5.1 The causes of disease and illness

contain	يحتوي	Contaminated		ملوثة	Disinfecting	تعقيم
environmental	بيئية	Insect bites		لدغ الحشرات	parasites	طفيليات
Personal hygiene	النظافة الشخصية	Regular medical check-ups		فحوصات طبية منتظمة	spread	انتشار

What is a disease or illness?

medical condition that stops a person's body from working properly. حالة طبية تمنع الجسم من العمل بشكل صحيح

reasons why people might develop a disease:	genetic	environmental factors	person's lifestyle

prevent can help person to stay healthy

Disease prevention

preventing or lowering the chance of getting disease or illness

Best way to lower risk of disease:

living healthy lifestyle - practicing good personal hygiene - having regular medical check-ups

Causes of disease and illness	
By bacteria, viruses, and parasites enter a body and make them sick	By person's lifestyle choices, environment they live in, or family history

recap	Communicable diseases أمراض مُعدية	Non-communicable diseases غير مُعدية
meaning	can be passed or spread from person to another	not pass or spread from person to another
Caused by	bacteria, viruses and parasites.	usually caused by having unhealthy lifestyle, living in unhealthy environment or genetics (family history)
Spread through	contact with an infected person contaminated food or drinks insect bites or the air	
to prevent	risk factors are modifiable, help to prevent by: practising good personal hygiene cleaning and disinfecting shared areas keeping safe distance from people who're sick	changing lifestyle habits, such as losing weight or stopping smoking
Immunity	healthy lifestyle (eating foods contains nutrients, sleeping enough & exercising) can make immune system more able to fight the bacteria & viruses that can make you sick	

most common non-communicable diseases: cardiovascular & respiratory disease, cancer, diabetes

habit: usual behaves, something person does often in regular and repeated way

5.2 Modifiable and non-modifiable risk factors

Risk factors

Something that increases a person's chance of getting disease

lifestyle changes: changing long-term habits such as diet or exercise to become healthier

more risk factors for disease you have, the greater your chance of getting disease (كلما زادت عوامل خطر
الاصابة زادت الفرصة بإصابتك بالمرض)

types of risk factors	Modifiable	Non-modifiable
meaning	risk factors that you can change to reduce chances of developing certain diseases	risk factors that you cannot change
risk factors	Sedentary lifestyle (lack of exercise) Overweight or obese Type 2 diabetes Smoking High blood pressure (hypertension) High blood cholesterol High stress levels	Gender: You are at higher risk of developing certain diseases depending on if you are a male or female. Age: As you get older, your risk of developing certain diseases can increase. Family history: If a family member has a certain disease, you could be more likely to develop the same disease. This is also known as genetics. Ethnicity: Some ethnic groups are more likely to develop certain diseases compared to others.

Example: Not doing enough physical activity can increase your risk of developing heart disease, but you can do enough physical activity and thus reduce the risk.

Ethnicity: large group of people who have the same customs or origin

Genetics: the study of the way that physical features and characteristics are passed from one generation to the next.

behaviour : the way a person acts or behaves

hygiene: keeping yourself and your surroundings clean

5.3 Personal health behaviours for disease prevention

anxiety	قلق	Depression	اكتئاب	Dirt	تراب
first aid	إسعافات أولية	Minerals	معادن	organs	أعضاء
Poor mental health	سوء الصحة العقلية	Infected & Sore	مصاب ومتقرح	vessels	أوعية

Personal health behaviours   lifestyle habits that can affect a person's health.

They can be
Positive behaviours, could positively affect health
or
Negative behaviours, could negatively affect health.

Positive health behaviours

~ Having a healthy diet and drinking enough water   ~ Getting enough sleep

~ Having good personal hygiene   ~ Being physically active   ~ Getting regular medical check-ups

Having good personal health behaviours and a healthy lifestyle could affect your modifiable risk factors for developing a disease.

Healthy diet

help to prevent diseases.

A healthy balanced diet is important to help the body stay healthy & get all the nutrients it needs.

ways healthy diet can reduce the risk of certain diseases.
Maintaining a healthy weight
Overweight or obese is a risk factor for many diseases such as cardiovascular disease or diabetes. Being overweight puts pressure on the body's organs and blood vessels which can lead to a heart attack or stroke. Making healthy food choices and being a healthy weight can reduce the risk of developing these and other diseases.
Consuming enough nutrients
Nutrients that the body needs: protein, healthy fats, carbohydrates, vitamins, and minerals. Not including enough nutrients in the diet can increase a person's risk of certain diseases.
Controlling cholesterol (type of fat produced by the body and found in certain foods)
A small amount of cholesterol is important for the body's organs to work properly. having too much can block blood vessels and increase the risk of diseases of blood vessels & heart. Fast food, unhealthy snacks and processed foods contain high amounts of cholesterol.
A healthy diet and mental health
Having a healthy diet keeps the body healthy, benefits mental health, and lowers stress levels. This can lower the risk of diseases such as depression and anxiety. Improving your diet: improving your mood.   lower your stress levels.   help you think more clearly.
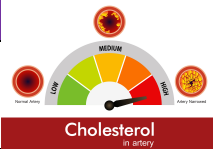
Example of consuming enough nutrients

Calcium is a mineral that the body needs to build healthy bones. Without enough calcium, a person could develop osteoporosis where bones become weak.

Consuming enough calcium-rich foods such as milk, cheese and yoghurt underline helps to prevent osteoporosis.

Getting enough sleep

 The body needs sleep to maintain health and wellbeing, it helps the body to repair itself and be ready for the next day.

After a bad night's sleep, people can feel tired, in a bad mood or even unwell.

Not getting enough sleep over a long time can lead to a higher risk of diseases such as type 2 diabetes, obesity, high blood pressure, heart disease and poor mental health.

How to get enough sleep:	
aim to get between 7-9 hours of sleep a night.	try to go to bed at the same time every night.
don't eat a large meal or drink caffeine before bed.	don't use electronic devices in the bedroom.
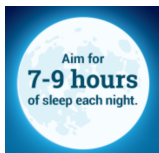
Personal hygiene

Good personal hygiene: an effective way to protect you from communicable diseases.

It's important for:		
killing bad bacteria(germs)	keeping body clean & healthy	stopping spread of illness & infection

good personal hygiene actions {When you wake up in the morning, you should brush your teeth, take a shower, wash your body, and put on clean clothes**}.**

 Keeping your body and hands clean helps to stop bacteria and viruses from spreading.

You should wash your hands:		
before, during and after preparing food.	before eating.	before and after giving first aid.
after using the bathroom.	after blowing your nose, coughing, or sneezing.	after touching someone who is sick. after touching any animals.

If you don't practise good personal hygiene, then dirt and bacteria could build up on your body and cause it to smell bad, or the skin to become infected and sore.

5.4 Physical activity and disease prevention

certain	مَعَيَّنة	Intensity	شدة	Lung	رئة
mental health	صحة عقلية	Motivation	حافز	muscle	عضلة
Osteoporosis	هشاشة عظام	Prevent	وقاية	pleasure	سرور
Regularly	بانتظام	reduce	يقل	Stroke	سكتة دماغية

What is physical activity?

defined by WHO "Any bodily movement produced by skeletal muscles that requires energy expenditure"

Anything that gets you moving and increases your heart rate can be classed as physical activity.

The benefits of physical activity

Doing regular physical activity is good for your health and well-being.

It can benefit your physical, mental, emotional, and social health.

Physical health

Ways physical activity(exercises) can improve how the body works and reduce the risk of disease:

It helps to control body weight regular exercise, burn a lot more calories.

Reducing the risk of certain diseases

Exercise reduces amounts of harmful cholesterol and fats in your blood which keeps arteries and veins clear and helps to lower blood pressure, which can reduce your risk of heart attack and stroke.

Improving bone & muscular strength

Exercise strengthens bones by increasing bone density. This helps prevent weak bone conditions such as osteoporosis and reduces your risk of breaking bones.

strong muscles support your joints, it's important for preventing injuries and performing daily tasks like carrying heavy bags.

Your heart is a muscle. It gets stronger when you exercise regularly. Strengthening your heart can help reduce your chance of developing heart disease.

Improving lung function

Exercise helps with how well the lungs can move air in and out of the body.

Endorphins: a group of hormones which are released by the brain and nervous system to reduce pain and raise pleasure and well-being.

Mental and emotional health Exercise makes your body release endorphins which can make you feel happy, reduces stress and improves your mood.

لصحة العقلية والعاطفية
كتمييز ومايتم الخلط بينها وبين السوشل والفيزيكل

Exercise can improve mental and emotional health by:

~ improving energy levels. (makes more alert and less tired during the day).

تحسن مستويات الطاقة وبالتالي تجعلك يقظا آكثر

~ improving emotional well-being. Most people feel calmer and better about themselves after exercise.

تتحسن الصحة النفسية

~ raising brain function by improving motor skills, problem-solving and increasing attention span.

ترفع وظائف الدماغ

Social health

Exercise improves social health, especially if you do team sports or exercise with a group.

Taking part in group sports can help to:

~increase confidence.   ~ learn leadership skills.   ~ make new friends.   ~ increase motivation to exercise.

Having a healthy social life is important. It has been shown to improve health by reducing stress, improving heart and lung functions, and helping the body's immune system.

لسوشل اعتبروها تأثير لاعبين الكرة المحترفين مثلًا على فريقهم
يزيد الدافع(الحافز) للعب، أصدقاء جدد، تعلم مهارات القيادة، تزيد الثقة

Recommendations for exercise

The World Health Organization (WHO) recommends the following guidelines for exercise:

Children and teenagers aged 5-17 years old

~ at least **60 minutes** of **moderate to high-intensity activity a day**.

~ Should do activities that **strengthen muscles & bones at least 3 times a week**.

Adults aged 18-64 years old

~ At least **150 minutes** of **moderate-intensity** physical activity or **75 minutes** of **high-intensity** activity **a week** should be done.

~ For further health benefits, **adults** should do **300 minutes** of **moderate-intensity** physical activity **or more each week**.

~ **Aerobic activities** such as running or swimming should last for at least **10 minutes at a time**.

~ **strengthening muscles activities** such as weight training should be done at least **2 times a week.**

Exercise intensity

How hard your body works while doing physical activity.

Exact intensity of exercises varies depending on your fitness level & the effort that you put into them.

Moderate-intensity activity نشاط معتدل الشدة

when you are working at **70-80%** of your maximum heart rate (MHR).

You should still be able to talk comfortably during moderate-intensity exercise and you should be sweating lightly.

Examples of moderate-intensity activity include:

~ Moderate walking (around 5km per hour)   ~ Cycling (less than 16km per hour)

~ Swimming slowly   ~ Gardening/heavy housework   ~ Golf

High-intensity activity نشاط عالي الشدة

Exercise creates a big increase in your heart & breathing rate. Working at **80-85%** of MHR.

You should be able to speak a few words, but not hold a conversation and you will be sweating a lot.

Examples of high-intensity activity include:

~ Running   ~ Playing sports such as football   ~ Swimming fast laps

~ Cycling (over 16km per hour)   ~ Hiking in the mountains   ~ High-intensity aerobics

'**Sedentary lifestyle**' means that a person doesn't do regular physical activity. Having this kind of lifestyle puts people at risk of developing diseases associated with being inactive such as high blood pressure and cardiovascular disease. **60 to 85% of the world's population doesn't exercise enough** and it's the **4th biggest** cause of death worldwide.

It's important to make time for exercise or move around more to improve overall health.

5.5 Medical care for disease prevention

body mass index (BMI)	مؤشر كتلة الجسم	Defenses	الدفاعات	Depend on	تعتمد على
diabetes	السكري	Estimated	مقدَّر (قيمة تقديرية)	fasting	صيام
Injection	حقنة	Life-threatening	تهدد الحياة	presence / absence	وجود/غياب
Resistance	مقاومة	track	تتبع	Vaccine	لقاح

How medical care can prevent disease

Some medical procedures can help to prevent different diseases before they happen.

Immunisation تحصين	when people are made immune or resistant to an infectious disease, usually by the injection of a vaccine.
Screening	testing people to see if they have any signs of a disease or illness.

Vaccinations are examples of primary prevention which **aims** to stop a disease before it happens.

Immunisation

Many countries include immunisation programs by giving people a vaccine that makes them immune or resistance to some diseases

UAE

UAE National Immunisation Programme

There is an immunisation schedule to vaccinate children against many different diseases.

The vaccination schedule starts when a child is born and usually continues until the child is in grade 11. If you miss some injections when you're a child, you can still have them as an adult.

There are vaccinations you can request as an adult, such as a flu injection, or vaccinations for when you are travelling to different countries which have a high risk of certain diseases.

The UAE vaccinates children against diseases such as:		
Measles, mumps, rubella (MMR) حصبة ألمانية نكاف حصبة	Varicella (chickenpox) جدري الماء	Influenza (Hib) المستدمية النزلية
Tuberculosis (BCG) السل	Hepatitis B (Hep B) التهاب الكبد	Polio (OPV/IPV) شلل الأطفال

vaccine: something that is injected into a person to protect them from a disease

How do vaccines work?

work by injecting a very small amount(doesn't make you ill) of the virus or bacteria that causes a certain disease into the body. This makes the body's immune system create antibodies to fight off the injected disease. Then, if the disease enters your body again in the future, your immune system knows what it's and already has the antibodies to fight it. This is called immunity.

A vaccine would provide protection from viruses by training people's immune systems to fight the virus, so they don't become sick. انتشار الفيروس سهل وسريع +

The importance of vaccinations:

~ Vaccinations **save** an estimated **2.5 million** lives every year.

~ Vaccines **reduce risk of getting a disease** by working with the body's natural defenses to build protection.

~ to **prevent more than 20 life-threatening diseases, helping people of all ages live longer, healthier.**

~ **for prevention and control of infectious disease outbreaks**.

At one time, smallpox الجدري killed **35%** of people who were infected and caused scarring and blindness in others.

Screening

medical tests, doctors use to check for diseases & health conditions in people before any signs & symptoms. Most often, screening is done on healthy people.

Medical screening for diseases can be done in blood tests, scans, and physical examinations.

Regular health checks and screenings are extremely important in disease prevention. They can:

~ diagnose health issues or diseases before starting to affect you.

~ allows you to get treatment early. (Increases chance of recovering from certain life-threatening diseases, for example, cancer).

~ allows you to keep track of your health, such as weight and blood pressure.

~ help you to have a healthier, longer life.

~ give you peace of mind. can help you to stop worrying.

diagnose: to recognise a disease or illness in someone

Screening tests at different ages

Health checkups and screenings will depend on your age, gender, general health, lifestyle choices, and family history.

Different health checks and screenings are recommended at different life stages:

In your 20s and 30s

Blood pressure

Skin cancer checks

Diabetes risk assessment

Dental check and cleaning

Cholesterol and glucose levels

Cervical screening (females only)

BMI, waist, and hip measurements

In your 40s

The same as your 20s and 30s plus:

Breast screening (females only)

Prostate screening (males only)

Cardiovascular disease risk assessment

Eye checks for glaucoma (a condition that can cause blindness)

In your 50s and 60s

The same as your 40s plus:

Osteoporosis risk assessment

Bowel cancer screening

Sight and hearing tests

General screening tests for adults

For	To screen for	Type of test	Screening frequency
people: **over 20** years old	Obesity سمنة	Body mass index (BMI) محيط الخصر waist circumference	Once a year
people: **over 20** years old	Hypertension الضغط المرتفع	Blood pressure measurement قياس ضغط الدم	Every 2 years (more if high risk)
people: **over 20** years old	Diabetes High cholesterol	Fasting blood glucose lipid test اختبار دهون	Every 3 years (more if high risk)
people: over 50 years old	Bowel cancer سرطان الأمعاء	Test to find blood in stools or دم في البراز أو تنظير القولون colonoscopy	Once a year
women: **25-65** years old	Cervical cancer	pap smear test مسحة عنق رحم	Every 3 years
women: **40-69** years old	Breast cancer	mammogram فحص سرطان ثدي	Every 2 years
men: **over 45** years old	Prostate cancer سرطان البروستات	Blood test or physical examination فحص دم أو فيزيائي	Every 2-3 years

What do screening results mean?

negative screening result	at low risk of having the condition tested, but it doesn't guarantee future safety. screening every few years is important.
positive screening result	They might have the condition tested, usually require further test to confirm the results, if confirmed they can be given treatment for the condition.

نتيجة الايجابي بالفحوصات غالبًا بيعملو اكتر من فحص لتأكيد الاصابة   السلبي يعني غير مصاب لكن يفضل الفحص كل بضع سنوات

Screening فحص	Diagnostic tests اختبارات تشخيصية
carried out on people who don't have any signs or symptoms of a disease.	carried out when a person has signs or symptoms of a disease or has had a positive result from a general screening.
To check for early signs of a disease	To confirm the presence (or absence) of a disease
For large numbers of people	For one person who has signs or symptoms of a disease, or has had a positive screening result
One simple test, such as a blood test	More in-depth testing which may include lots of different tests
Low cost, to be able to afford testing for large numbers of people	Higher costs, because of the need for more accurate testing

5.6 Infection control for disease prevention

bloodstream	تيار الدم	Disinfect	تطهير	Equipment		معدات
fungi	فطريات	Germs	جراثيم	meningitis		التهاب السحايا
Needles	الإبر	Precaution	الاحتياطات	procedures		إجراءات
Quarantine	الحجر الصحي	surgical	جراحية	Transmission		الانتقال

How infections spread

It occurs when germs enter the body and (multiply تتضاعف.) Certain diseases can spread easily from one person to another.

infection: a disease caused by germs that enter the body

3 things are needed for an infection to spread:	
A source	where germs are found and can include surfaces in the home or public places and on the skin.
A person	germs enter their body
Transmission	the way germs are moved to person

What causes healthcare infections? Bacteria, fungi, and viruses.

They are mainly spread through person-to-person contact such as unclean hands or unclean medical equipment such as needles.

People who are already sick are at more risk of developing healthcare infections.

Antibiotic resistance مقاومة المضادات الحيوية

Antibiotics are a medication designed to kill bacteria and prevent infections from spreading.

If over time antibiotics are overused, they are no longer as effective in killing bacteria. This is called antibiotic resistance.

This can increase the chance of infection spreading from person to person.

What is infection prevention and control?

an approach that aims to: prevent patients & healthcare workers from being harmed by avoidable infections.

Up to 1 in 10 patients get an infection while receiving healthcare.

Infections can lead to patients spending more time in hospital, disability شلل, and even death. Healthcare workers are at risk of infection, not just patients.

Types of healthcare infections

Infections can happen anywhere.

They can develop while a person is in a medical facility, or after they leave.

The most common types of healthcare infections are.

surgical infections, in the area a person has been operated on	bloodstream infections.
meningitis. an infection of the brain and spinal cord.	pneumonia, an infection in one or both lungs.
a urinary tract infection عدوى المسالك البولية (UTI). which affects the kidneys and bladder.	

Preventing hospital infections

infection control: ways to reduce the risks of infections.

Ways to practise infection control include:

Infection control program برنامج للتحكم بالعدوى

plan in place in every healthcare setting that explains how to identify and prevent infections.

Screening فحص

Patients should have screening checks for infections when they enter hospitals.

Hand washing غسل اليدين

extremely important in a healthcare setting.

Having good hygiene and regular cleaning of facilities نظافة شخصية وتنظيف الاماكن بانتظام

All staff and patients should practise good hygiene. Hands should be washed frequently. All areas of the healthcare facility and medical equipment should be cleaned properly.

Quarantine الحجر الصحي

It may be necessary to quarantine the person who has the infection and in some cases anyone who has contact with this person to reduce chance of the infection spreading to more people.

Procedures for the decontamination of people & the environment إجراءات لتطهير الناس والبيئة

A specialised cleaning plan is needed for areas where a contaminated patient has been, precautions are required for the healthcare professionals who contact this patient.

Personal protective equipment (PPE) معدات الحماية الشخصية

can help protect healthcare professional from catching an infection from the patient

PPE for a healthcare setting can include:

gloves	masks	gowns	overalls	eye protection

healthcare professionals must be protected when treating patients with an infection, so they don't catch the disease themselves and don't spread it to other patients.

لا بد من أن يستخدمها خبراء الرعاية الصحية عند علاج المرضى المعديين حتى لا يلتقطوا المرض وينتشر.

Infection control in day-to-day life

There are several healthy habits you should carry out every day to reduce your chance of becoming ill or spreading infectious diseases to others.

Wash hand regularly and properly	Stay at home when you are sick ❗
Don't share personal items with others	Cough or sneeze into a tissue ❗
Avoid touching wild animals	Get vaccinated against communicable diseases
Prepare and handle food properly	Properly clean and disinfect surfaces in the home, especially kitchens and bathrooms