



Food and Agriculture
Organization of the
United Nations

Improving dietary diversity for women and children

A facilitators' aid for conducting
social behaviour change communication
sessions

FAO support to the Global Agriculture and Food Security
Programme (GAFSP) in Myanmar

September 2022



Session 1.1:

The problem of malnutrition



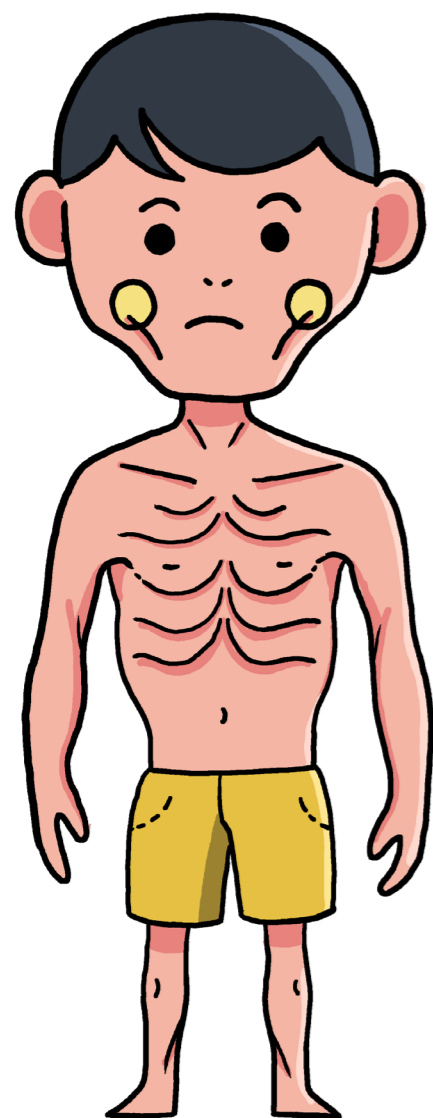
Undernutrition



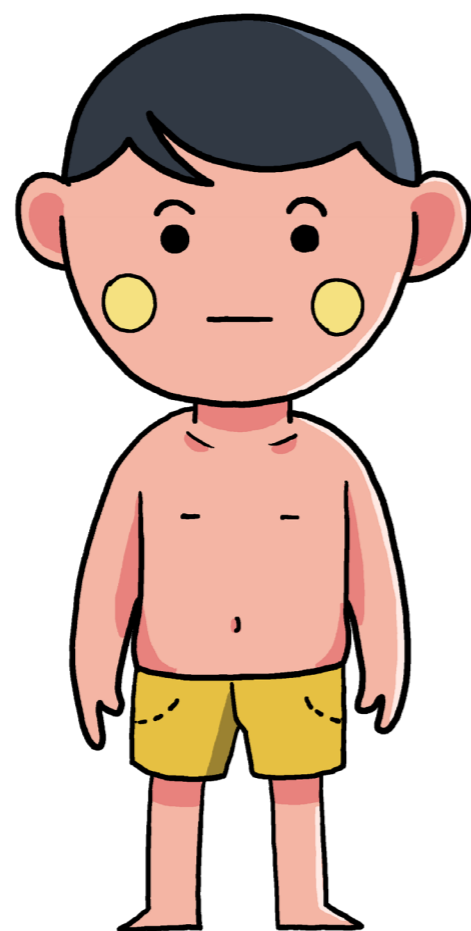
Overnutrition

Malnutrition occurs when:

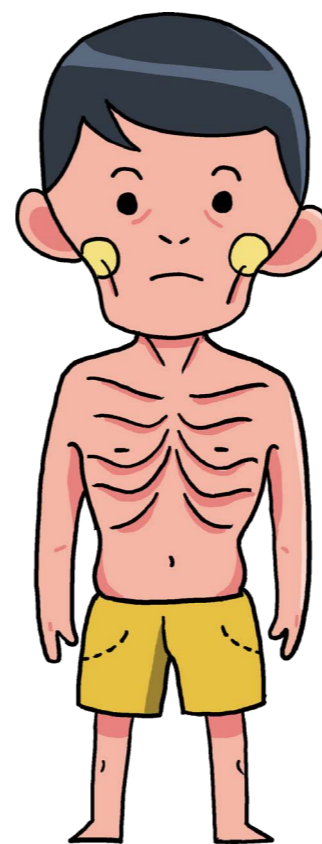
- A person does not get enough nutrients from their diet (undernutrition).
- S/he suffers from frequent illness, causing the body to become unable to fully use the food which is eaten (undernutrition).
- S/he consumes too much food than the body needs (over-nutrition).



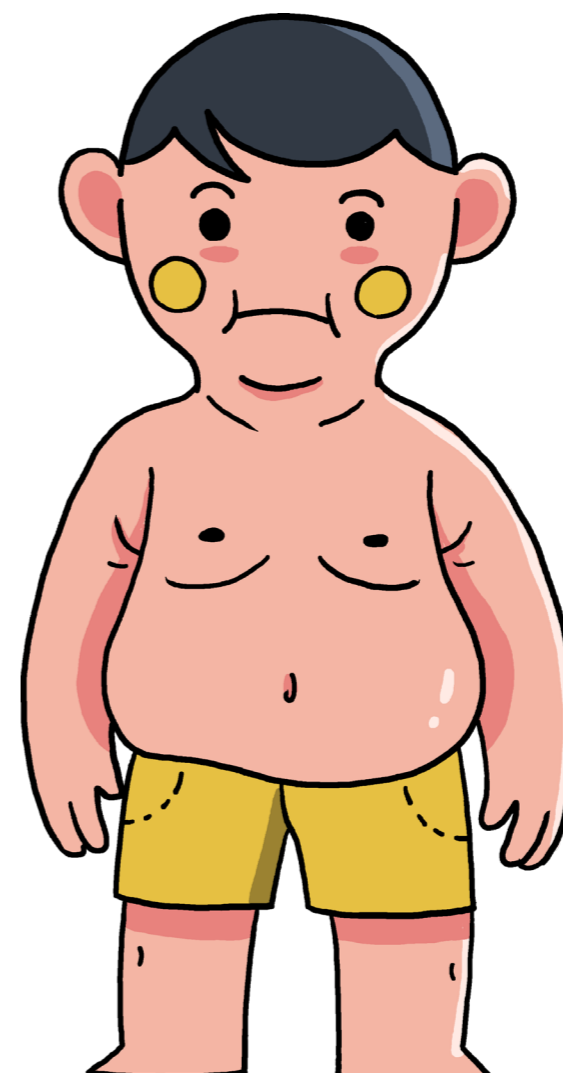
Wasted
Thinner than normal



Stunted
Shorter than normal



Underweight
Smaller than normal



Overweight
Bigger than normal



Micronutrient deficiency
Thinner and shorter than normal

Malnutrition generally includes under-nutrition, over-nutrition and micro-nutrient deficiencies. Look at the pictures. They are all two years old children. Do they have similar growth? Explain each picture.

S.N	Types of Malnutrition	Description
1	Wasting	• Thinner than normal (low weight for height)
2	Stunting	• Shorter than normal (low height for age)
3	Underweight	• Smaller than normal (low weight for age)
4	Overweight	• Thinner than normal (low weight for height)
5	Micronutrient deficiency	• Show symptoms (pale skin, night blindness, goiter, mental retardation etc) due to insufficient intake of essential vitamins and minerals

- All the conditions negatively affect children's normal growth and development.
- Ask the participants which type of malnutrition shown in the picture do they think is the most common in their community.
- Note that studies done in 2017–2018 found that in Central Dry Zone, **1 in 3 children** under five years old suffers from stunting and **1 in 12 children** in the same group suffer from wasting¹. This is a very high number compared to Myanmar's neighbour countries.

¹ Ministry of Health and Sports, Myanmar. (2017-2018) Myanmar Micronutrient and Food Consumption Survey. Interim report.



Underweight

BMI less than 18.5



Normal

BMI from 18.5
to less than 23.0

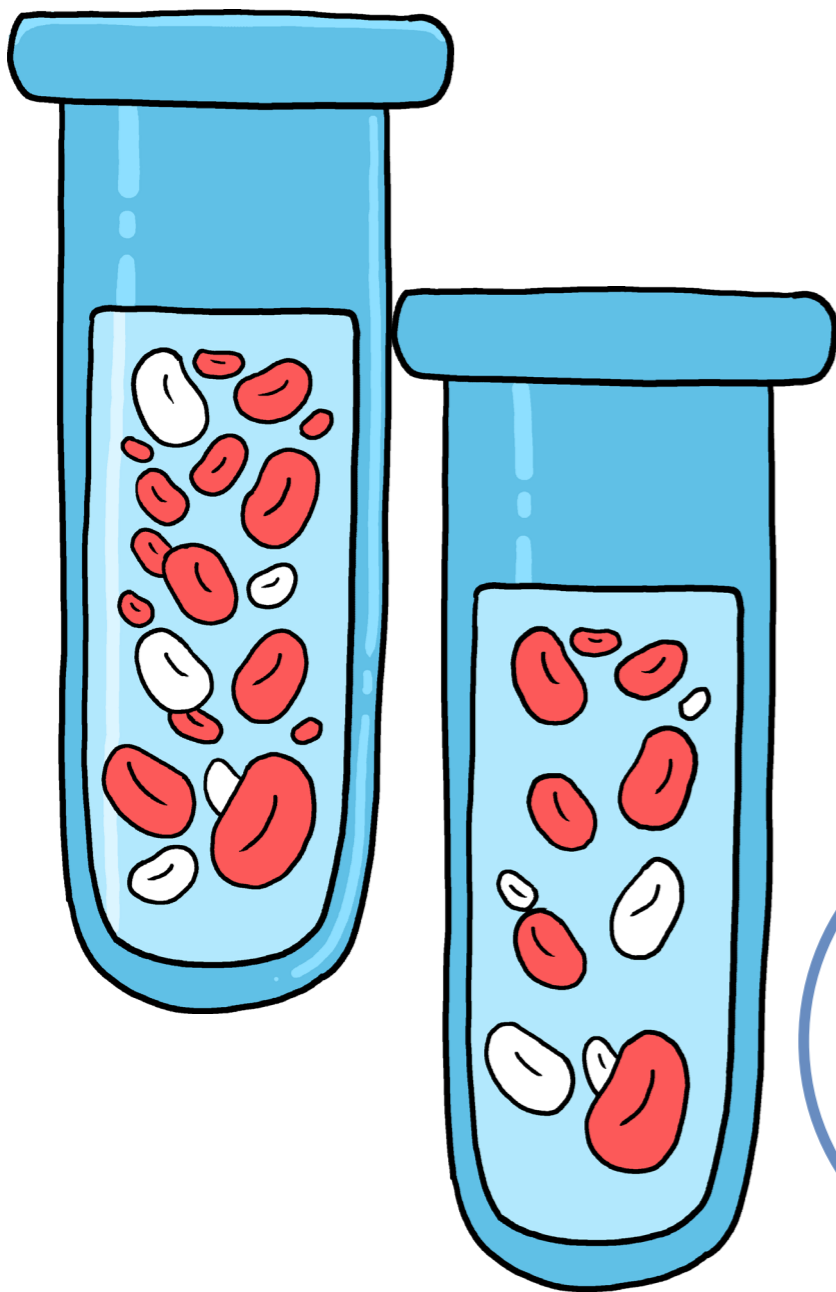


Overweight

BMI between
23.0 and 27.5

- Malnutrition is one of the major problems among women of reproductive age (15–49 years) in Myanmar.
- In Myanmar, according to the recent reports, **one in seven women** of reproductive age were underweight (14.3 percent) and **one in five** women in the same group were overweight (22.9 percent)².
- Overweight and obesity can cause increased risk of menstrual dysfunction and suppression of ovulation, which, in turn, make them susceptible to subfertility, infertility, and adverse pregnancy outcomes, including miscarriage and increased risk of caesarean section.
- Maternal underweight is also a risk factor of low birth weight and stillbirth in the offspring.
- Thus, women and girls should make sure that they eat healthy diets and have a healthy body weight before and during pregnancy.

² Ministry of Health and Sports, Myanmar. (2017-2018). Myanmar Micronutrient and Food Consumption Survey. Interim report.



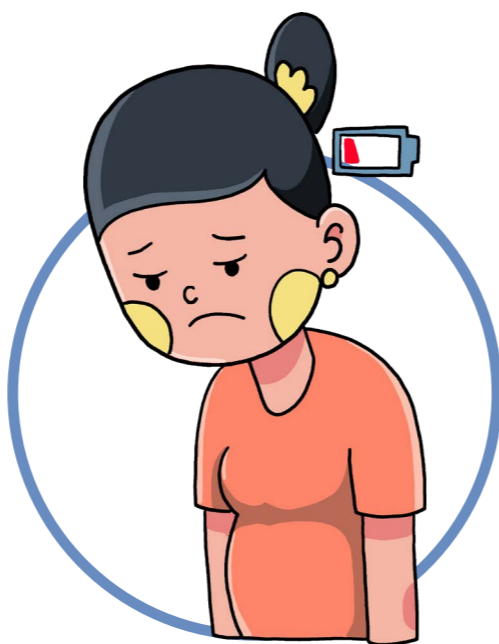
Headache



Insomnia



Shortness of breath



Fatigue



Dizziness



Difficulty concentration



Pale skin

- In addition to undernutrition and over-nutrition, Myanmar is also facing many micronutrient deficiencies. The most common ones are iodine, iron and vitamin A deficiencies³.
- If children do not consume adequate amount of iron, their mental and physical development may be delayed. People of all ages, who are deficient in iron, are less active, have less immunity to infections and may become anemic.
- Iron deficiency during pregnancy causes anemia and increases the risks of maternal and infant mortality, premature birth, and low-birth-weight babies.
- In CDZ, approximately one in three children (36 percent) aged 6–59 months suffer from anaemia⁴.
- In addition, about one in three women of reproductive age (15–49 years) also had anaemia. Approximately one in two pregnant women (47 percent) also suffer from anemia⁵, which likely to have many adverse effects on their health and unborn babies.
- Thus, it is important to eat variety of foods including meat, eggs, pulses, dark green leafy, and yellow fruits and vegetable every day. Symptoms of iron deficiency anemia are shown in figure.

³ Win, A. Z. (2016). *Micronutrient deficiencies in early childhood can lower a country's GDP: The Myanmar example*. *Nutrition*, 32(1), 138-140.

⁴ Ministry of Health and Sports, Myanmar. (2017-2018). *Myanmar Micronutrient and Food Consumption Survey. Interim report*.

⁵ Ministry of Health and Sports, Myanmar. (2017-2018). *Myanmar Micronutrient and Food Consumption Survey. Interim report*.



Goiter

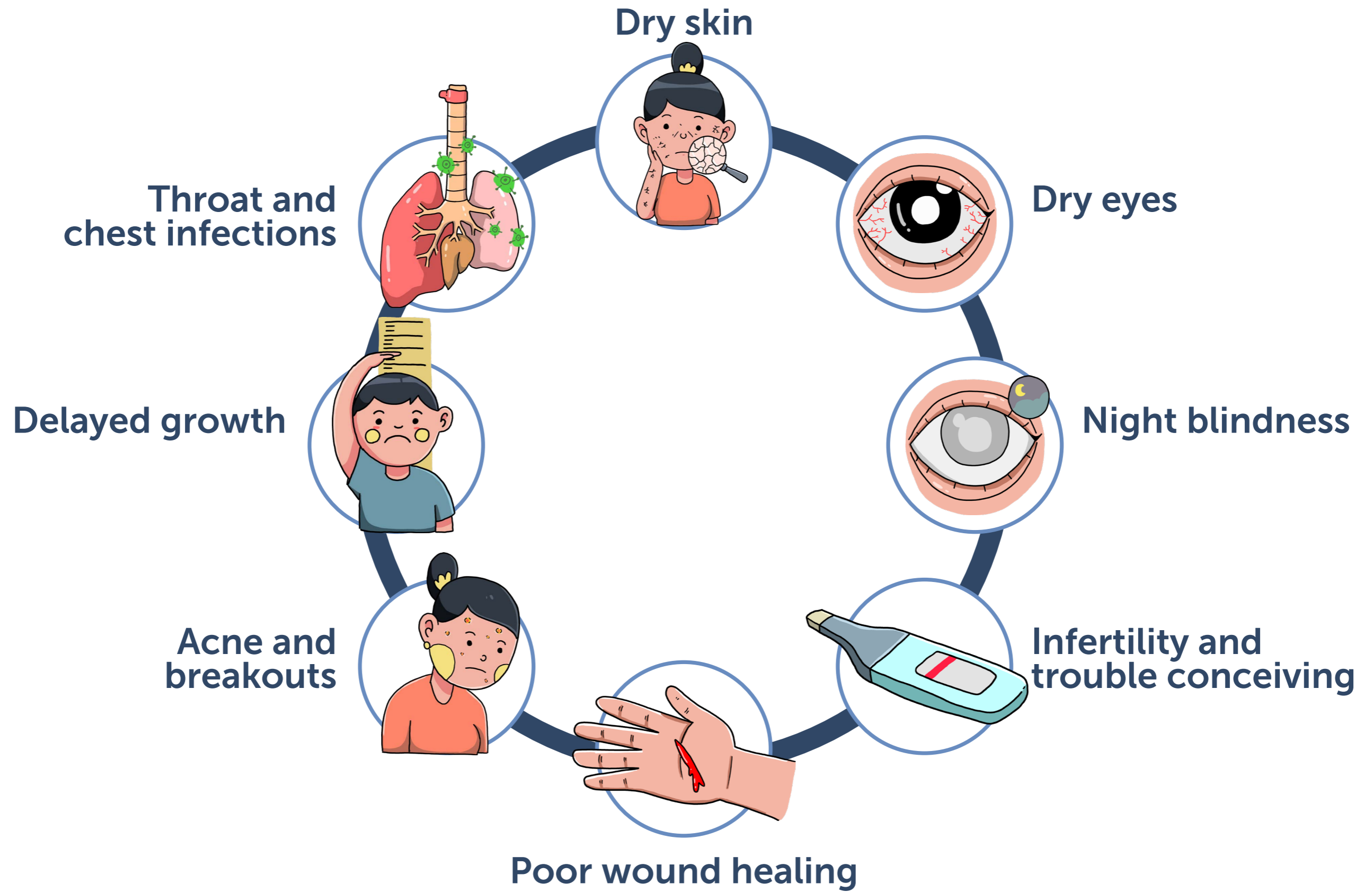


Cretinism



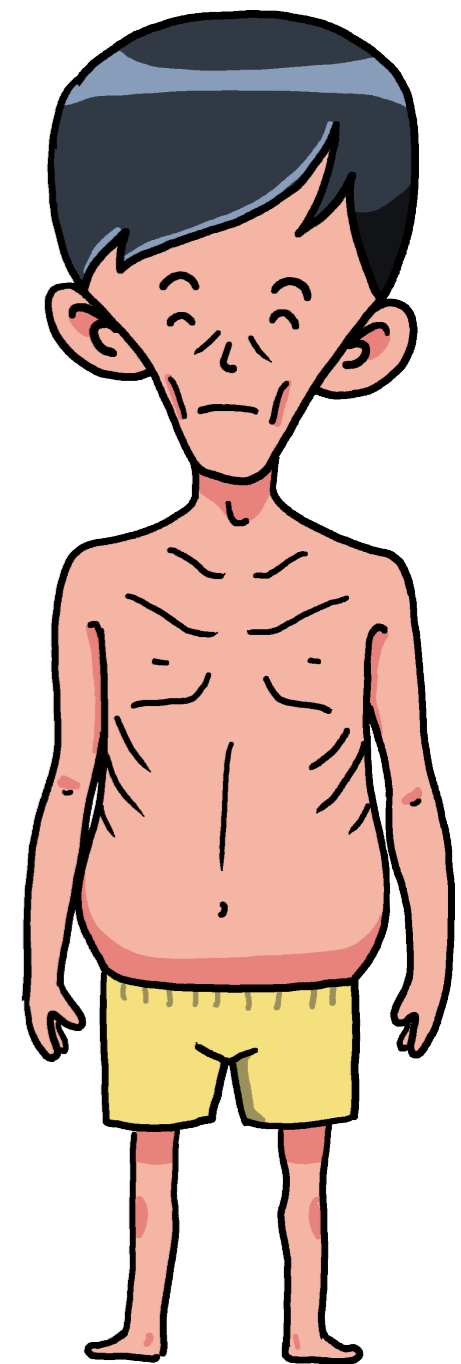
Slow learning

- Another micronutrient which is likely insufficient in people's diet in Myanmar is iodine.
- If iodine consumption does not meet the body requirement, people become more apathetic and find it hard to work or study.
- It also causes goiter in adults.
- If pregnant women suffer from iodine deficiency, the baby may become mentally retarded and dwarf.
- If a breastfeeding mother is not consuming enough iodine, the amount of iodine in her breast milk will be reduced or depleted, which can endanger her child.



- Another common micronutrient deficiency is Vitamin A deficiency.
- If people suffer from vitamin A deficiency, they are more likely to become sick because of weak immune system.
- If the children of age below five years have deficiency of vitamin A, they face more severity of diseases such as measles and diarrhoea.
- In severe vitamin A deficiency; there are eye conditions that range from night blindness to blindness. These eye conditions occur most often in young children and pregnant women.
- In pregnant women, vitamin A deficiency causes night blindness and may increase the risk of maternal mortality.

Session 1.2:
Consequences of malnutrition



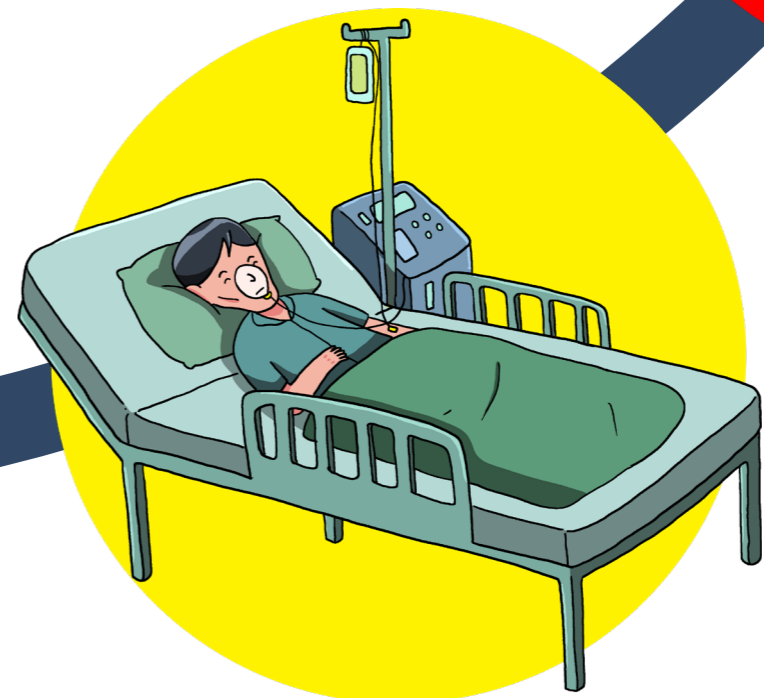
Understand the consequences of malnutrition



Low school performance



Low immunity/
frequent illness



High cost of
treatment

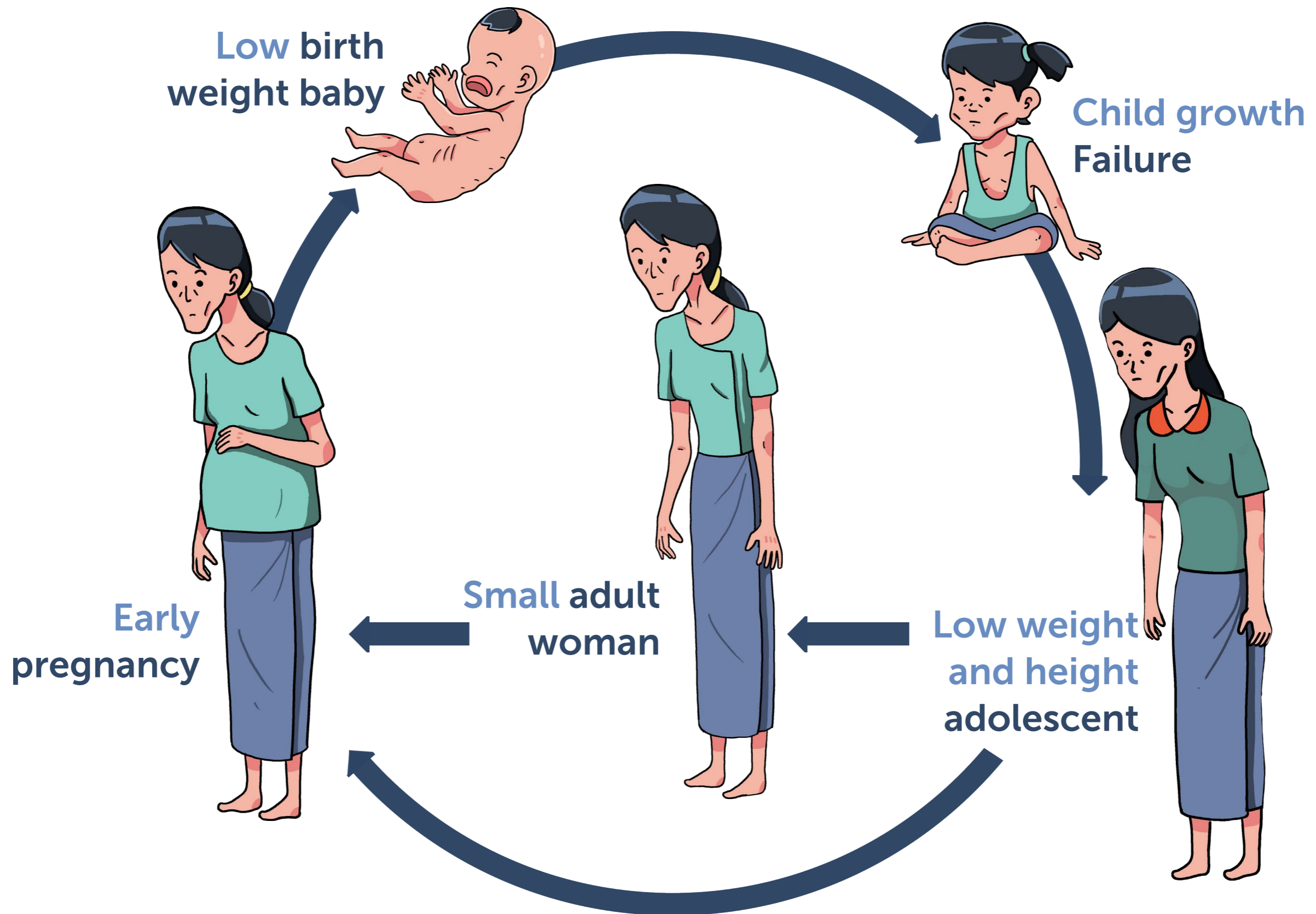


Death

Understand the consequences of malnutrition

- Malnourished children have weak immune system resulting in frequent illnesses.
- Frequent illnesses result into increased cost of treatment.
- Severe malnutrition, if not treated on time, may result into disability or death.
- Malnutrition causes impaired brain capacity leading to reduced learning ability and poor performance at school.
- They become less productive as adults and reduced working capacity and earning.
- Childhood undernutrition may also cause adult lifestyle diseases such as diabetes, heart diseases, cancer etc.

Understand the vicious cycle of malnutrition

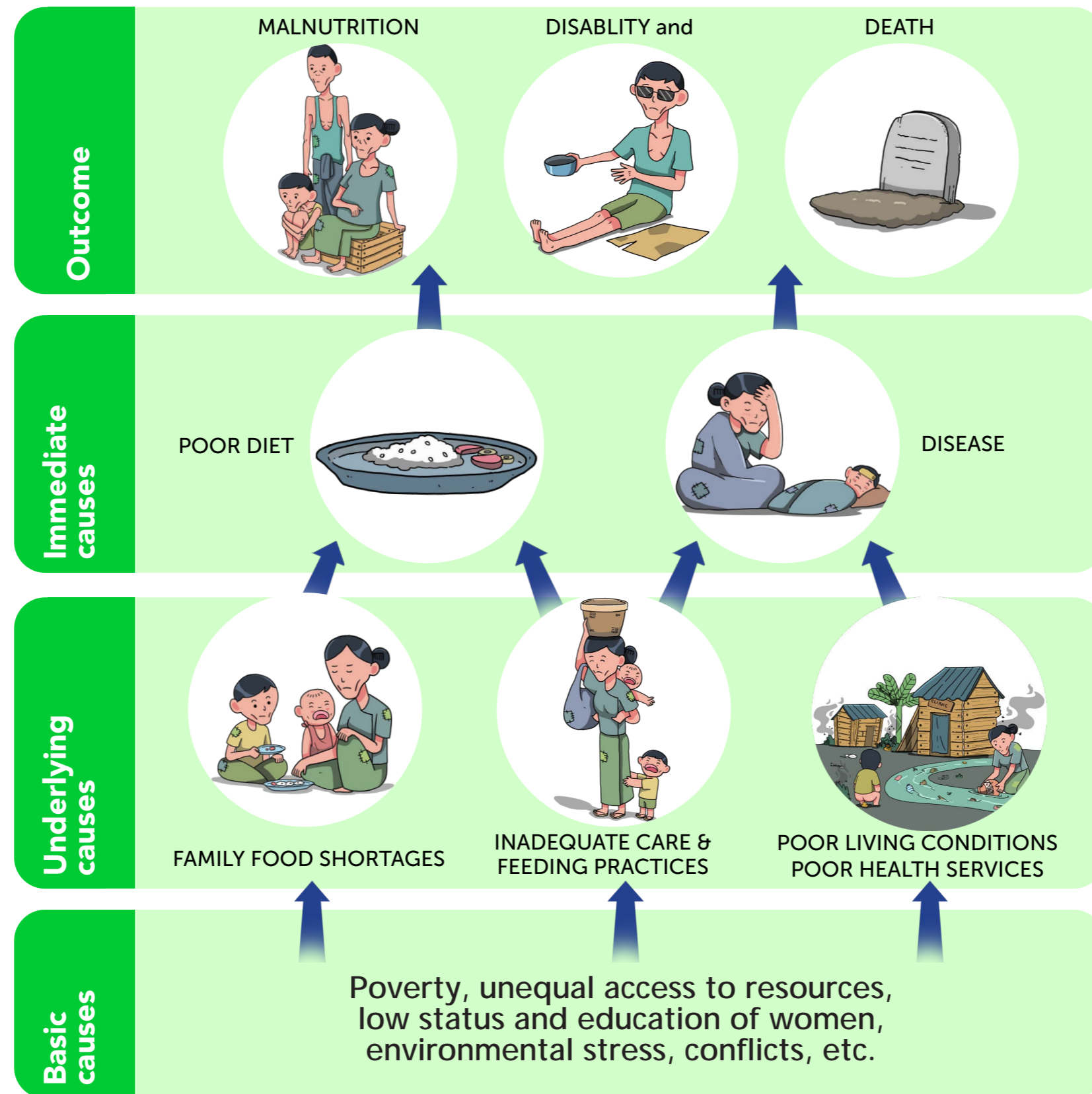


Understand the vicious cycle of malnutrition

- Undernourished women are more likely to give birth to a low weight baby.
- Low birth weight baby is more likely to become undernourished as a child.
- Undernourished child becomes undernourished adolescent girl.
- If undernourished adolescent girl gives birth, the baby is born low weight again.
- Undernourished adolescent girl becomes undernourished woman.
- The same cycle continues, and malnutrition passes to generations.
- We can stop the cycle at any point with better nutrition.

Session 1.3:
Causes of malnutrition

Identify the causes of malnutrition

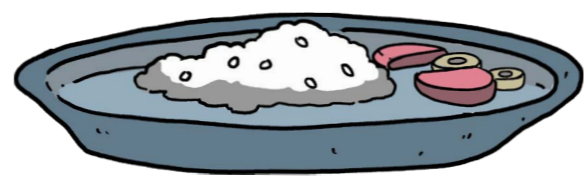


Malnutrition has multiple causes. The various causes of malnutrition can be arranged in a logical order.

- Malnutrition is caused by inadequate intake of foods or presence of disease.
- Lack of diet of children is caused by food unavailability at household or absence of caregiver to feed the child.
- Disease is caused by unhygienic environment and absence of caregiver to maintain the hygiene of the child.
- Food unavailability at home is caused by many factors such as: lack of production, lack of income, drought, and other disasters.
- Workload of mothers and other family members causes the quality of care.
- The ultimate causes of all the factors are the poverty, women's education, availability of resources, facilities, social and cultural norms etc.
- Different community may have different causes.
- Some causes can be overcome by mother's actions and others need support from the family, extension workers, and local government.
- Finding the real causes helps to identify the real solutions of the problem.

Start with the immediate causes

MALNUTRITION, DISABILITY and DEATH



POOR DIET



DISEASE

- The first order causes are called immediate causes.
- Diet and disease are the immediate causes of malnutrition.
- If diet is devoid of required nutrients, the child becomes malnourished. The following conditions may cause malnutrition.
 - lack of exclusive breastfeeding;
 - lack of weaning food at the right time; and
 - lack of variety of foods or insufficient intake.
- Disease condition causes malnutrition due to the following reasons:
 - Diseases like diarrhea causes loss of nutrient from the body.
 - Diseases like pneumonia reduces appetite and absorption of the nutrients.
 - Malnutrition further reduces the immunity making the illness severe.

Identify the underlying causes



FAMILY FOOD SHORTAGES



**INADEQUATE CARE &
FEEDING PRACTICES**



**POOR LIVING CONDITIONS
POOR HEALTH SERVICES**

- Underlying causes are the factors affecting immediate causes, these include:
 - family food shortage;
 - inadequate care and feeding practices;
 - poor living conditions and poor health services.
- If food is not available in adequate quantity and with good nutritional quality at household, it is not possible to provide adequate nutritious diet to the vulnerable groups (women and children).
- When the mother or any other care givers are not available for feeding and care, it is not possible for the children to get nutritious diet and at the same time the children do not get proper hygiene.
- Women's workloads and their social roles can be important underlying causes of malnutrition. For example, when women have heavy workloads, they may not have time to prepare and feed diverse foods. If women have little authority and little control over resources (e.g. land, money), this also affects the type of care they can give different family members.
- Men and other family members must acknowledge this important role and they should support women by sharing the workload and helping to provide nutritious food for the family.
- Unhygienic living conditions and poor health services increase the risk of diseases and makes the condition worse.

Identify the basic causes



POVERTY



**LACK OF
RESOURCES**



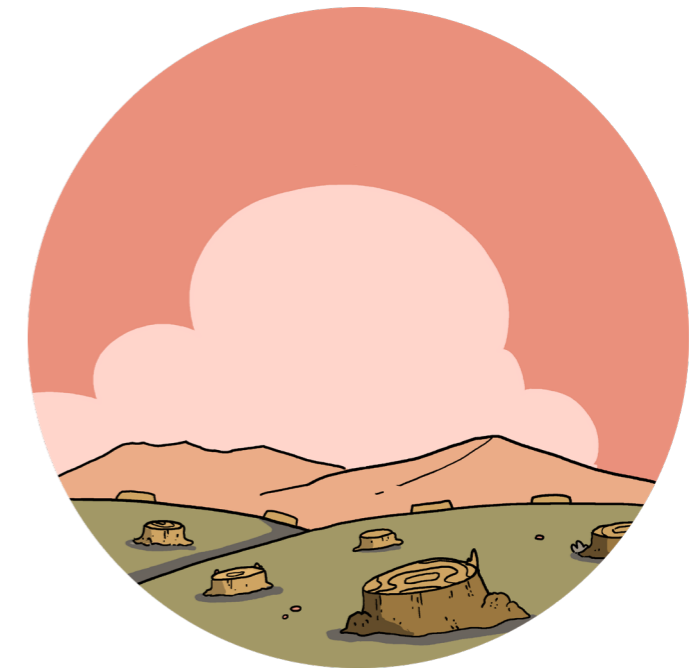
WOMEN'S STATUS



POLLUTION



DROUGHT



DEFORESTATION

- Basic causes are the factors affecting the underlying causes.
- Lack of resources: land, water, financial, technical, it affects the whole set of underlying causes by affecting food production, income, and hygiene.
- Natural disaster (e.g., drought) affects the food production.
- Deforestation affects rain and affects food production.
- Pollution affects the hygiene and sanitation.
- Women's education and status affects the quality of feeding and care.
- Social and cultural norms affect the whole set of causes.



Session 2.1:
Foods and their functions

Understand the functions of food

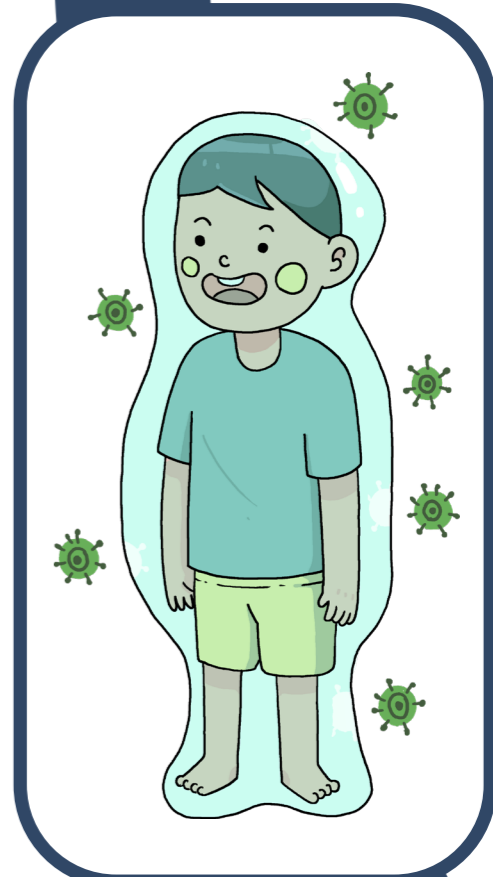


Foods provide energy to perform work

Foods are essential for growth



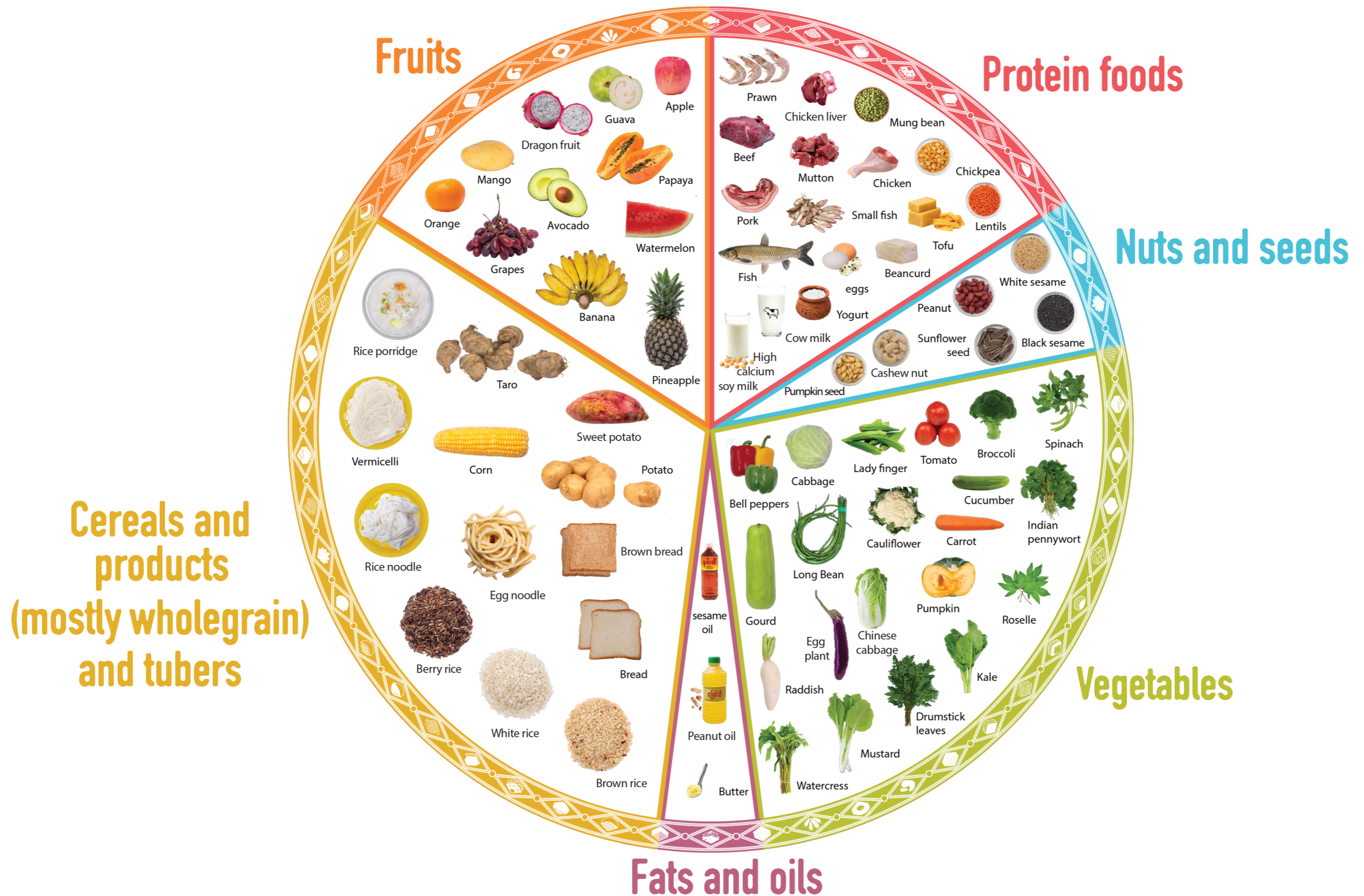
Foods protect the body against illness



Understand the functions of food

- Food is the key for survival, without food no one survives.
- It provides energy for performing work and other activities.
- It is essential for growth and development.
- It protects the body against from diseases.

Six food groups



- All foods contain a mixture of nutrients. Most of them can belong to more than one food group. To keep it simple, we will group foods into five as below. And we called it “Five-Star” food groups.

i • cereals and products (mostly wholegrain) and tubers

ii • protein foods (animal source foods and legumes)

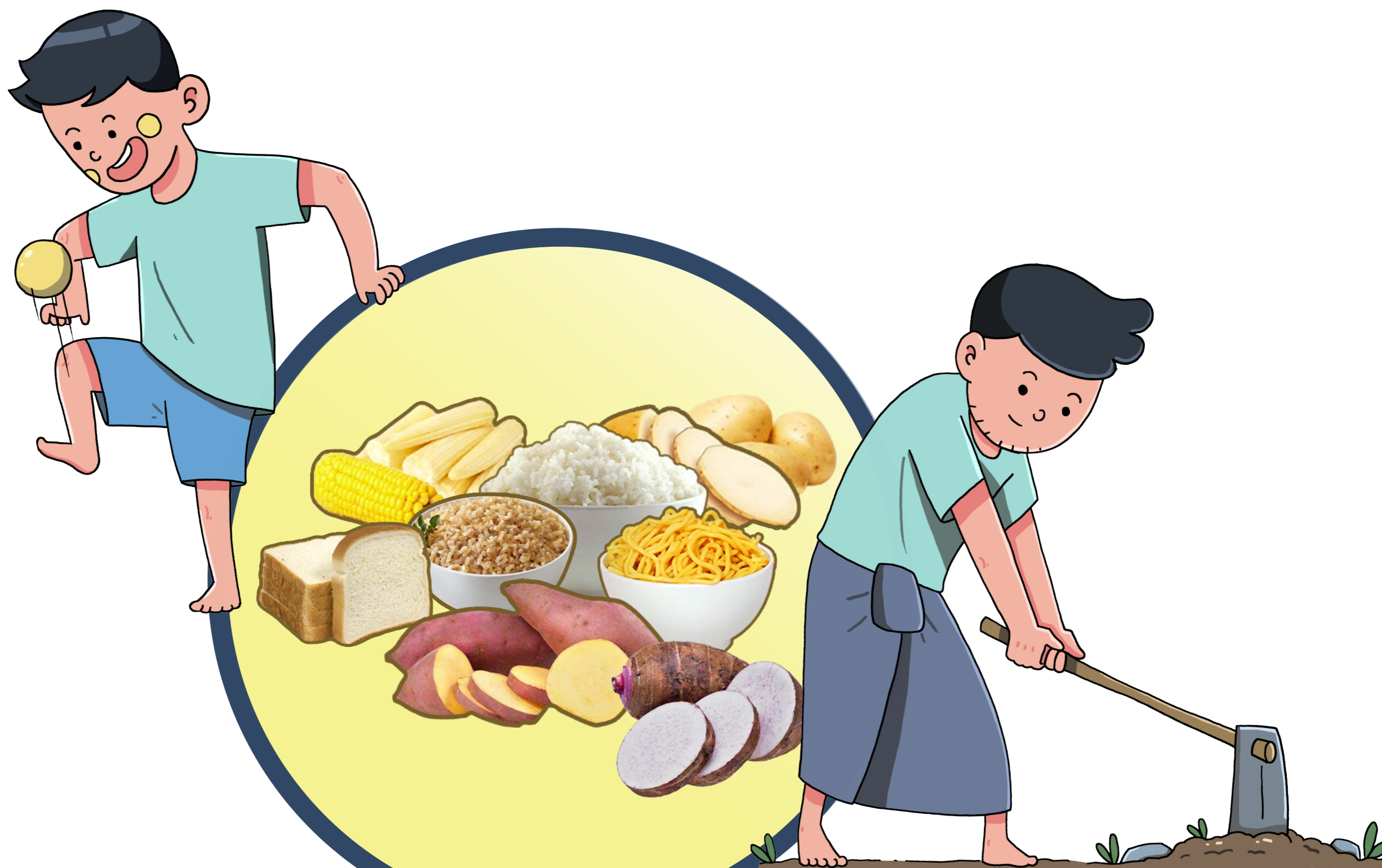
iii • fruits

iv • vegetables

v • nuts and seeds

vi • fats and oils.

Cereals and products (mostly wholegrain) and tubers

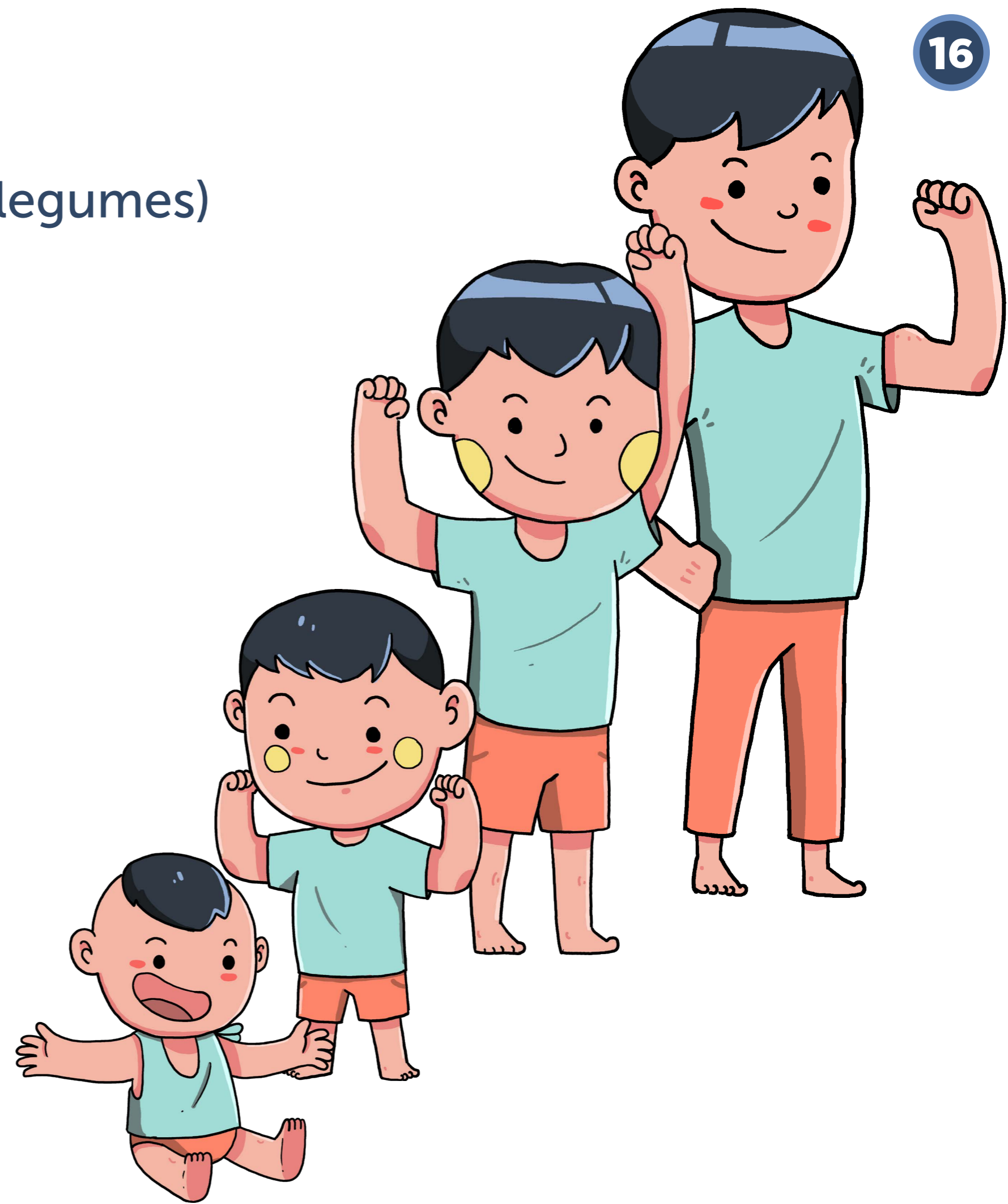


Cereals and products (mostly wholegrain) and tubers

- These foods mainly provide energy for us to perform daily functions and to keep the body warm.
- These foods include:
 - rice, wheat, maize, and other cereals
 - noodles, breads
 - potato, yam, taro and other roots and tubers.

Protein foods

(animal source foods and legumes)



Protein foods

(animal source foods and legumes)

- These foods mainly support growth and development of the body.
- These foods include:
 - animal-source foods: meat, fish, eggs, insects, and frogs, milk and milk products; and
 - legumes: beans, lentils, peas, chickpeas, mung beans, soybeans, groundnuts, etc.
- When beans and legumes are eaten together with cereal based foods such as rice, noodles and others, quality of these foods can be improved. If eaten together with animal source foods such as meat, fish, eggs, the quality can be improved further.

Fruits and vegetables

(rich in vitamins, minerals,
dietary fibers phytochemicals)

Other
fruits and vegetables



Vitamin A-rich
fruits and vegetables



Fruits and vegetables

(rich in vitamins, minerals, dietary fibers phytochemicals)

- Colorful fruits and vegetables are rich in vitamins, minerals, dietary fibers and phytochemicals which help can prevent malnutrition, promote better health and strengthen the immune system. Dietary fibers in fruits and vegetables promotes bowel motion and prevent constipation. Consumption of more vegetables also help control excessive pregnancy weight gain.
 - *Green colour* : avocado, spinach, morning glory, broccoli, kale, chinese cabbage, green pepper, spring onion, etc.
 - *Yellowish orange colour* : grapefruit, mango, melon, orange, papaya, carrot, etc.
 - *Red colour* : strawberry, watermelon, dragonfruit, tomato, etc.
 - *Purple colour* : grape, plum, eggplant.
 - *Others* : cucumber, onion, white radish, cabbage, cauliflower.

Fats and oils



Fats and oils

- Fats and oils contain a concentrated source of food energy.
- These foods provide energy to promote baby growth, produce milk, keep the body warm and maintain active living.
- Fats and oils also help transport fat-soluble vitamins such as vitamins A, D, E and K in the body.
- However, fats and oils should be eaten in small amount because too much intake could lead to excessive weight gain during pregnancy and lactation that would lead to overweight and obesity.
- For instance - peanut oil, sesame oil, soybean oil.

Nuts and seeds



Nuts and seeds

- Nuts and seeds are good sources of protein, fats, dietary fibers, vitamins and minerals such as vitamin E, folate and iron, and phytochemicals.
- For example - unsalted peanuts, cashew nuts, sunflower seeds and sesame seeds, etc.

Session 2.2:

Importance of nutrition in the first 1 000 days of life



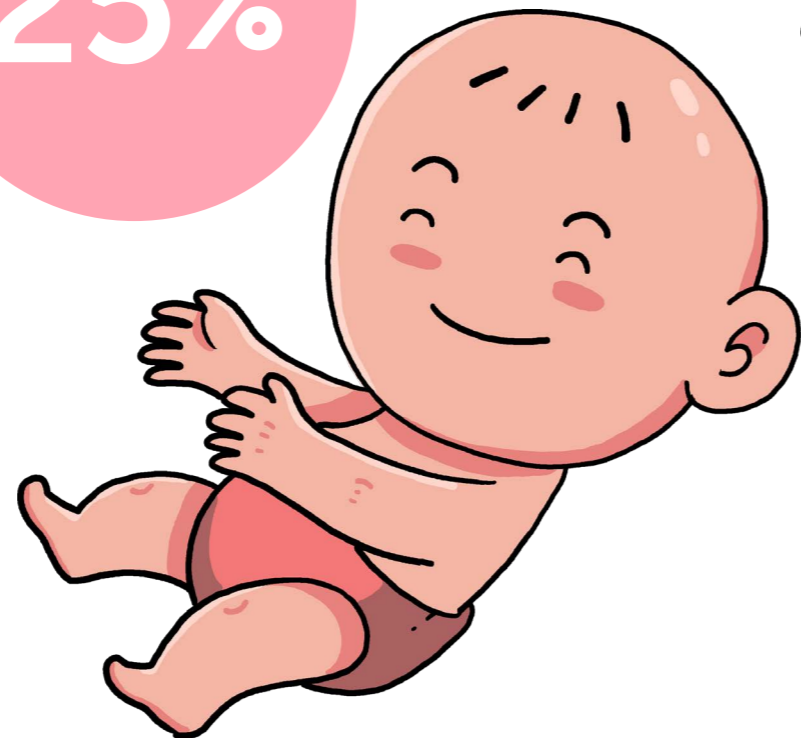
Know the needs in the first 1 000 days of life

- The life begins in the mother's womb. The period of baby in the mother's womb for nine months ($9 \times 30 = 270$ days) and period from birth to two years ($365 \times 2 = 730$ days) make a total of 1 000 days.
- The nutrition and care in the first 1 000 days of life includes:
 - 1•** good nutrition during pregnancy and breastfeeding
 - 2•** early initiation of breastfeeding within one hour after birth,
 - 3•** exclusive breast-feeding from birth to six months, and
 - 4•** appropriate complementary feeding along with breastfeeding for 6–24 months.
- What a woman eats during pregnancy and while breastfeeding affects her own health as well as the health and development of her baby. Children who receive a better nutrition and care during the first 1 000 days will become less sick and learn better at school and have better life in adulthood than those who did not received good nutrition and care.

Brain development during first five years



25%



75%



90%



- Nutrition during the period of 1 000 days is key to brain development.
- The brain growth and development start before birth. Twenty five percent (25 percent) of the brain is already developed by the time when baby is born.
- By the age of two years, most part of the brain (75 percent) is developed.
- The rest of the brain develops at later period of life. So, the nutrition during the 1 000 days is very critical for the development of human brain.
- If we fail to provide good nutrition during the first 1 000 days, the results cannot be compensated in the later period of life. The impairment in brain growth and development cannot be recovered later; impairment in cognitive development (speech, language etc.) cannot be regained later.

Session 2.3:
**Nutrition during
pregnancy and breastfeeding**



Eat one extra nutritious meal

- What a woman eats during pregnancy affects her own health as well as the health and development of her baby. If a woman is undernourished when pregnant, she is more likely to have a low-birth-weight baby who might grow and develop slowly, get sick frequently, and develop health and learning problems throughout life.
- Thus, pregnant women should eat three meals plus one extra small meal or snack each day to supply the energy required by both mothers and baby.
- Eat a variety of foods that are from five-star food groups every day.
- Always use iodized salt to prevent iodine deficiency disorders.
- Drink plenty of clean water for easy digestion and absorption of nutrients in the body (at least 8 glasses of water a day).
- Take the iron-folate pills as recommended by the health personnel. Take iron tablets with meals to increase absorption.
- The extra food will not make the baby too big, but rather strong and healthy making easy to deliver.



Eat two extra nutritious meal while breastfeeding

- Breastfeeding mothers need to eat even more foods than pregnant women because the production of breastmilk requires so many nutrients from the mother.
- Thus, eat three meals each day plus two extra small meals or snacks, for example fresh milk, groundnuts, eggs, fried fish, eggs, bread, bean cakes, bananas, avocados, and mangoes.
- Eat a variety of foods that are from five-star food groups every day.
 - rice, noodles, potato, taro, bread
 - beans, chickpeas, lentil, nuts
 - meat, fish, eggs, milk
 - leafy greens, yellow fruits, and vegetables
 - other fruits and vegetables.
- Take enough fluids such as gravy, soup, milk, fruit juices etc to support the production of breastmilk.
- Take vitamin A capsules immediately after the delivery or within 42 days after giving birth.

Session 2.4:

Feeding children aged 0–6 months



Optimal breastfeeding practices

- Initiate breastfeeding within one hour after birth of the baby.
- Feed the first thick and yellow milk called colostrum for adequate protection from diseases.
- Exclusively breastfed baby for the first six months.
- Do not feed any food or drink other than breast milk for the first six months.
- Most of the major organs such as stomach and kidneys are not well developed in infants of under six months of age, and thus babies may have difficulty in digesting solid foods and drinks other than breast milk.
- Always wash hands before breastfeeding the baby.
- The more you breastfeed, the more breast milk is produced.
- Breastfeed your baby frequently (at least 8-12 times per day).
- Continue breastfeeding even mothers or babies are sick.
- When children are sick, they should be breastfed even more frequently to ensure that they are adequately nourished.

Session 2.5:

Feeding children aged 6–23 months



When the baby completes six months, breastmilk alone is not enough to provide the nutrients required for the growth and development of the baby. After six months, the child needs other foods in addition to breast milk. In this session, we will learn how and what to feed children aged 6-23 months. So let's start with the 6 months old child.

- at the age of six months:
 - **frequency:** feed complementary foods at least twice a day;
 - **amount:** give 2 to 3 tablespoonful each feeding;
 - **thickness:** the food should be thick enough to be fed by hand; and
 - **variety:** begin with the staple foods like porridge, well mashed banana, and mashed potato.
- continue breastfeeding for at least two years. this will maintain the child's health and strength;
- always breastfeed first before giving any foods; and
- wash your hands and your baby's hands before feeding.



- **frequency:** feed 2–3 meals plus 1–2 snacks between meals per day;
- **amount:** increases amount gradually to half of 250 ml cup or bowl;
- **thickness:** feed the child with medium-thick mashed food.
by eight months, they can begin eating finger foods;
- **variety:** feed a variety of foods from four-star food groups each day:
 - grains, roots and tubers (energy-giving foods)
 - pulses, legumes, beans (bodybuilding)
 - animal-based foods such as meat, egg, fish (bodybuilding)
 - fruits and vegetables including dark green leafy vegetables, yellow fruits and vegetables (protective foods).
- as the baby's stomach is too small, feeding small amounts of frequent meals is better for the baby's digestion;
- breast milk is a familiar flavour for the baby, thus breast milk can be added to new foods to help them appeal to the baby. a small amount of breast milk can be added to cooked, well-mashed legumes such as lentils and steamed vit a-rich vegetables such as carrots, pumpkins and spinach?
- wash your hands and your baby's hands before feeding.



- **frequency:** feed 3–4 meals plus 1–2 snacks between meals a day;
- **amount:** feed half of 250 ml cup or bowl each feeding;
- **thickness:** feed finely chopped or mashed family foods; finger foods that baby can pick up
- **variety:** children grow rapidly and their energy, vitamin and mineral requirements increase, therefore feed a variety of foods from **four-star food groups** to support their growth and development;
- wash your hands and your baby's hands before feeding; and
- encourage the child to eat by herself/himself.



- **frequency:** feed 3–4 meals plus 1–2 snacks between meals a day;
- **amount:** give 3/4 to full 250 ml cup or bowl each feeding;
- **thickness:** give family foods cut into small pieces, finger foods, sliced foods;
- **variety:** feed a variety of foods from four-star food groups;
- wash your hands and your baby's hands before feeding; and
- encourage the child to eat by herself/himself.



Give healthy snacks, avoid unhealthy snacks

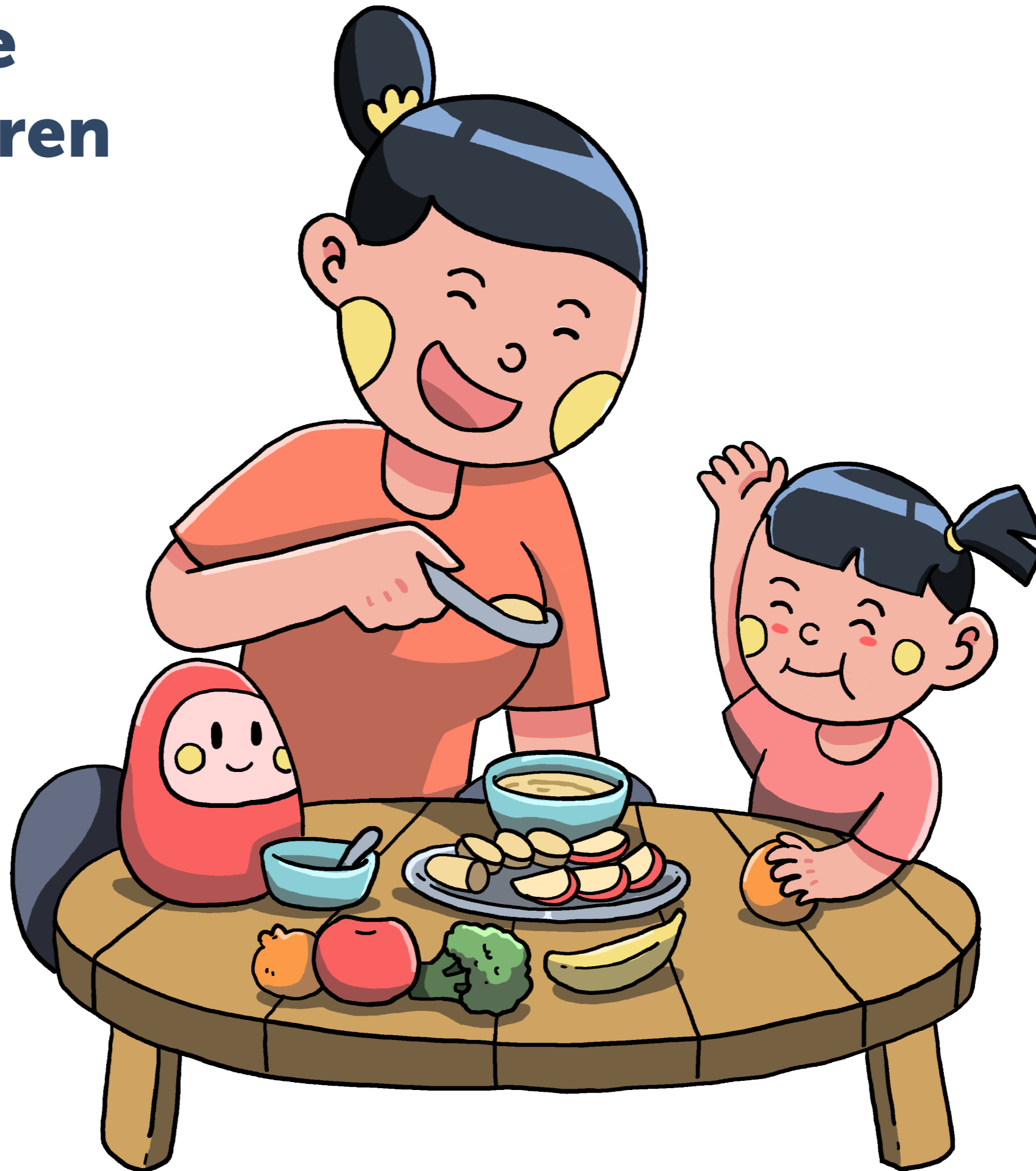
Always feed healthy snacks and avoid feeding unhealthy snacks such as potato chips, sweets, biscuits as they have low or no nutritional value and is not good for child.

S.N.	Healthy Snacks	Unhealthy Snacks
1.	Boiled cassava, pumpkin, or sweet potato, mashed with oil or eaten in pieces	Potato chips and other salty or fried foods
1.	Boiled carrot	Cakes
1.	Ripe fruit such as mango, papaya, banana and guava	Sweets and biscuits
1.	Water	Tea or coffee
1.	Goat or cow milk	Condensed milk or milk powder
1.	Fresh fruit juice	Sodas and artificial juices purchased at the shop that are not made from real fruit



- Food hygiene is very important for child feeding to avoid diarrhoea and other illnesses.
- Therefore,
 - always wash your hands with soap and water before preparing food for the child;
 - use clean water to wash and cook the food;
 - use clean and dry spoons, cups, towels, bowls or other utensils to feed the child;
 - store the foods in a safe hygienic place; and
 - wash your hands and your baby's hands before eating.

**Encourage
your children
to eat**



- Children eat more when their parents supervise mealtimes and actively and lovingly encourage them to eat.
- Mothers or the main caregivers are suggested to:
 - sit with children and encourage them to eat by talking with them and telling them how good the food is;
 - make mealtimes happy times;
 - give them their own plates and spoons to make sure they eat their share;
 - give foods that children can hold if they want to feed themselves;
 - mix foods together if a child picks out and eats only favorite foods;
 - be patient and do not hurry children. they may eat a bit, play a bit, and then eat again;
 - make sure the child is not thirsty because a thirsty children eat less, but do not fill up the child's stomach with too much drink before or during the meal;
 - try to feed children as soon as they are hungry; do not wait for them to start crying for food;
 - do not feed when children are tired or sleepy; and
 - make mealtimes interesting learning times; for example, teach the names of foods.

Session 3.1:

Proper cooking methods for conserving nutrients

Discarding
cooked
rice water



Washing



Stir-frying



Discarding
water



Peeling



Salt at the end



Covering

Follow healthy food preparation/ cooking practices

- Unhealthy food preparation/cooking practices may cause losses of valuable nutrients. Thus, the following healthy cooking practices should be followed for conserving nutrients.
 - Do not wash rice forcefully and repeatedly because vitamin B1 is then lost.
 - When cooking rice, rice releases nutrients into the water when boiled. Do not pour this water off. It may lose the nutrients in it.
 - Thoroughly wash fruits and vegetables with clean water before cutting or eating them raw.
 - Avoid peeling some fruits and vegetables as far as possible, e.g., apples, carrots, potatoes, squashes, cucumber etc.
 - Do not over-cook vegetables as this causes loss of nutrients.
 - For vegetables, steaming is a better method to preserve nutrients.
 - Cut vegetables in big chunks to protect nutrients from loss.
 - Soak legumes overnight to reduce cooking time and to conserve nutrients.
 - Cover the pot while cooking food to protect nutrients from loss.
 - Meat must be thoroughly cooked to kill all the harmful germs in it. When reheating meat, heat it to boiling point.
 - Add salt when food is cooked to save iodine in salt.

Session 3.2:
Food safety and hygiene

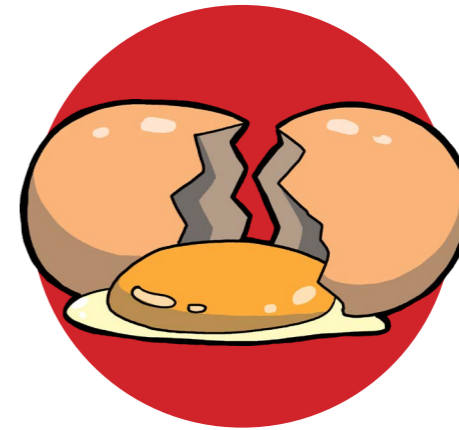
Pesticides



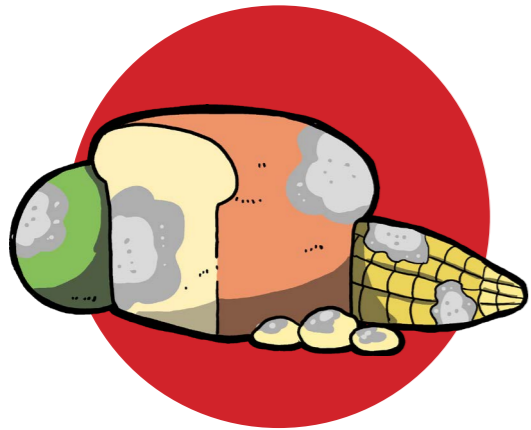
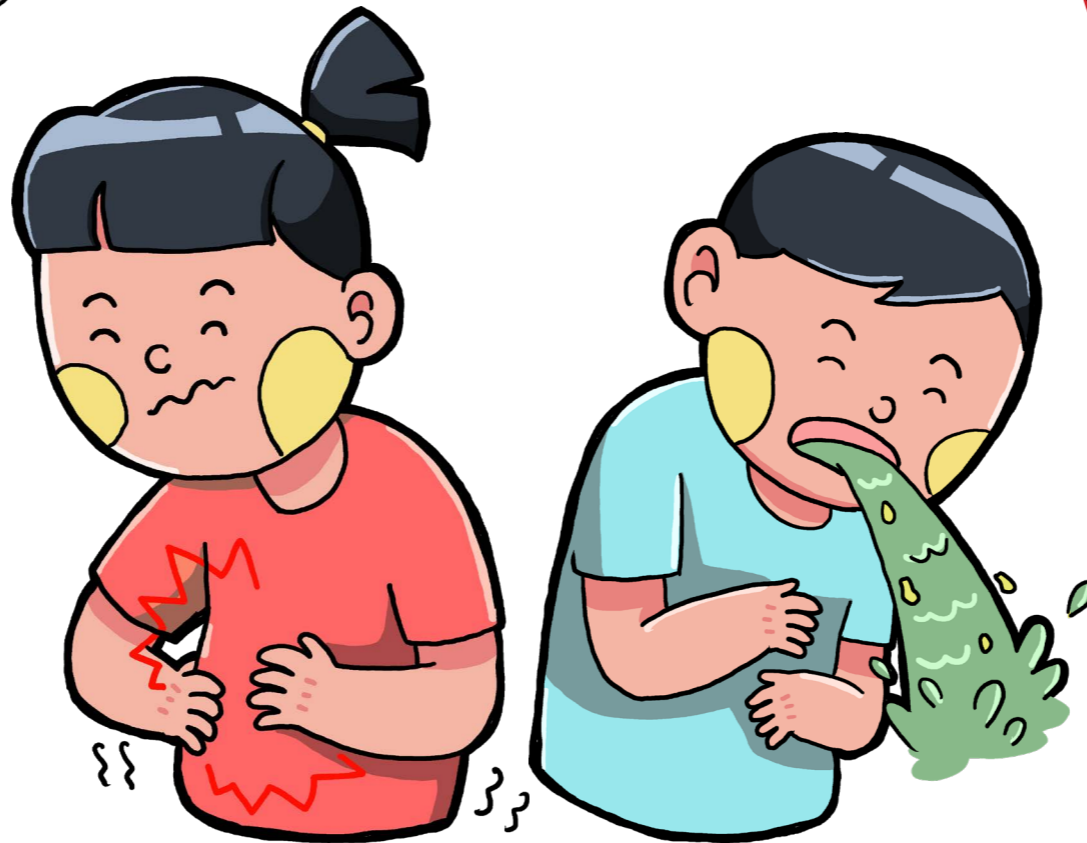
Poisonous mushroom



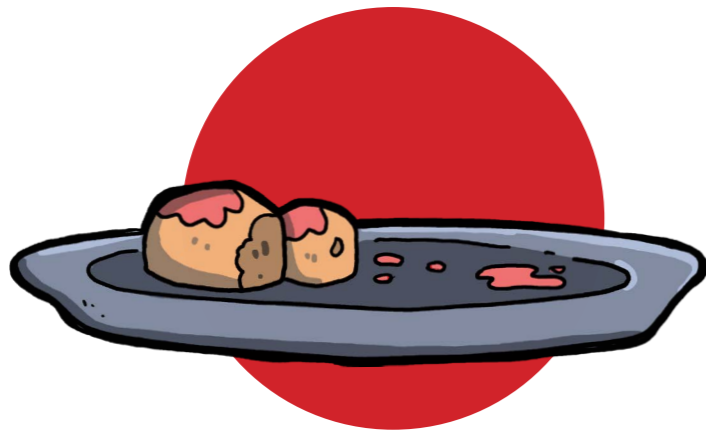
Raw egg



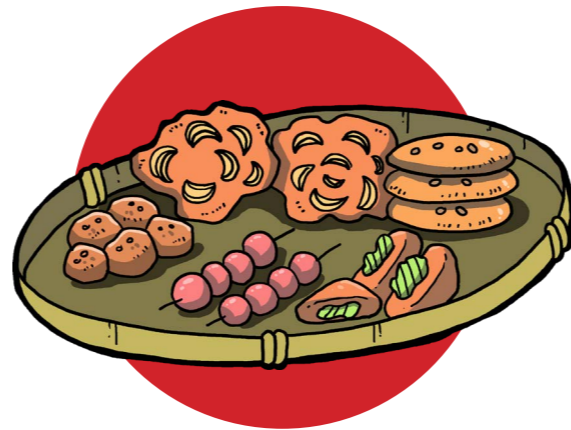
Raw milk



Fungal infested food



leftover food



Unsafe street food



Uncovered food

Beware of unsafe food

- Food provides nutrients, but when it is safe.
- Unsafe food may cause various food-borne illnesses.
- Various factors make food unsafe, some of which include:
 - Leftover food when kept at room temperature harmful germs cause diseases if consumed.
 - Off-season vegetables may contain pesticides residues, which cause severe health effects such as birth defects, cancer etc.
 - Fungal infection of maize, peanuts and other foods contain harmful toxins that cause severe health effects such as cancer.
 - Some wild mushrooms are poisonous. If consumed may cause serious illness or death.
 - Raw eggs and milk may contain disease-causing germs.
 - Openly kept foods at home may be contaminated with germs.
 - Openly sold street foods may contain harmful germs.

1

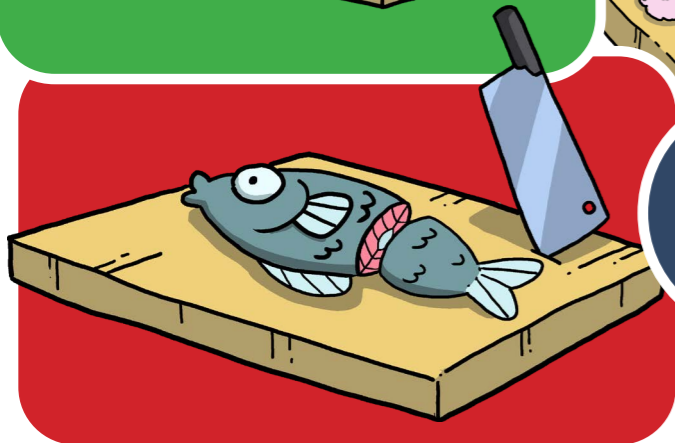
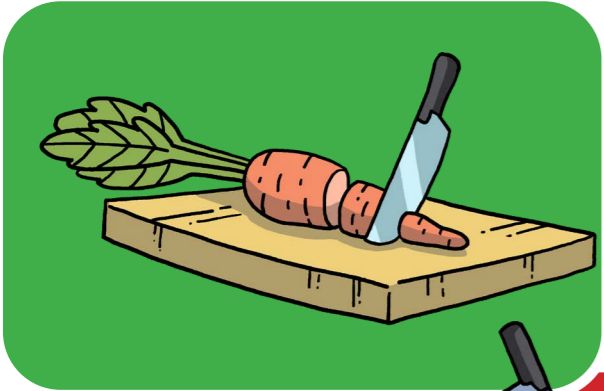


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General tips for keeping food safe and clean

To keep food safe, the following practices should be adopted.

- 1** Unsafe food may cause various food-borne illnesses.
- 2** Especially meat (beef, pork, chicken) should be well cooked as eating undercooked meat can lead to worms.
- 3** Keep raw meat separate from cooked foods and other ready-to-eat foods.
- 4** Never use the same chopping board for raw meat and ready-to-eat foods without washing the board and knife thoroughly in between. Better to keep a separate chopping board for raw meat.
- 5** Leftover food should always be kept in clean covered containers and kept in cool places. This food should be reheated until piping hot before eating. However, leftovers should not be reheated more than once and should be used within 1-2 days of cooking.
- 6** Wash fresh fruits and vegetables before eating to remove possible pesticide residues, soil, and/or bacteria.
- 7** Cooked food should always be protected from insects, animals, and dust.



Personal hygiene during preparation, serving and eating

Personal hygiene is very important during preparation, serving and eating food. General tips for good personal hygiene while preparing foods are:

- wash hands thoroughly with soap and water and dry them with a clean towel at each of these times:
 - before cooking, and eating food;
 - after touching raw meat;
 - after touching raw eggs;
 - after going to the toilet; and
 - after touching the bin.
- tie back or cover long hair with a clean scarf before preparing food;
- keep fingernails short and clean;
- cover all wounds or sores with a waterproof dressing before preparing food; and
- do not cough or sneeze over food.



Kitchen hygiene

The food is most likely to be contaminated with germs if food preparation environment is not clean. It is very important to keep kitchen and the eating-place clean to protect food from contamination. To provide a clean environment for food preparation, the following practices should be adopted.

- 1** Cooking surfaces should be cleaned properly with soap and water.
- 2** Keep kitchen utensils like knives, boards, cloths, plates, and pots with clean.
- 3** The kitchen should have adequate lighting and ventilation.
- 4** Ensure having adequate supply of water and cleaning materials.
- 5** Always wash chopping tables and utensils before food preparation begins.
- 6** Keep kitchen bin covered and empty daily.
- 7** Sweep kitchen floor daily.
- 8** Keep pets and all domesticated birds and animals out of the kitchen at all times including night.
- 9** Always ensure using clean utensils for serving food as this prevents the spread of bacteria.

Session 4.1: Household food production





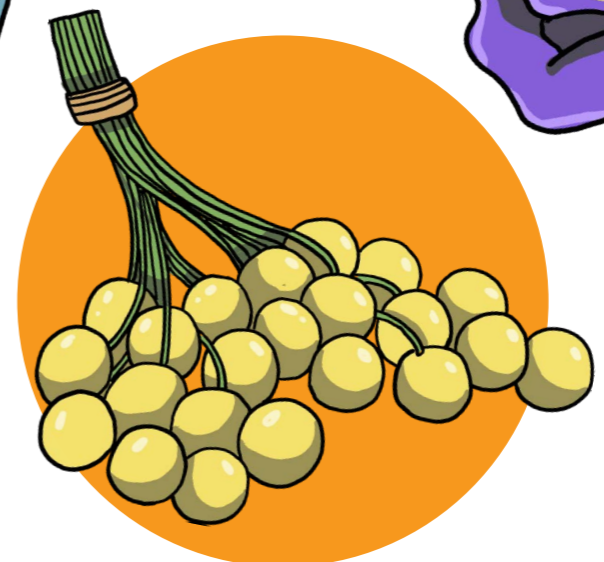
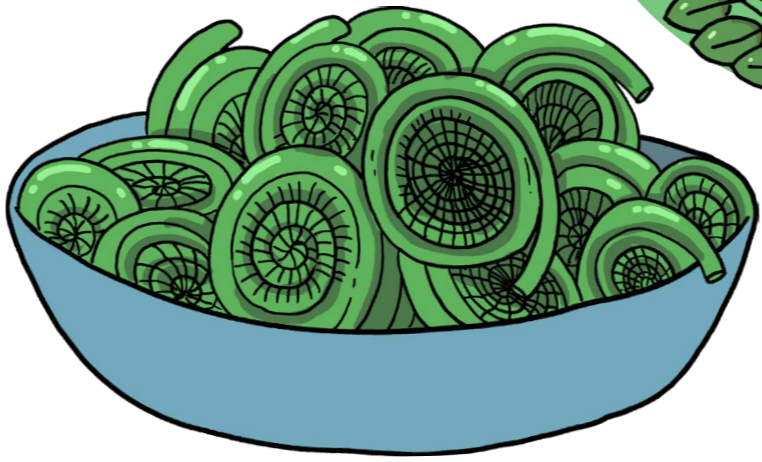
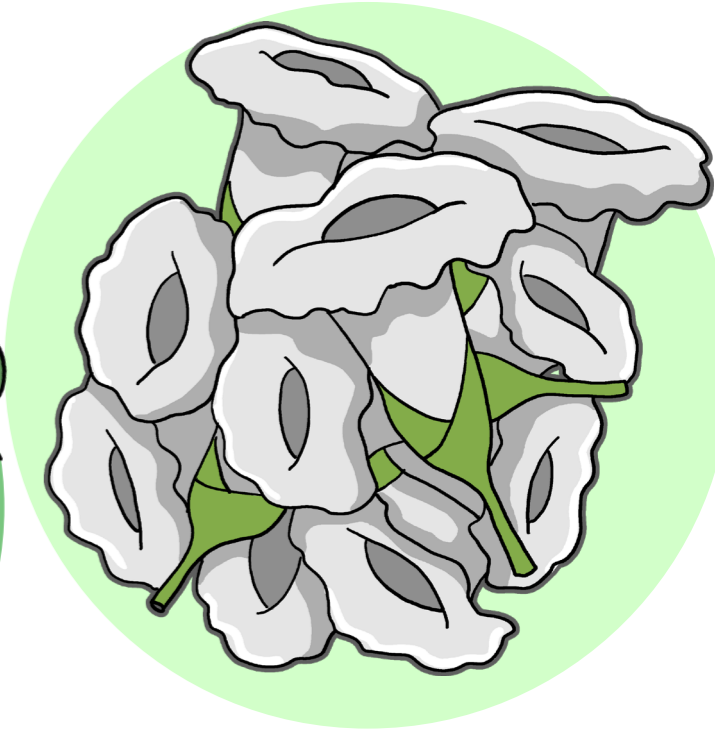
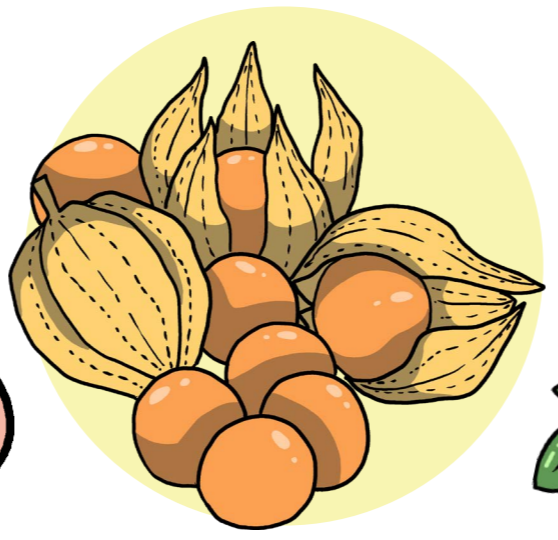
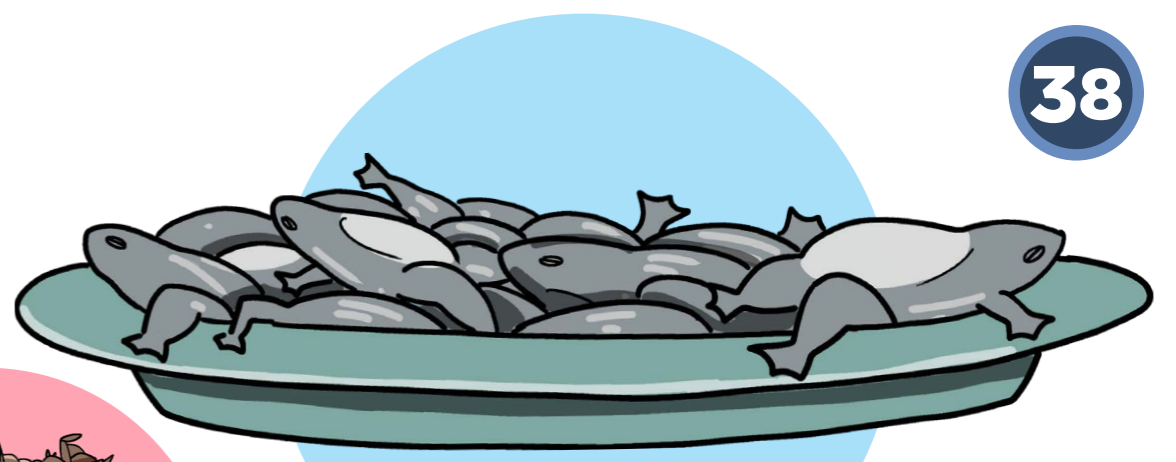
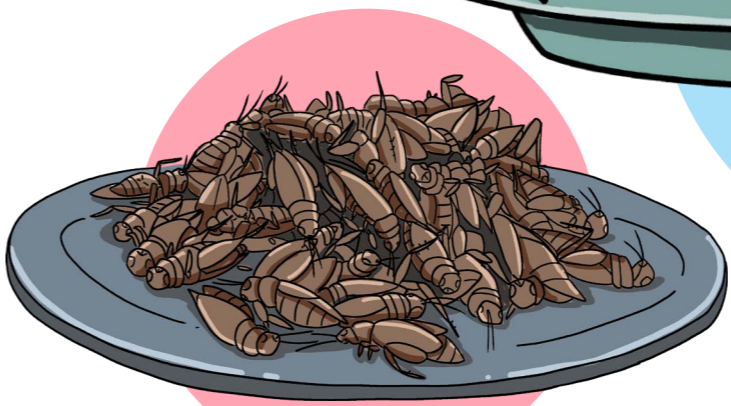
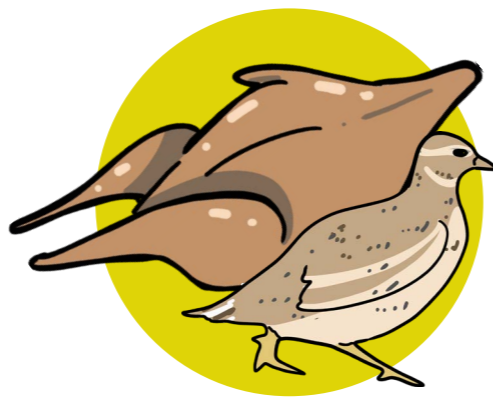
Use improved methods for food production

- 1** Plant leguminous crops together with other crops. Legumes capture nitrogen from the air and make soil more fertile.
- 2** Plant crops with different heights together to save space.
- 3** Plant fruit and nut trees as shade on the edges of gardens and fields to protect the garden from heat.
- 4** Protect garden from livestock by planting trees and plants, such as moringa, cassava and others.
- 5** Raise climbing plants such as beans and gourds to save space.
- 6** Cover the soil with organic material such as compost, grass or leaves to conserve soil moisture.
- 7** Collect rainwater from roofs for irrigation in the dry season.
- 8** Use containers and sacks for planting vegetables to save space and water.
- 9** Use compost or animal manure to improve the soil fertility.
- 10** Rearing small livestock. Poultry can be reared at minimum resources at home. Especially, chicken, duck, and quail can easily be kept for meat and eggs.

Session 4.2:
**Utilization of
wild foods**



Utilize wild foods



Utilize wild foods

- Our ancestors have explored various wild source foods including various insects to survive in the scarcity.
- Even in the forests, we can find all foods from five-star food groups that are needed by the PLWs and children.
- Insects can be a good source for growth and development of fetus and children, therefore good for PLWs and children.
- Foods collected from wild sources can complement the food produced at home.
- Many wild foods are as nutritious and are sometimes even more nutritious than food we buy or grow. Wild foods can often survive in times of drought or other extreme weather. They do not require expensive chemicals to grow and often people can gather them free of charge.
- Over collection or destruction of trees, plants during the collection of wild foods may affect the future availability of wild foods.
- Protection of the wild food sources can feed us in the future.

Sustainable ways of collecting wild foods



Sustainable ways of collecting wild foods

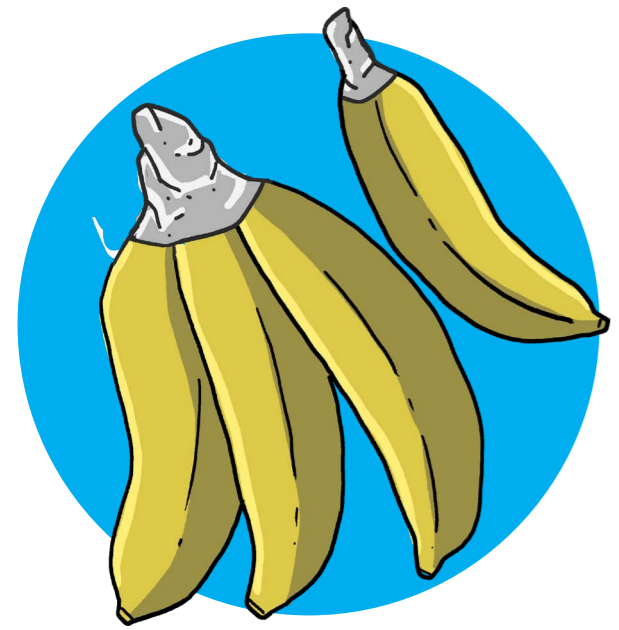
- picking the wild fruits with care without breaking the branches;
 - picking the wild fruits when ripe to get maximum nutrients and save unripe fruits from wastage;
 - avoid cutting down trees unnecessarily and plantation of trees to protect forest;
 - planting trees near the riverbanks to protect the soil from scouring action of river current;
 - protect vegetation on the edges of riverbanks, which prevents soil erosion;
 - protect mangroves and wetlands;
 - protect the wild vegetables from cattle;
 - collect the wild foods wisely just to complement the food at home;
- and
- avoid collecting too many wild food products at once, so the plants can spread and continue to produce food.

Session 4.3:

Food storage and preservation

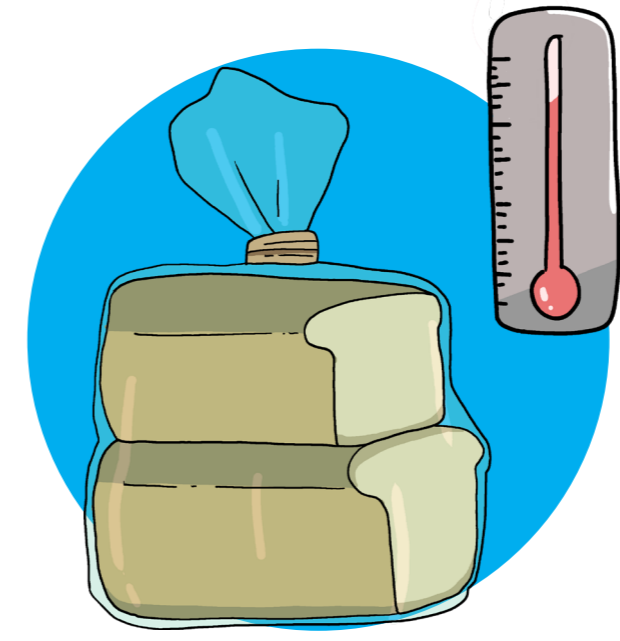
Store food properly

Wrap the stalk

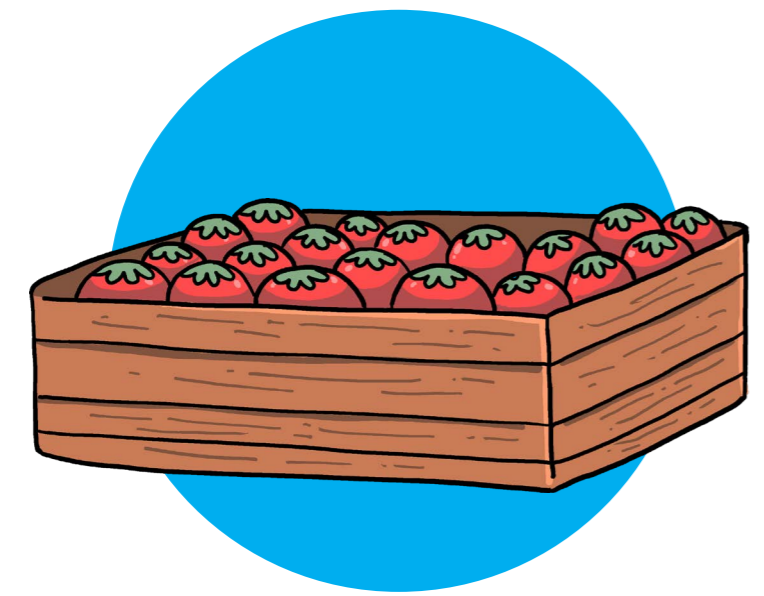
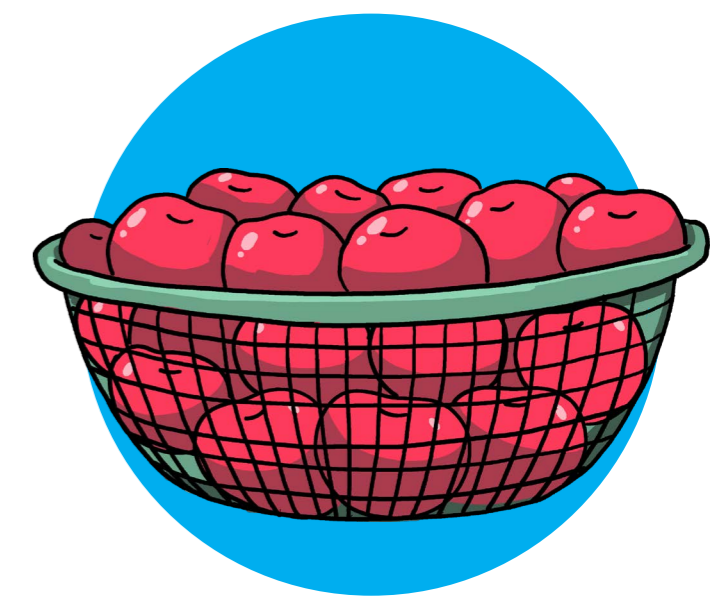


Keep in dark

Keep at room temperature



Air circulation



Stalk up

Keep moist



Rice and beans in closed container



Store food properly

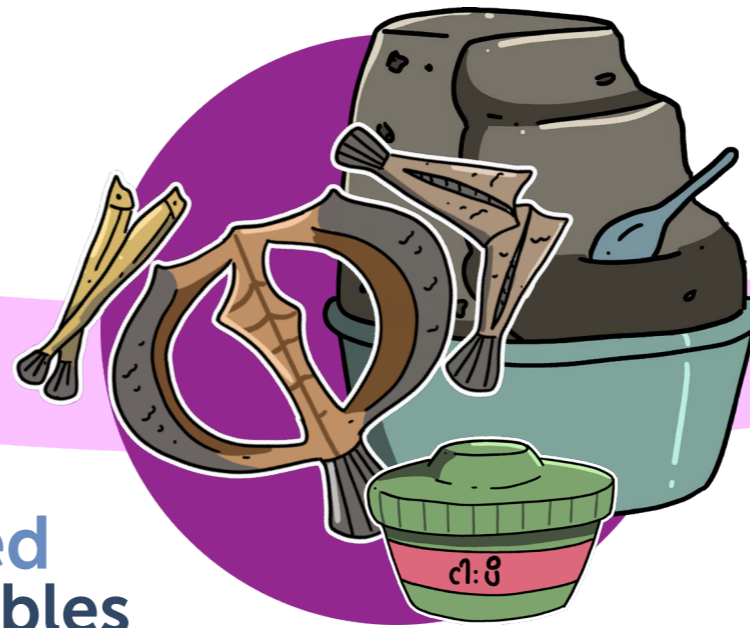
- Bread can be stored at room temperature.
- Rice should be stored in tightly closed containers to keep out moisture and insects.
- Fresh vegetables should be stored in cool and dry places.
- Potatoes, squashes, and eggplant can be stored in a cool, well-ventilated place.
- Unbruised sweet potatoes can be kept in a cool, dry place.
- Sweet potatoes can be kept for a long period (3–4 months) after peeling, slicing, and drying.
- Onion should be left to dry thoroughly under the sun to avoid rotting in storage and when well dried can be kept for about three months.
- Tomatoes should be stored at room temperature with stalks up.
- Bananas can be stored longer by wrapping stalks with tin foil.
- All fresh fruits generally need to be stored in a cool area.
- Broccoli and cauliflower can be stored by dipping stalks in water.

Process food for later use

Shan pickle



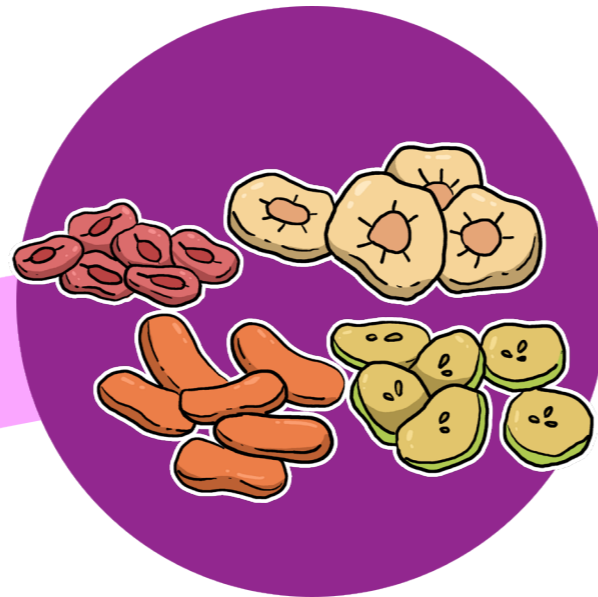
Fermented fish sauce



Lime preserved in salt



Dried vegetables



Fermented bean paste



Mango jam

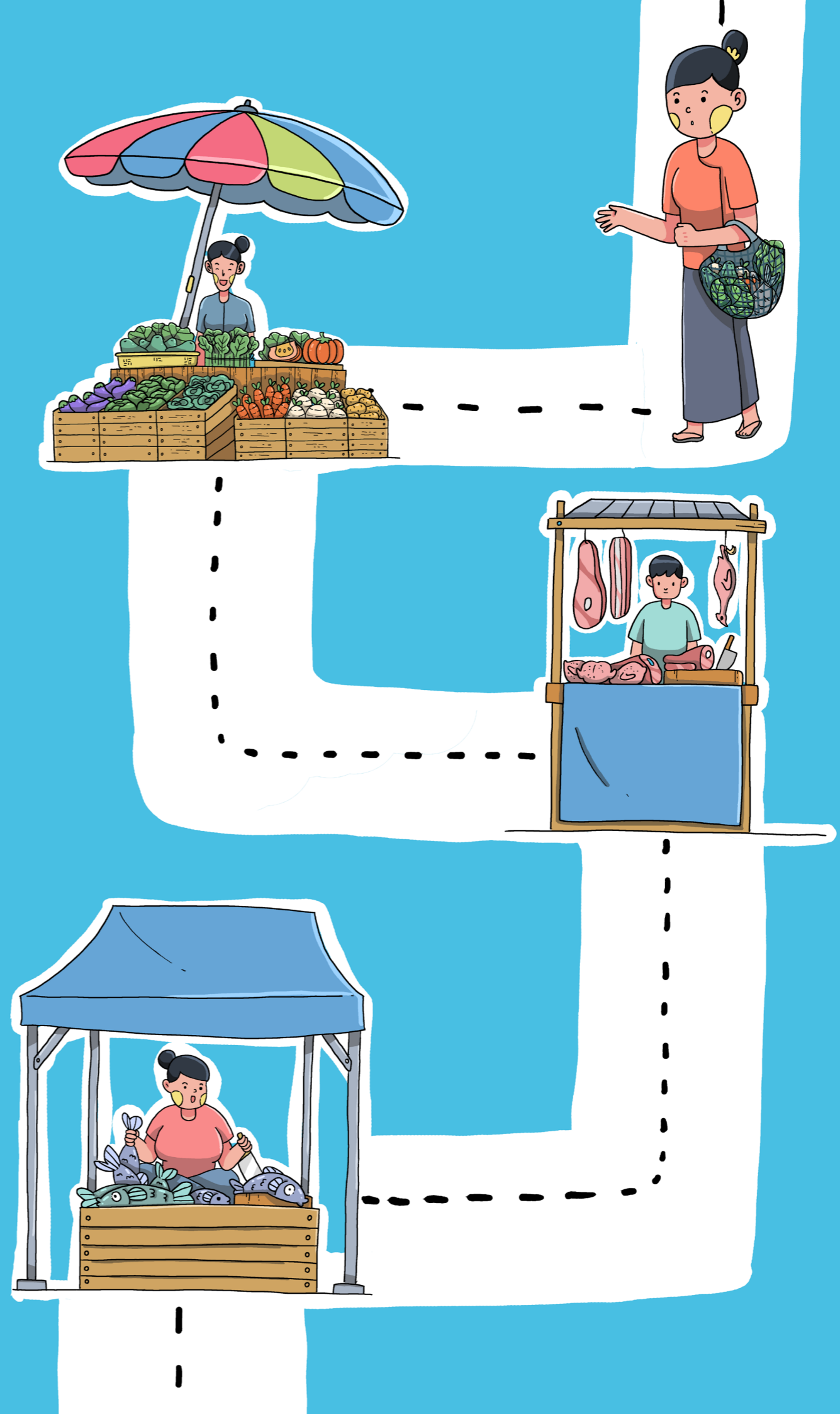


Process food for later use

- Foods can be preserved for later use by applying various processing methods,
- Drying is the simplest method of food preservation as various fruits and vegetables can be dried under the sun.
- Pickling makes fruits and vegetable last longer and add taste to the food.
- Fermentation not only makes food delicious but also adds some nutrients, shan pickle, fish sauce and bean paste are some examples.
- Sugar can preserve fruits as jams from different fruits can easily be made by adding sugar.
- Salt can also be used as preservative as fish and other foods can be preserved by using salt.

Session 4.4:
Food budgeting

Get the best from the market



Get the best from the market

- always try to buy foods from different food groups;
- try to buy less expensive but more nutritious foods;
- reduce the amount spent on less nutritious processed foods such as sugar sweetened beverages, salted snacks, chips, candies etc;
- try to find nutrient added (fortified) foods such as fortified rice;
- buy in bulk to reduce the cost;
- look at the quality of food, do not buy cheap but low-quality foods;
- if you buy packaged foods, look for the expiry/best before date;
- try to make variety as much as possible;
- do not buy if the food is infested with insects or fungi;
- look for locally produced foods;



- frequently wash your hands with soap and water for at least 20 seconds;
- practice social distancing guidelines:
 - avoid crowded places;
 - stay at least six feet apart from other people; and
 - do not greet others with a handshake or other touch.
- wear an appropriate mask;
- when coughing and sneezing, cover your mouth and nose with a flexed elbow or tissue. then throw the tissue away immediately and wash your hands;
- avoid close contact with anyone who has a fever and cough;
- do not touch nose, eyes, and mouth unnecessarily;
- clean frequently touched surfaces with soap and water if you have or suspect you have COVID-19;
- healthy diet and good nutrition keep you healthy and helps you to fight against infections. hence, eat eat variety of healthy and nutritious foods every day;
- avoid junk foods such as sweets, sugary drinks, salted snacks and fried foods because these foods make you vulnerable to chronic diseases such as diabetes, hypertension, and heart diseases, which are major risk factors of developing severe symptoms of COVID-19;
- do light physical activities such as gardening or doing household chores to maintain healthy weight and improve immune power; and
- seek medical attention immediately if you have a fever, cough and difficulty breathing.

Contact:
FAO Representation in Myanmar
FAO-MM@fao.org
www.fao.org/myanmar/fao-in-myanmar/en/
Food and Agriculture Organization of the United Nations,
Nay Pyi Taw, Myanmar



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