) for *Non-Communicable Diseases, Emergency Care and Mental Health*, Part 2

Study Session 9

SAQ 9.1

A is *false* – the burden also includes the amount of disability that a person suffers because of their mental illness.
B is true – although some people may describe the woman as lazy, this is not correct. She cannot work because of her mental illness and so this is disability.
C is *false* – most people do not have any access to specialist mental healthcare and must rely on ways of helping themselves or getting help within the family (self-treatment), using traditional healers (informal community care) or receiving care through the primary healthcare system.
D is true – this is an example of negative behaviour towards a person just because they had a mental illness and not because of their ability to do the job. Therefore it is discrimination.
E is *false* – self-treatment is what the person does to help themselves to get better, but often people with mental illness also need help from the health system, e.g. medication for people with psychosis.

SAQ 9.2

If the adult population of a typical *kebele* is about 2,500 people, we would expect the following number to have a mental illness:

50 adults (2% of 2,500) with severe mental illness (psychosis)
250–375 adults (10–15% of 2,500) with depression
125 adults (5% of 2,500) with anxiety disorders
75–125 adults (3–5% of 2,500) who have a problem with alcohol or *khat*.

These numbers show that it is likely that many people in your *kebele* could be affected by mental illness. Some adults may be affected by more than one disorder at the same time, e.g. depression and alcohol abuse.

SAQ 9.3

Some reasons to bother about mental illness in the local community could include:

- Mental illnesses are common – they affect 1 in 6 people
- People with mental illness are more likely to die young
- Mental illness causes a lot of disability and means that the whole family is more likely to be poor
- Mental illness can be treated with cheap and simple medication, but few people manage to get the treatment
- Mental illness can complicate health conditions such as HIV/AIDS
- People with mental illness (and their families) endure a lot of unnecessary suffering because of stigma, discrimination and abuse.

SAQ 9.4

(a) Possible biological causes could be (i) inheriting increased risk of psychosis from her mother, and (ii) hormonal changes following childbirth. Stress because of her husband's joblessness and their resulting poverty could be a social cause of her illness.

(b) An explanatory model is the way that a person understands their illness, including why it happened, what caused it, how serious it is, and what treatments they believe will help.

(c) Tigist understands her illness to be caused by an evil spirit. She believes that the illness is serious and that she could die. She believes the best treatment for her condition is from holy water or a traditional healer.

(d) You could explain to Tigist that you understand she is worried that her condition is caused by an evil spirit. You could then say that, in your experience, such a condition can also be due to changes in hormones that happen after childbirth. You could tell her that you would expect medical treatment to help her, and that she can continue her traditional treatments as well.

(e) You can advise the family that medical treatment is available for Tigist's condition and encourage them to take her to the nearest health facility that can deliver mental healthcare. This might be the health centre or the nearest psychiatric nurse unit. You can also encourage the family to remove the chains.

SAQ 9.5

Mental health is relevant to the following Millennium Development Goals:

MDG 1 End poverty and hunger
Mental illness leads to poverty because the affected person may be too unwell to work, and sometimes because people with mental illness experience discrimination and don't have as many opportunities to work.

MDG 2 Universal education
Undetected mental illness in children interferes with their ability to benefit from education.

MDG 4 Child health
Undetected maternal mental illness can affect child health (diarrhoea episodes), growth and development.

MDG 5 Maternal health
Maternal health is compromised by mental illness. Pregnant women with depression and anxiety are more likely to have a prolonged delivery. Also, women who experience a complicated delivery are more likely to develop mental illness.

MDG 6 Combat HIV/AIDS
Undetected mental illness can lead to people with HIV/AIDS not taking their medication regularly, resulting in a worse outcome.

SAQ 9.6

(a) The treatment gap is the gap that exists between the need for treatment for mental illness and the treatment that is actually available. In Ethiopia 9 out of 10 people with mental illness don't receive the treatment that they need. This is a very high treatment gap.

(b) The Health Extension Service can help to reduce the treatment gap for mental illness by doing the following things:

- increasing detection of mental illness
- referring people with mental illness to the health centre
- supporting people with mental illness and their families
- encouraging people with mental illness to attend their follow-up appointments and take their medication
- educating patients, their families and the community
- challenging stigma, discrimination and abuse.

Study Session 10

SAQ 10.1

Mrs Chaltu seems unhappy and sad, and worried about her life and her future. Her sadness could be an indication of depression. Depression is a priority mental health disorder. After her sister could unexpectedly not visit her, Mrs Chaltu tried to end her own life by drinking *Berekina*. Suicide is also included in the list of priority disorders.

SAQ 10.2

There are several aspects that you need to know more about before you can assess the level of suicide risk more accurately:

- You need to know more about the incident of self-harm. It seems that it was not a pre-planned suicide attempt, but you need to establish whether the *Berekina* drinking was a serious attempt at suicide and how she feels about this now. To understand more about this, you could ask questions such as: 'what did you think would happen when you drank *Berekina*?' 'How much of it did you take?' 'Did you believe the amount you took would kill you?'
- You need to find out if there is any past history of self-harm. If she has such a history, the risk of future suicide is greater. You can assess this by asking questions such as: 'Have you ever tried to harm yourself before?'
- You need to know more about whether Mrs Chaltu has suicidal thoughts more often. You can assess this by asking general questions about how she sees the future, and more direct questions such as, 'Are there times when you wish you were dead?'(See also Box 10.5).
- You need more details about Mrs Chaltu's social circumstances. It appears that Mrs Chaltu has some social problems, including family problems and financial worries. You can get to understand Mrs Chaltu's situation better by asking her questions like: 'Are there things in life that you worry about?' 'Do you have enough support from family and friends?'

Study Session 11

SAQ 11.1

A is true. If the client and their family know about the side effects of drugs it will reduce their anxiety and it may make them more tolerant to mild adverse effects. They also need to know about possible serious unwanted effects, so that they can recognise these easily and ask for help from you or the treating doctor immediately.

B is *false*. Traditional beliefs have been around for many generations and are often embedded in the community's culture. A key principle of a good approach to your community members is to be non-judgemental and show them respect regardless of their beliefs. People should thus not be told they are silly and wrong, but instead should be educated about mental health problems and their treatment in a respectful way.

C is *false*. Patients should not be punished for their behaviour when they are mentally ill. They may behave aggressively because they are not aware of what they are doing or they are not able to control their actions. Rather than being punished, they should receive appropriate treatment.

D is true. You have learned that expression of emotion is one way of relieving the client from their tension. Keeping a client's sensitive information confidential is ethical and helps to build a good relationship between you and your client.

SAQ 11.2

Mr Teklu thinks everyone in his neighbourhood is against him, which is indicative of paranoid delusion. It also seems that he hears things that aren't there, which is described as hallucination (as discussed in Study Session 10). Both delusions and hallucinations are characteristics of psychosis. Because Mr Teklu is paranoid, make sure to not hide information from him; don't tell him that his beliefs are wrong and don't pass any judgement. Try to collect more information about Mr Telku, for instance about other problems he may have. Psychosis is a serious illness, so you should refer Mr Telku to a healthcentre or hospital.

SAQ 11.3

(a) Mrs Mulu manifested with confusion following an epileptic attack. The confusion may be because of epilepsy or may be the consequence of her head injury, therefore she should be referred to a health centre or a hospital urgently.

(b) Mrs Mulu has poor adherence to treatment which resulted in a serious medical emergency. She requires first aid and immediate referral accompanied by a health worker or responsible family member. After giving emergency care and referring Mrs Mulu to the health centre or hospital, you need to find out why she has not been taking her medication. This may be because of her poor knowledge of the disease course and need of treatment; in that case you need to educate Mrs Mulu and her family about her condition. If Mrs Mulu has difficulty accessing the treatment you could decide to collect the drugs from the doctor yourself, or ask a member of Mrs Mulu's family to do this for her.

SAQ 11.4

During follow-up it is important to find out how your client is doing, whether his condition has improved and how he feels more generally, for instance whether he has been able to start working again. You should also ask whether he is taking the medication as prescribed by the doctor, whether he has developed any unwanted effects, and whether any follow-up visits to the treating doctor are planned.

Study Session 12

SAQ 12.1

Mrs Woynitu has several symptoms of depression. You have noticed that she has become more irritable, which some individuals manifest instead of feelings of sadness. She has also lost energy and concentration. She seems to have lost interest and has begun blaming herself. She has lost appetite and weight. She is also feeling hopeless and is having death wishes. All these symptoms of depression are also mentioned in Table 12.1. Not only does she have numerous symptoms but she also has problems with her functioning in that she struggles to do her daily work and her relationship with her neighbours seems to have deteriorated. As this case illustrates, depression is not only about behavioural symptoms, but also about impairment in daily functioning.

SAQ 12.2

It is not very difficult to identify symptoms of depression in Mrs Woynitu. However, there are at least three barriers that may impede your ability to recognise depression:

1 In the beginning you did not have the chance to speak to Mrs Woynitu and understand her problem because she didn't want to talk. You could easily interpret her behaviour as personal malice and could have chosen to avoid her.
2 She started by telling you about backache, headache and tiredness. If you did not stop to listen to her story further, you could have interpreted these physical symptoms as manifestations of a physical disease. If you were to do so, you would have lost an opportunity to help Mrs Woynitu and would potentially have spent resources unnecessarily.
3 You could also have interpreted her emotional difficulties as understandable consequences of her marital difficulties.

SAQ 12.3

Mrs Woynitu's marital difficulties may have triggered her depression. But her self-blame and disinterest in engaging with the neighbours may lead to worsening of her depressive symptoms. Although you could think that the depressive symptoms are understandable consequences of the marital conflict and not real depression, it is not common for people to have so many depressive symptoms just because of difficulties in their lives. Mrs Woynitu also has symptoms that are difficult to explain in terms of these difficulties. For example, feeling too hopeless to the extent of having death wishes, self-blame and lack of enjoyment are not usual in people feeling depressed because of some difficulties in their lives.

SAQ 12.4

(a) You can try to understand the marital problems in more detail without getting too involved in the problem.

(b) You can explain that you think Mrs Woynitu may be depressed. This will help her to understand her experiences better. In this context you can tell Mrs Woynitu that because of her depression, she is beginning to avoid people, and this is likely to make her depression worse.

(c) It is important to assess whether there is a risk of her harming herself (see also Study Session 10).

(d) It is important to learn what she has done to solve the problem with her husband. If her relationship improves, it could begin the process of improving the depression.

(e) Check how much support she is getting from her husband. It may help to involve the husband. The husband is not likely to know that his wife is depressed and that some of her behaviour may be due to depression. Understanding the problem better may help her husband to support his wife better.

(f) You can also use locally accepted methods of solving disputes between couples.

(g) Mrs Woynitu will benefit from remaining involved with her neighbours, so encourage her to continue doing this. She would also benefit from broader social support from family and friends. You could encourage her to identify sources of support and engage with those.

(h) Encourage Mrs Woynitu to eat regularly; to continue doing things that she enjoyed before she became depressed; and to exercise.

(i) Mrs Woynitu is also likely to benefit from medication. This will be discussed in the next answer.

SAQ 12.5

Overall, there are many reasons to support referring Mrs Woynitu. She appears to have a severe depression given the number of symptoms she has, the potential risk and functional impairment. When someone has severe depression it is better to refer them. Mrs Woynitu is likely to require medication and will need this prescribed from the nearby health centre or hospital.

Study Session 13

SAQ 13.1

A is *false*. Acute psychosis is an illness which may or may not have obvious cause. Commonly, it is associated with exposure to stressful situations.

B is *false*. Acute organic psychosis is usually caused by physical illness or brain damage. Immediately upon identification, the patient needs to be referred to a health centre or hospital.

C is true. People with psychosis should be encouraged to return to their work and responsibilities because this can help their recovery.

D is *false*. Treatment of psychosis involves treatment and support. Criticising or embarrassing a person is unlikely to help them and may well increase the distress they are already suffering.

SAQ 13.2

The case studies of Mr Goitom and Mr Abebe are different from each other in a number of ways. The onset of Mr Goitom's illness was very sudden and there was a rapid development of his symptoms: increasing aggression, sleeplessness and loud shouting, which are consistent with acute psychosis. In Mr Abebe's case, the symptoms (being withdrawn, moody and inactive) developed gradually over a longer period and progressed slowly. This is consistent with chronic psychosis.

SAQ 13.3

The symptoms in this case are consistent with acute organic psychosis, but it is possible that malaria is the reason for her confusion. She should therefore be referred immediately to the nearest health centre for proper evaluation and treatment.

SAQ 13.4

The young man described in this case has already been identified with chronic psychosis and his treatment has been initiated. However, a likely reason for treatment failure and the persistence of his symptoms may be his continued use of substances. There is strong evidence that cigarettes can affect the body's ability to heal itself, while the heavy use of *khat* and alcohol are likely to reduce the effectiveness of his antipsychotic medication and aggravate his symptoms. In this situation you should warn the patient (and his family and friends) about the negative effects of *khat* and alcohol on a person with a psychotic illness. You should also enquire about the details of his treatment: is he taking his medication regularly (adherence to treatment), and has he experienced any adverse effects (suggesting a review of treatment)?

Study Session 14

SAQ 14.1

A is *false*. Psychoactive substances can cause addiction, but many people use substances, for example alcohol, in low amounts without becoming addicted.

B is true. Psychoactive substances can cause tolerance, which is characterised by the need to increase the quantity of substances used in order to get the same level of effect as before.

C is *false*. This person may have started using substances voluntarily, but after a certain period of time brain changes will lead to involuntary use. This means the person should receive help and support in overcoming their addiction.

D is true. People who have developed an addiction will show withdrawal symptoms. Which particular symptoms are likely to occur depends on the type of substance used.

SAQ 14.2

Mr Thomas's withdrawal symptoms include: a compulsion to drink, irritable behaviour, tremors, sweating, nausea and feeling tense and fearful when deprived of drink.

Long-term effects are: forgetfulness, loss of interest in work, failure to manage family commitments and financial difficulties.

SAQ 14.3

You should use the questions in the CAGE questionnaire (Box 14.2):

- Have you ever felt you should **C**ut your drinking?
- Have people **A**nnoyed you by criticising your drinking?
- Have you ever felt bad or **G**uilty about your drinking?
- Have you ever taken a drink first thing in the morning (**E**ye opener) to steady your nerves or get rid of a hangover?

Based on the information provided in the Case Study, Mr Thomas seems to have developed an alcohol addiction. From the CAGE questions you ask Mr Thomas, and from talking to Mr Thomas's wife, you can evaluate the severity of the addiction, his withdrawal symptoms and whether Mr Thomas may have other physical or mental health problems. In cases of severe withdrawal symptoms or other physical or mental health problems, you should refer Mr Thomas to the nearest healthcentre or hospital.

SAQ 14.4

Mr Nuredin has been chewing *khat* and smoking cigarettes for 15 years. You should encourage him to stop using these substances by giving him adequate information about the negative consequences of using them. You can also support him in his efforts to stop taking the drugs by assisting and advising him in making changes to his lifestyle. You should advise him to see a doctor if he cannot stop without medical assistance.

Study Session 15

SAQ 15.1

No. Mrs Mulu is already aware of the serious consequences of non-adherence to treatment. You should remind her of these (see Section 15.1.6) and ask her to describe her side effects in more detail. It could be that these are also symptoms of non-adherence – in this case, taking *too much* medication. This would be consistent with 'drunken' side effects such as unsteadiness, poor concentration, drowsiness, vomiting and double vision. Given this and her previous poor adherence to treatment, you should refer her immediately for assessment by the epilepsy specialist.

SAQ 15.2

The description of Meron's trance-like state suggests that she may be experiencing petit-mal seizures. You should explain this to the family and also refer her for immediate assessment (see Section 15.1.7). Taking details of these seizures (from Meron, her family and school teachers) might prove useful to this assessment (see Box 15.1). Providing a medical explanation for her condition will also counter the negative aspects of traditional beliefs (see Section 15.1.3) and help the family and school support her treatment in the community.

SAQ 15.3

As discussed in Section 15.1.5, the best response to a seizure is to prevent the person from self-injury by moving them away from danger, putting a pillow under their head, and placing them in the safe lateral position (see Figure 15.1). To prevent injury, objects should not be placed in the person's mouth during the seizure. It is also important not to light matches, give the person anything to drink, or to try to stop the convulsion by force or by holding them tight.

During the seizure, it is important to make a mental note of the nature and duration of the attack, as this will be useful in assessment. If a seizure lasts longer than five minutes (or the seizures begin to come in 'waves' one after the other), this may be a sign of status epilepticus. In these circumstances the person should be placed in the safe lateral position, have their blood pressure checked frequently, and be referred immediately to the nearest general hospital, accompanied by a close relative or yourself.

After a seizure the person should not be allowed to wander about unsupervised until they have returned to their normal level of awareness. The person should remain under care until they have completely recovered.

SAQ 15.4

The first thing you should do in Mr Teklu's case is to examine his circumstances. Here both his behaviour (as suggested by others in the village) and his increasingly poor ability to look after himself are consistent with dementia. To gain a clearer understanding of the seriousness of his condition, you should use the questions in Box 15.2 to test his awareness and thinking skills.

There is a range of things that can be done to help Mr Teklu. The first would be to refer him for assessment. This could lead to the provision of a diagnosis and medication to manage his symptoms, as well as any complicating factors such as depression. Following this, you should take an active role in ensuring his adherence to any treatment in the community by explaining to him why it is important to take his medication and providing tips to help him to remember to do this (see Section 15.2.1).

You should also make him understand that the use of both *khat* and alcohol are likely to make his condition worse by interfering with any medication. Instead, impress upon him the importance of a maintaining a healthy lifestyle and eating properly (see Section 15.2.2).

Finally, you should also seek to address the problem of Mr Teklu's social isolation, educating others about dementia and encouraging old friends and neighbours to support him with day-to-day tasks and to monitor his wellbeing.

Study Session 16

SAQ 16.1

A is *false*. Sleep hygiene does not have anything to do with personal hygiene. It is the term used to describe good sleeping habits.

B is *false*. Instead of telling the person how to solve their problems, problem-solving means helping the person to find their own solutions to their problems.

C is *false*. In general, sedative medication is not the solution for people who have chronic sleep difficulties because of the risk that they will get addicted to the medicine.

D is true. A person with post-traumatic stress disorder typically has the following symptoms: (1) horrible memories or nightmares about the bad event; (2) not being able to relax because they are expecting more bad things to happen; (3) avoiding anything that reminds them of the bad event.

E is true. Coffee can disturb a person's sleep if drunk too late in the day.

SAQ 16.2

(a) Mr Ato Debela has the following symptoms of anxiety: worrying without good reason, tense muscles, racing heart, tremor, sweating, shortness of breath and disturbed sleep.

(b) Check for possible causes of sleep problems and try to correct them. For example, a person with anxiety may use alcohol to try to make them feel calmer but this will disturb their sleep. You can explain the importance of sleep hygiene (Table 16.2).

(c) Problem solving could help Mr Ato Debela. He is worrying about lots of different things. You can encourage him to focus on just one problem at a time (see Box 16.2).

SAQ 16.3

(a) The person has a physical complaint without an identifiable medical cause. It could be due to an undetected physical problem, depression, anxiety and/or somatisation.

(b) You should screen for depression and anxiety. It would also be useful to find out whether the person has any social difficulties that could be leading to somatisation.

(c) Assuming that the person has somatisation, it is important to work with the health centre staff to try to stop the person having unnecessary investigations and treatments.

SAQ 16.4

As we discussed earlier, Mrs Alemtsehay seems to have a level of depression that needs urgent treatment. You should refer her to the next level health facility which is able to provide mental healthcare. You can also provide her with confidential support and try to encourage her to speak to a family member or community elder about the problem with her husband. You may also be able to put her in touch with local organisations that could help her.

Study Session 17

SAQ 17.1

A is *false*. It is true that there is no cure for intellectual disability (ID), but there is a range of things that both you and the child's parents can do to help. An example of this is provided in Section 17.2.2, in the case study of Tessema. This case study stresses the importance of your role in the assessment and identification of ID. You can also help the parents to understand this condition, and encourage and educate them to provide appropriate care and stimulation. A list of tips and suggestions you can offer parents is provided in Box 17.1. Your role in the prevention of ID is discussed in Box 17.2.

B is *false*. Beating a child is a form of child abuse (see Section 17.4). Frequent and severe physical abuse of a child can cause damage to the child's physical and emotional development. Sometimes children may be punished or beaten so severely that they may sustain serious physical injuries including broken bones. This can also lead to delays in intellectual development.

SAQ 17.2

Your role is mainly in supporting the child and educating parents about the most effective approaches to managing the problem of enuresis (see Box 17.4). The main point to stress to parents is that punishment does not work and can make the condition worse because it can undermine the child's confidence. Instead, parents should praise success and ignore failure. Referral for treatment is generally only necessary when there are some underlying physical conditions, such as infections, diabetes and problems with the bladder.

SAQ 17.3

Most childhood behavioural problems tend to improve with time. However, in cases of serious childhood problems specialist input is needed. Referral is necessary if you suspect there may be underlying health problems such as epilepsy, or evidence of conduct disorder, autism, attention deficit hyperactivity disorder (ADHD) and/or depression. Even children with these conditions may not require medication, but the specialist input can help in giving families and teachers firm guidance in how to support the child.

Study Session 18

SAQ 18.1

(a) Awareness raising about how to stay mentally healthy is an example of primary prevention/mental health promotion. That is because you are

targeting people who don't have mental illness in order to prevent them from developing mental illness.

(b) The decision on who to target depends on the priorities in your local area. You could decide to target the community in general, or specific groups within the population, e.g. school children, women attending for antenatal care, students, health workers or others.

(c) The main awareness-raising messages you choose will depend on the group that you are trying to target. For example, if you were planning to target the general community then you could talk about any of the following areas: the importance of (1) a happy, healthy childhood; (2) reducing the exposure to violence; (3) reducing the use of alcohol, *khat* and other substances; (4) using helpful coping strategies to deal with life's problems, and/or (5) reducing the risk of children developing intellectual impairments.

SAQ 18.2

When women attend for antenatal care, it provides a good opportunity to screen for mental illness, substance abuse and exposure to violence. As you learned in Study Session 16, pregnant women are commonly victims of intimate partner violence. Also, as well as causing suffering for the woman, mental illness and substance abuse can affect the unborn child. This makes detection even more important. Look back at the relevant Study Sessions to remind yourself how to screen for psychosis (Study Session 13), depression (Study Session 12), substance misuse (Study Session 14) and violence (Study Session 16).

SAQ 18.3

Some of the ways that you could try to prevent suicide in your community are as follows:

- Making sure that you know how to assess a person's suicide risk (you can remind yourself by looking back at Study Session 10).
- Helping to support people who have attempted suicide.
- Helping people with mental illness or a substance misuse problem to get the treatment they need.
- Encouraging people to use helpful coping strategies if they have a problem.

SAQ 18.4

People with mental illness often don't get the same quality of care when they attend health facilities as people who don't have a mental illness. Sometimes this happens because the mental illness stops the person expressing themselves clearly. But it can also happen if health professionals discriminate against people with mental illness.

Health professionals may hold the same negative attitudes towards the mentally ill as many in the community. In this case, the person needs to have a proper assessment to find the cause of their persistent cough. You could help by:

- Going with the person to the health facility, helping them to express themselves clearly and helping them to remember the advice given to them.
- Exploring the health professional's attitude towards people with mental illness. They may believe that people with mental illness are dangerous

or that they are unreliable. Because of such beliefs, the health professional may not take the person's physical complaints seriously. If such beliefs are present then you can explain to the health professionals that people with mental illness are at high risk of physical health problems and need the same level of care as anybody else.

Study Session 19

SAQ 19.1

(a) Mr Abebe has multiple impairments: he has a physical impairment that impacts on his mobility (because of a leg amputation). Mr Abebe also has impaired vision. Because of his visual impairments, Mr Abebe could not read the training documents on food hygiene provided by the organisation that manages the market. Because the document was only available in small print, Mr Abebe did not have access to this information, leading to a disabling situation.

(b) When Mr Abebe was an adolescent, he was so skilful with his crutches that he could participate in the local football game. This is an example of inclusion.

SAQ 19.2

A This type of communication is *appropriate*. When you speak to someone in a wheelchair, it is good to place yourself at eye level to facilitate the conversation.

B This communication style is *inappropriate*. When someone has difficulty speaking it is important to be patient and wait for the person to finish their sentences, rather than to interrupt them or speak for them.

C This communication style is *inappropriate*. When you speak to someone with an intellectual disability, you should try to speak slowly and in clear and short sentences. Ask one question at a time and give the person enough time to respond.

SAQ 19.3

A This is a *likely* cause of disability. Genetic conditions can give rise to a range of disabilities, including intellectual disability and physical impairments.

B This is a *likely* cause of disability. Malnutrition makes people more susceptible to disease, which may in turn lead to impairments. Malnutrition can also directly cause impairment. For example, if a mother receives inadequate nutrition during pregnancy, it can lead to intellectual impairment in the child.

C This is *not* a cause of disability. Use the social or human rights model to explain disability, rather than a local cultural view (like being possessed by the devil).

SAQ 19.4

Examples of how you can improve access for people with disabilities in your community to mainstream programmes and services include:

- Setting the right example by making sure that your awareness-raising meetings are accessible for everyone.
- Liaising with the local school (or other local facilities) so that ramps are provided to make sure that children who use crutches or a wheelchair can access the school.

Examples of how you can improve access to specialist services for people with disabilities include:

- Finding out about initiatives especially designed for people with disabilities (e.g. providers of hearing aids, crutches, etc.) in your local area, and making sure that the people concerned in your community know about them.
- Looking out for people with impairments in your area, so that underlying causes due to disease or injury can be treated, and so that the people concerned can be referred to specialist services where these exist.