7.1 Stages of pregnancy

bump	التنوء	Cells	الخلايا	Eases off	يخفف
fatigue	تعب	Fertilised egg	بويضة مخصبة	foetus/embryo	جنين
Gradually	تدريجيًا	Labour	مخاض، طلق	meconium	العقي
Nausea	غثيان	organs	الأعضاء	Translucent	شفاف
Umbilical cord	الحبل السري	vomiting	القيء	Womb	رحم

foetus : unborn baby that is still developing in the womb.

pregnancy(gestation) حمل:time when a woman carries her developing embryo/foetus in her womb.	
categorised into 3 stages which are called trimesters.	usually lasts 40-42 weeks.



trimester : ثلث a period of 3 months

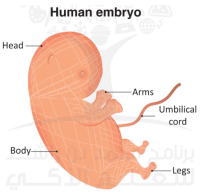
Trimester 1

A fertilised egg forms an embryo inside the mother's womb
At first, this looks like a group of cells.
Around 8 weeks, this group of cells gradually turns into shape of the human body (foetus).
The foetal stage starts after 10 weeks of pregnancy.
Before the foetus formed, a lot of physical developments had happened to the embryo.

changes happen during the first trimester:

❶ nervous system (brain and spinal cord) begins to develop.	
❷ the umbilical cord forms.	❸ heart, eyes, ears, mouth, nose, hands and feet take shape.
By the end of the first trimester, organs have formed & are developing.	

umbilical cord connects the foetus to placenta .مشيمة It carries oxygen & nutrients to foetus.

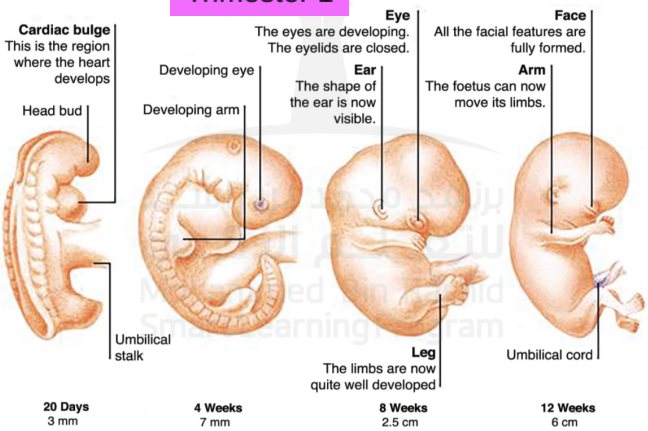


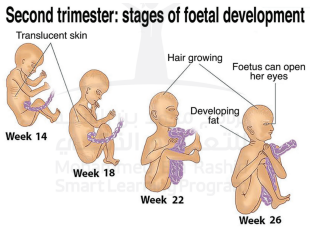
Human embryo جنين بشري

symptoms may happen for the pregnant woman during the first trimester :

Fatigue (tiredness)	Heartburn حرقة المعدة	Missed period	Nausea and possibly vomiting (morning sickness)

Trimester 1





Trimester 2

changes happen to the foetus:

foetus begins to make urine.	They develop meconium (first bowel movement).
gender will become apparent.	musculoskeletal system is developing, and the bones begin to harden.
skin is translucent (almost see-through).	The foetus can suck their thumb, and their fingerprints form.
By the end of this trimester, they are gaining some body fat.	

a lot of women start to feel well in this trimester. Morning sickness eases off, and foetus growth is noticed as the bump gets larger. The mother can feel foetus moving.

Trimester 3 (final stage of pregnancy before childbirth)

As the foetus gets bigger, it can become uncomfortable for the mother. frequency of urination increases as there is more pressure against the organs. It might be more difficult for her to sleep.

By this stage, the foetus' bones are fully formed, and the eyes can open and close.
At 37 weeks, they are classed as full-term. At this stage, the organs are functioning.
Near to the end of the third trimester, the woman's body will prepare for childbirth. The foetus will turn and be in position for childbirth towards the end of the pregnancy.
Most women go into labour and give birth between 40 and 42 weeks of pregnancy.



7.2 Healthy diet and nutritional requirements during pregnancy

avoid	تجنب	Canned	معلبة	Crackers	مقرمشات
despite	على الرغم من	Expect	توقع	fibre	الألياف
Folate	حمض الفوليك	Fortified	محصن	grain	قمح
Instead of frying	بدلًا من القلي	mercury	الزئبق	Parasites	طفيليات
Plenty of	الكثير من	pulses	بذور البقوليات	Raw	ني ء
saturated fats	دهون مشبعة	Supplement	مكملات غذائية	Undercooked	غير مطبوخ جدًا

Healthy diet during pregnancy

There are many different nutritional requirements for the **mother** & the developing baby.

She should eat a healthy balanced diet **containing** foods from each main food group **to get all the nutrients she needs during each trimester.**

It's important for healthy growth and foetus development.

Eating a healthy balanced diet means that the mother must consume a variety of foods.

Energy (calorie) needs

Energy needs increase during pregnancy. a pregnant woman must consume some extra food, from each of the food groups, to get more energy (calories).

Generally, a **pregnant woman will need to increase her calorie intake** by **360 calories during the second trimester** and by **475 calories in the third trimester**.



UAE has chosen the **Burj Khalifa** to represent the food based dietary guidelines for the country. It is **divided into 6 food groups + water**, each one is represented by a different section of the Burj Khalifa, highlighted in a different colour.

The food groups include cereals and their products, vegetables, milk and dairy foods, fruits, meat, eggs and legumes, and fats. The blue base of the Burj Khalifa represents the seventh group which is water.

Recommended food during pregnancy

The recommendations for a woman during pregnancy are not very different than for those who are not pregnant. However, it is important that pregnant women consume certain nutrients during pregnancy. Eating a wide range of foods will ensure that a pregnant woman gets all the nutrients she requires.



Fruit and vegetables (important part of everyone's diet)

contains a lot of vitamins & minerals. a good source of fibre.

Pregnant women should aim to eat **at least 5** fruit and vegetables every day.

There are many ways you can include fruit and vegetables in your diet. It doesn't matter if they are raw or cooked, eaten on their own or as part of a meal.

added to cereal/eaten with yoghurt.	added to main meals.	used to make soups.
eaten as a snack between meals.	included in salads, smoothies and juices.	

Cereals and their products (one of the main food groups)

important for everyone, including pregnant women. a good source of carbohydrates.

such as : grains, cereals, bread, potatoes, rice, crackers and pasta.

- **2 categories of carbohydrates: simple carbohydrates, complex carbohydrates**.



Pregnant women should aim to eat **5 - 8 servings** of cereals and their products every day, in the form of complex carbohydrates. **Complex carbohydrates** can be found in wholegrain bread and cereals.

Cereals and their products can be included in the diet in many ways:

~ Wholegrain cereal for breakfast.

~ Choose more wholegrain rice and pasta-based meals.

~ Choose more potato and potato-based dishes.

~ Wholegrain crackers can be eaten as a healthy snack.

Milk and dairy products

important part of a pregnant woman's diet.

provide pregnant women and the foetus with the calcium needed for the healthy development of bones, also help the feotus grow a healthy heart, nerves and muscles.

Calcium can help to control blood pressure.

Pregnant women should aim to eat **3 servings** of dairy products every day.



Low-fat dairy products **are recommended** over the full-fat versions. A pregnant woman can choose non-dairy alternatives to milk such as soya, rice or almond milk, if these contain added calcium.

Ways to include Milk and dairy products in the diet :

added to breakfast cereal.	used in cooking.	eaten as a snack.
added to fresh fruit as a healthy breakfast or snack option.		added to sandwiches & salads.

Meat, eggs and legumes



important for pregnant women and for the foetus during pregnancy.

include meat, poultry, fish, pulses and eggs. meat sources, and non-meat sources give the mother and foetus **protein** and **iron**.



It's common for women to develop an **iron deficiency** in pregnancy, **so they should eat plenty of foods from this food group that contains iron**. found in red meat, nuts, eggs and pulses.

Pregnant women should aim to eat **2 - 3 servings** from this food group every day. They should follow these steps to include foods from this food group in their meals:

Regularly include meat & non-meat foods in the diet.	remove the fat from red meat before cooking.
Try to **grill** or **bake meat** instead of frying.	Try to have more fresh meat and fish.
Make sure all meat and meat products are cooked through to kill any bacteria.	



Fats

Fats are **essential** to give the body **energy**. **help the body to** absorb **vitamins** & nutrients.

not all fats are **healthy**, **a pregnant woman should know how to recognise healthier fats to include in her diet.**

types of fats; **saturated**, **unsaturated** and **trans-fat**.

Pregnant women should **limit their intake of saturated fats and avoid trans-fats.**

Unsaturated fats are considered **healthier fats,** should be regularly included in the diet.

Foods containing **unsaturated fats**:

~ Nuts ~ Seeds ~ Olive oil ~ Rapeseed oil ~ Avocados ~ Oily fish: salmon, trout, ...

Foods to avoid during pregnancy !!

can increase the mother's risk of becoming ill during her pregnancy. it can put the pregnant woman or the foetus at risk of illness. They should be **avoided** or **limited** through pregnancy.

1. Caffeine (intake should be limited.) can reach the foetus and can be harmful.

2. Fish high in mercury

Some fish contain high levels of mercury, it can be dangerous for the foetus.

avoid eating these types of fish such as: bigeye tuna, shark, mackerel, marlin, swordfish.

Pregnant women should choose seafood **low in mercury** such as canned light tuna, salmon, anchovies, and sardines. These are **safe** to eat **2-3** times a week when pregnant.



3. High fat, salt and sugary foods

Intake of foods that are high in fat, salt and sugar should be limited during pregnancy.

Having a diet containing too much of these **can raise a pregnant woman's blood pressure and cause her to gain too much weight.**

4. **Saturated fat** & **trans-fat**

Too much saturated fat in the diet **can lead to** the build-up of a fatty layer in the arteries.

Saturated fat is found in foods such as butter, crisps, chips, mayonnaise, and meat fat. Pregnant women should eat **less** of these foods and **avoid trans-fat** commonly found in fried fast food, cookies, and cakes.

5. Processed meat

high in salt and saturated fat. Intake should be limited during pregnancy. Processed meats include hot dogs, canned meats and cured or salted meats. **Lots of takeaway foods contain processed meats.**



6. Other 'high risk' foods

bacteria : very small living things that can cause disease or illness

Bacteria and parasites are present in many foods. It's important during pregnancy to avoid eating foods which may contain **parasites and bacteria**. These can reach the foetus and can be harmful. **Pregnant women should practice good food hygiene to lower their risk of food poisoning.**

pregnant women should avoid eating the following:

raw sprouting vegetables	undercooked or raw meat	processed meat
undercooked or raw eggs	undercooked or raw fish and shellfish	
unpasteurised milk and dairy products		unwashed fruit and vegetables





Extra nutritional requirements

All nutrients are important during pregnancy to help a woman stay healthy and help the foetus grows and develops.

pregnant woman should pay special attention to **including certain nutrients in her diet,** these are **folic acid, calcium and iron**.



Folic acid (synthetic (man-made) version of folate (vitamin B9))

Women should take a supplement of 400µg of folic acid before, and up to the 12th week of pregnancy. Taking a supplement of folic acid can help prevent the foetus developing defects of the **brain**, spinal cord -spine- (these known as neural tube defects).

Certain foods contain natural folate. These foods should be eaten every day. Green leafy vegetables like spinach, broccoli, and asparagus are a good source of folate. Some foods are fortified with folic acid.

Fortified foods are foods which have vitamins or minerals added to them to improve nutrition and add health benefits. Foods often fortified with folic acid are breakfast cereals and bread.

Calcium 

an important nutrient that should be included in everyone's diet. During pregnancy, a woman needs to consume enough calcium for her own needs, as well as for the needs of the foetus.

A pregnant woman should aim to eat **3 servings** of calcium-rich foods every day.

Milk and dairy products are good sources of calcium include: ~ milk ~ cheese ~ yogurt

There are also some non-dairy foods that are good sources of calcium include:

green leafy vegetables	dried fruit	sardines with the bones	fortified foods such as cereals
non-dairy milk alternatives such as soy, almond and oat milk			

Iron

Consuming enough iron in their diet is very important for women during pregnancy. This is because the demand for iron increases as the foetus grows.

Pregnant women should eat iron-rich foods regularly. These foods include the following:

Red meat	Eggs	Pulses	Seafood	Green leafy vegetables	Fortified foods



If a pregnant woman's iron level becomes too low, then she can develop anaemia.

Anaemia can make the pregnant woman tired and weak and can cause the baby to be a low birth weight or to be born early.

A doctor might give a woman an iron supplement if she develops anaemia during her pregnancy, or she could **recommend a diet that contains more iron-rich foods, and foods that increase the absorption of iron in the body** such as fruit and vegetables.



Weight gain during pregnancy (healthy and normal part of pregnancy.)

A woman can expect to gain 5-18 kilograms during pregnancy.

Amount of weight she will gain depend on her weight before she becomes pregnant.

If she has healthy weight before pregnancy, she can expect to gain between 11.5 - 16 kg.

Eating for two

When people say a woman is 'eating for two' when she is pregnant, this doesn't mean that she should be doubling the amount of food she eats. In fact, **a woman only needs to increase her calorie intake by 360-475 calories a day during the last 6 months of her pregnancy.**

Morning sickness (nausea and possibly vomiting)

usually happens during the first trimester of pregnancy. It is caused by the increased hormones in the body. **can happen at any time of day**. To help with morning sickness, it is recommended that a pregnant woman eats small amounts of plain food.

Food cravings

When they are pregnant, many women start to 'crave' certain foods. Most commonly these are foods such as sweets, ice-cream and fast food; but sometimes women crave very unusual food combinations such as pickles with ice cream. Research suggests that these cravings might be because of a hormone imbalance, nutritional deficiencies in the diet, or just because of the need for comfort foods.

7.3 Exercise during pregnancy

anxiety	قلق	Cardiovascular	القلب والاوعية الدموية	Contractions	الانقباضات
dizziness	دوخة	Faint	إغماء	guideliness	القواعد الارشادية
Irregular	غير عادي	Pain	ألم	pelvis	الحوض
Qualified instructor	مدرب مؤهل	self-esteem	احترام الذات	Stomach	معدة

Physical activity guidelines during pregnancy

Physical activity is important for everyone, including pregnant women.



There are guidelines on how much physical activity to do. Everyone should do **at least 150 minutes of moderate activity per week** or **30 minutes of activity 5 days a week**. This is no different for women who are pregnant.

For an activity to be considered moderate, the person should have increased breathing & heart rate during the activity and should be able to hold a conversation. If they cannot hold a conversation, they might be exercising too hard.

A pregnant woman who is doing moderate physical activity, should feel comfortable throughout the activity.

recommendations that a woman who is pregnant should follow when exercising :

Pregnant women who are not active can slowly increase their physical activity level. They should start with a few minutes of light activity and build it up over a number of weeks. **She should consult her doctor before doing any exercise.**

Pregnant women who are already active but who are not meeting the guidelines should continue to slowly increase their level of physical activity.

If cardiovascular exercise and resistance training are already part of the woman's exercise routine, there is no need to stop when she is pregnant. However, she might need to change her exercise routine throughout her pregnancy.

Pregnant woment should exercise with caution and try not to overdo it.

Benefits of regular physical activity during pregnancy

improve self-esteem and mood.	reduce the risk of developing gestational diabetes.
help to improve energy levels.	help to reduce stress and anxiety.
help a woman to gain only a healthy amount of weight during pregnancy.	
help the woman to recover faster and remain healthy after giving birth.	
help to maintain cardiovascular and muscular fitness. It helps to prepare the mother's body for childbirth.	

Recommended exercises during pregnancy



The most recommended exercises to do when pregnant are ones which increase blood circulation and tone of the body. For example:

For example :	Walking	Swimming	Low impact aerobics (with a qualified instructor)

Pelvic floor exercises which **strengthen the muscles of the pelvis** are also recommended as They can **help during labour and after the birth of the baby**.

When to stop physical activity during pregnancy ?

Women should stop exercising if there is a risk to her or to the foetus.

Some signs that could mean that the foetus or mother is in danger include:

Chest pain	Bleeding or fluid loss	Decreased movement from the foetus
Dizziness	Difficulty breathing before exercise	Muscle weakness
irregular heartbeat	Pre-term labour or contractions	Pain around the stomach or pelvis

Exercises to avoid during pregnancy

While many exercises are safe to do during pregnancy, some exercises should be avoided.
For example:

Pregnant woman shouldn't lie flat on their back for long periods of time, particularly after 16 weeks, as she might feel faint or dizzy.
It's not recommended to be in contact sports with a risk of being hit, such as kickboxing judo.
Sports where there is a risk of the woman falling such as horse-riding or rock climbing should be avoided.

A pregnant woman should consult their doctor if they want to start to exercise, or if they want to change their exercise routine.

If she has any complications when exercising, she should consult her doctor immediately.

7.4 Medical care during pregnancy

abdominal	بطني	Amniotic	سلى (غشاء الجنين الداخلي	Clamped	فرضت
constipation	إمساك	Demands	حفز	dull	ممل
Excessive	مبالغ فيه	Fluid	سائل	heavy	ثقيل
Identify	تعريف	Immediate	مباشر	onset	بداية
Placenta	المشيمة	sudden	مفاجئ	Swelling	تورم
Thirst	العطش	tight	ضيق	Urge	يحث

Medical needs during pregnancy

there are many reasons why a woman might need medical care during pregnancy. If she knows what to expect during her pregnancy, she might be able to identify when she needs medical attention. If a woman believes that she needs medical attention, it is important to assist her to get the help she needs.



Ultrasound scans

It lets the doctor know if the foetus is growing and developing at a healthy rate.

The scan will record the **heart rate** & **breathing**.



Hypertension (high blood pressure)

can experience during pregnancy. It should be monitored by a healthcare professional.

Gestational diabetes (levels of sugar in the blood)

doctor will monitor the glucose levels of a pregnant woman. it can identify the onset of gestational diabetes.

It happens because the body cannot produce enough insulin to meet the extra demands of the pregnancy. it leads to the woman's too high glucose in the blood (hyperglycaemia).

Gestational diabetes isn't usually a long-term condition and generally goes away after the baby's delivery.

Other symptoms that can happen during pregnancy :

If a woman experience these during pregnancy, she should see her doctor but **doesn't** need emergency medical care.

Back pain	**Low iron levels in the blood (anaemia)**		Constipation
Fatigue (tiredness)	Heartburn	Morning sickness	Swelling of the legs (oedema)

When to get emergency medical care ?

If pregnant woman experience any of these, she should get immediate medical attention.

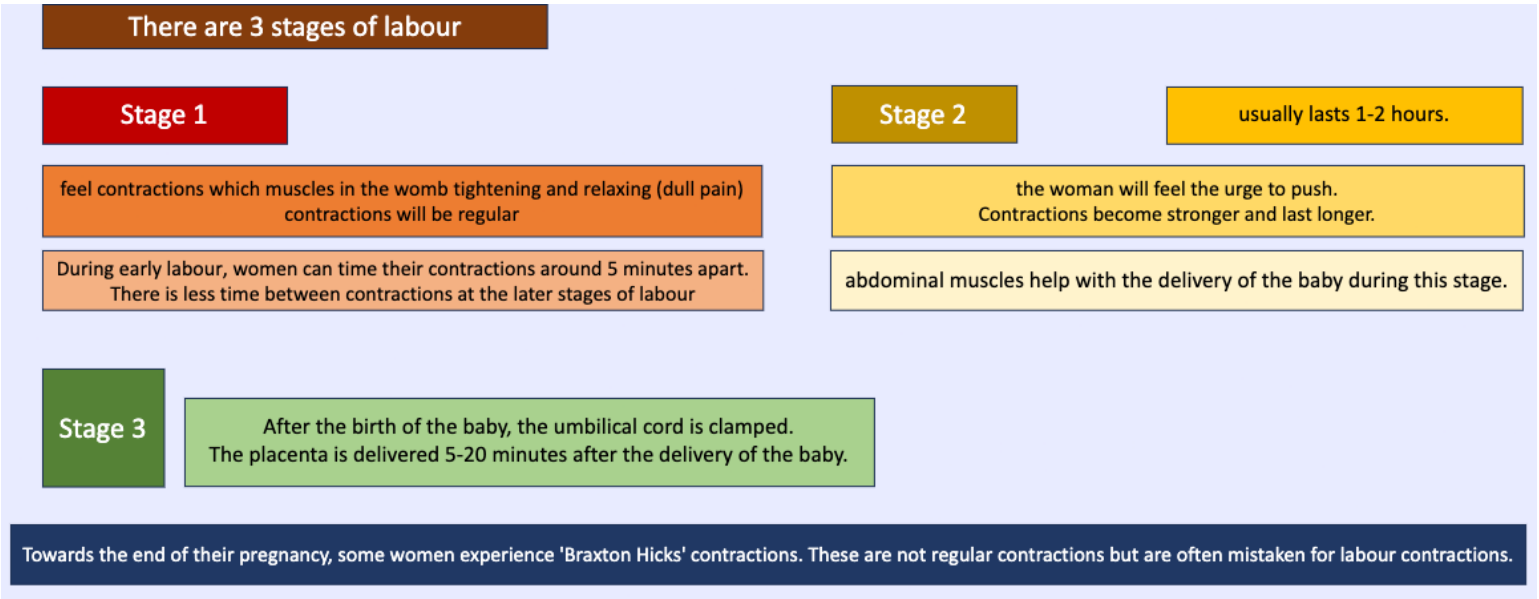
Excessive fatigue	Excessive thirst	Heavy bleeding
Feeling of anxiety	Sudden loss of fluid	Unexplained pains
No movement from the foetus	More than 3 contractions per hour	

Labour

labour (childbirth): the process of childbirth, process of the baby leaving the womb.

Signs of labour include : lower back pain or pain around the stomach, the release of amniotic fluid known as the 'waters breaking', and contractions.

If a woman thinks she is in labour, she should get medical attention !!



7.5 Care for a newborn

antimicrobial	مضادات الميكروبات	Breast	صدر	Colostrum	اللبأ
concentrated	مُرَكَّزة	Demans	يطلب	depends on	يعتمد على
Encourages	يشجع	Infection	عدوى	mature	ناضجة
Readily	بسهولة	rid	يتخلص	Satisfy	يُلبي
Specific	محدد	stool	براز	Thin	رفيع

Nutritional needs of a newborn

The nutritional needs of a newborn are very specific. A newborn baby is growing and developing very fast. **During the first 6 months, a baby's weight will have doubled. It builds their immune system to fight infection and disease. The best way to support this growth and development is to breastfeed the baby.**

Breastfeeding



Breastmilk is very important for the baby. **The baby must latch onto the breast and suckle to feed from the mother's breast.**

breastfeeding : the action of feeding a baby with milk from the breast

Breastmilk contains all the nutrients and antibodies the baby needs to grow and develop and fight infection. It gives the baby all the energy they need to meet their demands.

Mothers should try to feed their baby for the first time within 1 hour of birth.

The World Health Organization recommends that women breastfeed exclusively for first 6 months. No other food or drinks are given to the baby during this time, just breastfeeding.

Breastfeeding is important for many reasons:

~ encourages bonding between the mother and the baby.

~ contains all the nutrients the baby needs. ~ It is free, safe and readily available.

~ It helps to develop the baby's immune system. ~ It is environmentally friendly.

At the end of the 6 months, it is recommended that the baby should be introduced to home-made food, but breastfeeding should continue until 2 years of age or longer.

colonsrtum : the first form of milk produced by mother straight after the baby is born



Colostrum

a sticky yellowish substance baby fed for the first few days during breastfeeding. **concentrated & provides the best nutrients for the baby**, including **protein**, **vitamins & minerals.**

Colostrum helps the baby to get rid of meconium. This is the baby's first stool after birth. During the first week, the amount of colostrum produced reduces and more mature milk is produced. Mature milk may look thin at the beginning.

During the feeding, mature milk becomes creamy and rich. This **combination of thin at the beginning and rich during the feed will satisfy** the **hunger** and **thirst needs of the baby**.

How much?

The baby's needs will determine how much milk is produced by the mother. The more often the baby feeds from the breast, the more milk will be produced to meet the demand.

During the first few days, the baby can **feed up to 15 times a day**.

Babies will feed when they are hungry and stop when they are full. A baby should be breastfed as often as they want it. They will take enough milk to help them to grow and develop at a healthy rate.

Nutrients in breastmilk

Breastmilk contains all the nutrients babies need. **The amount of nutrients in breast milk depends on** the quality of the mother's diet. This is why a **healthy diet is important during pregnancy and when a mother is breastfeeding her baby.**

Breastmilk contains:

Antimicrobial factors	Carbohydrate	Digestive enzymes	Fat	Protein	Vitamins & minerals