BHARATHIDASAN UNIVERSITY

TIRUCHIRAPPALLI-620 024
TAMIL NADU, INDIA

Programme: MSW

Course Title : Health and Hygiene
Course Code : CC-11b

UNIT II
NUTRITION

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UNIT II

- Nutrition: Classification of foods, Nutrient Groups; Functions; Sources and requirements; Caloric requirements for different age groups; Diet Therapy; Balanced Diet; Malnutrition; National Nutrition Policy 2017.

NUTRION

- Nutrients are the substance that provides nourishment essential for the maintenance of life and for growth.
- Nutrition defined as the science of food and its relationship to health, it helps to body growth, development and maintenance
- Organic and inorganic complexes contains in the body mainly 2 types of nutrients in our body
- Nutrients are categorized into two groups such as

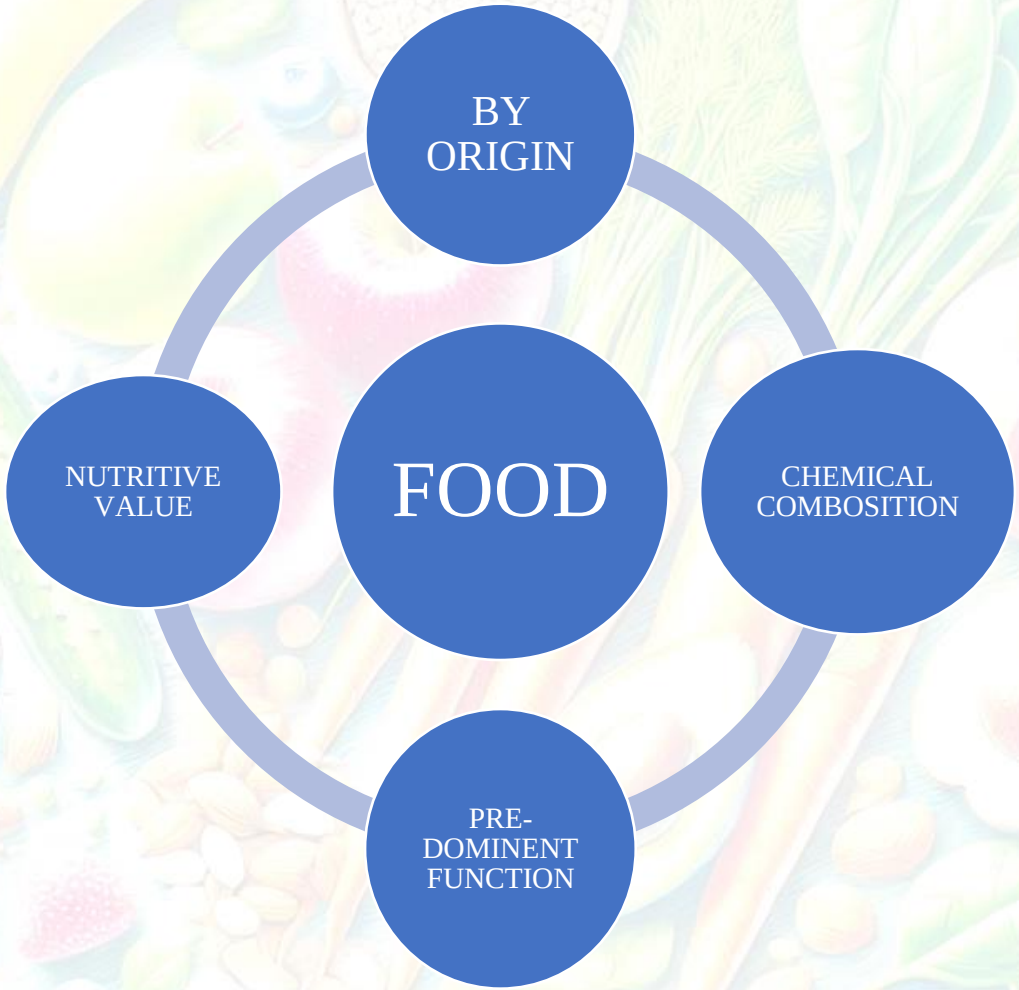
Macro nutrients and Micro nutrients

Macro nutrients – facts, carbohydrates and proteins are macro

Micro nutrients – Vitamins and Minerals are micro

Macro & Micro Nutrients

Classification of food



Classification

BY ORIGIN

- Foods of Animal origin
- Foods of Plants origin

CHEMICAL COMBOSITION

- Proteins
- Facts
- Carbohydrates
- Vitamins
- Minerals

PRE-DOMINENT FUNCTION

- Body building foods (milk, meet, fish, poultry, egg,)
- Energy giving foods (cereals, sugar, roots and tubers fats & oils)
- Protective foods (Vegetables, fruits and milk)

NUTRITIVE VALUE

- Cereals and millets
- Pulses vegetables
- Nuts and oil seeds
- Fruits and animal foods
- Sugar & jaggery

Nutrient Groups

- There are 6 essential nutrients that the body needs to function properly. Nutrients are compounds in foods essential to life and health, providing us with energy, the building blocks for repair and growth and substances necessary to regulate chemical processes.

Six major nutrients

1. Carbohydrates (CHO)
2. Lipids (fats)
3. Proteins
4. Vitamins
5. Minerals
6. Water.

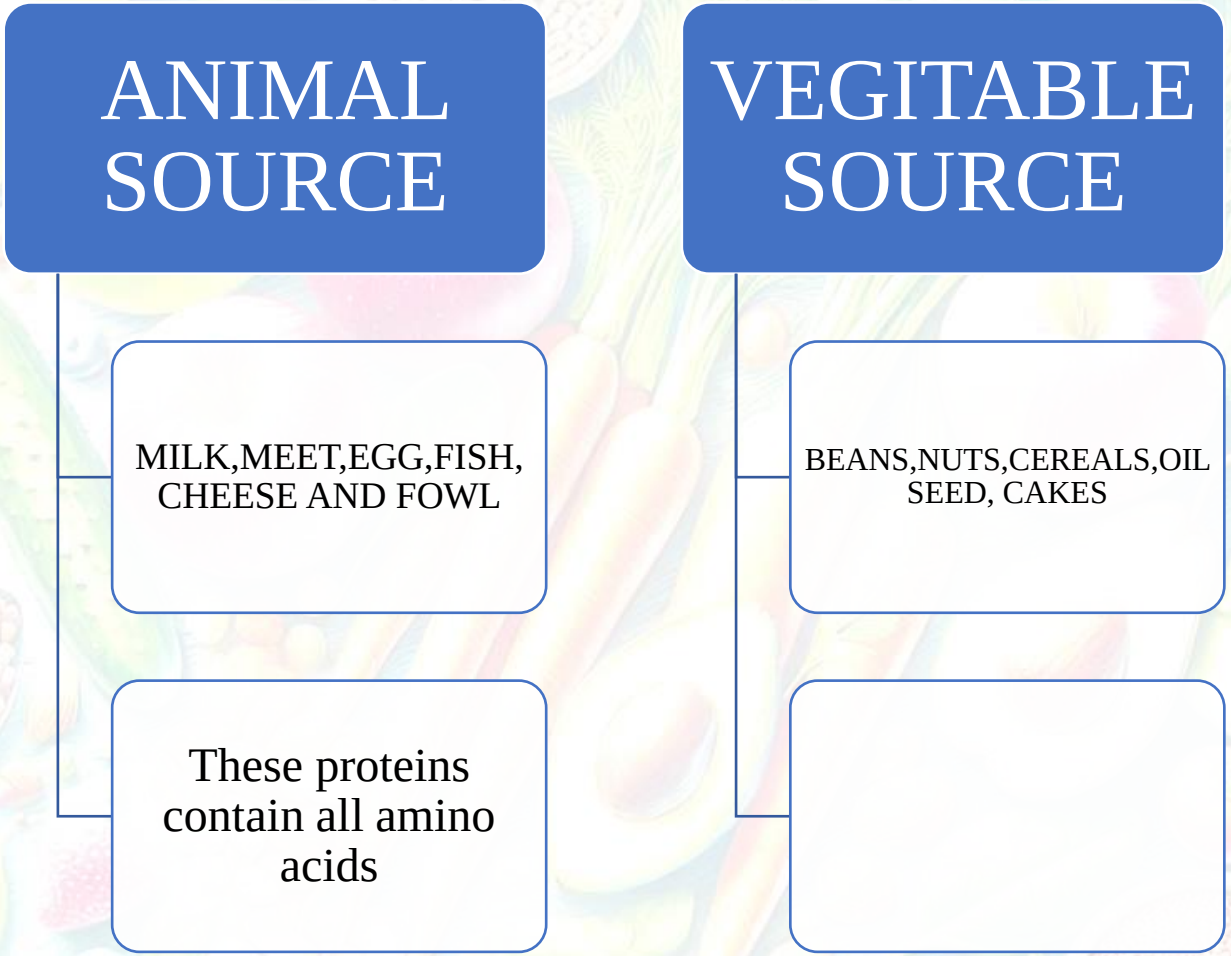
Proteins

- Protein is a nutrient your body needs to grow and repair cells and to work properly. Protein is found in a wide range of food and it’s important that you get enough protein in your diet every day. How much protein you need from your diet varies depending on your weight, gender, age and health. Meeting your protein needs is easily achieved from eating a variety of foods. Protein from food comes from plant and animal sources such as meat and fish, eggs, dairy products, seeds and nuts, and legumes like beans and lentils.
- Protein is the first and most important factor in human nutrition.
- It is the complex organic nitrogenous compounds with the compos of carbon, hydrogen, nitrogen, oxygen and sulphur
- Protein usually amounted to 16% of the body weight

Function of Protein

- Body building
- Repair and maintenance of body tissues
- Maintenance of osmotic pressure
- Synthesis of antibody, plasma proteins, haemoglobin, enzymes, hormones and coagulation factors
- Supply of energy

Source of Protein



Requirement of Protein

- Babies need about 10 grams a day.
- School-age kids need 19-34 grams a day.
- Teenage boys need up to 52 grams a day.
- Teenage girls need 46 grams a day.
- Adult men need about 56 grams a day.
- Adult women need about 46 grams a day (71 grams, if pregnant or breastfeeding)

Fats

- Fats are **nutrients that give you energy**. Fats have 9 calories in each gram. Fats help in the absorption of fat-soluble vitamins A, D, E, and K. Fats are either saturated or unsaturated. A small amount of fat is an essential part of a healthy, balanced diet. Fat is **a source of essential fatty acids**, which the body cannot make itself
- FATS ARE TWO TYPES

  Saturated and Unsaturated

- **Saturated.** This is the so-called "bad" fat. It's primarily found in animal products like beef, pork, and high-fat dairy foods, like butter, margarine, cream, and cheese. High amounts of saturated fat also are found in many fast, processed, and baked foods like pizza, desserts, hamburgers, and cookies and pastries. These fats tend to more "solid" (think butter or lard) than healthier fats.

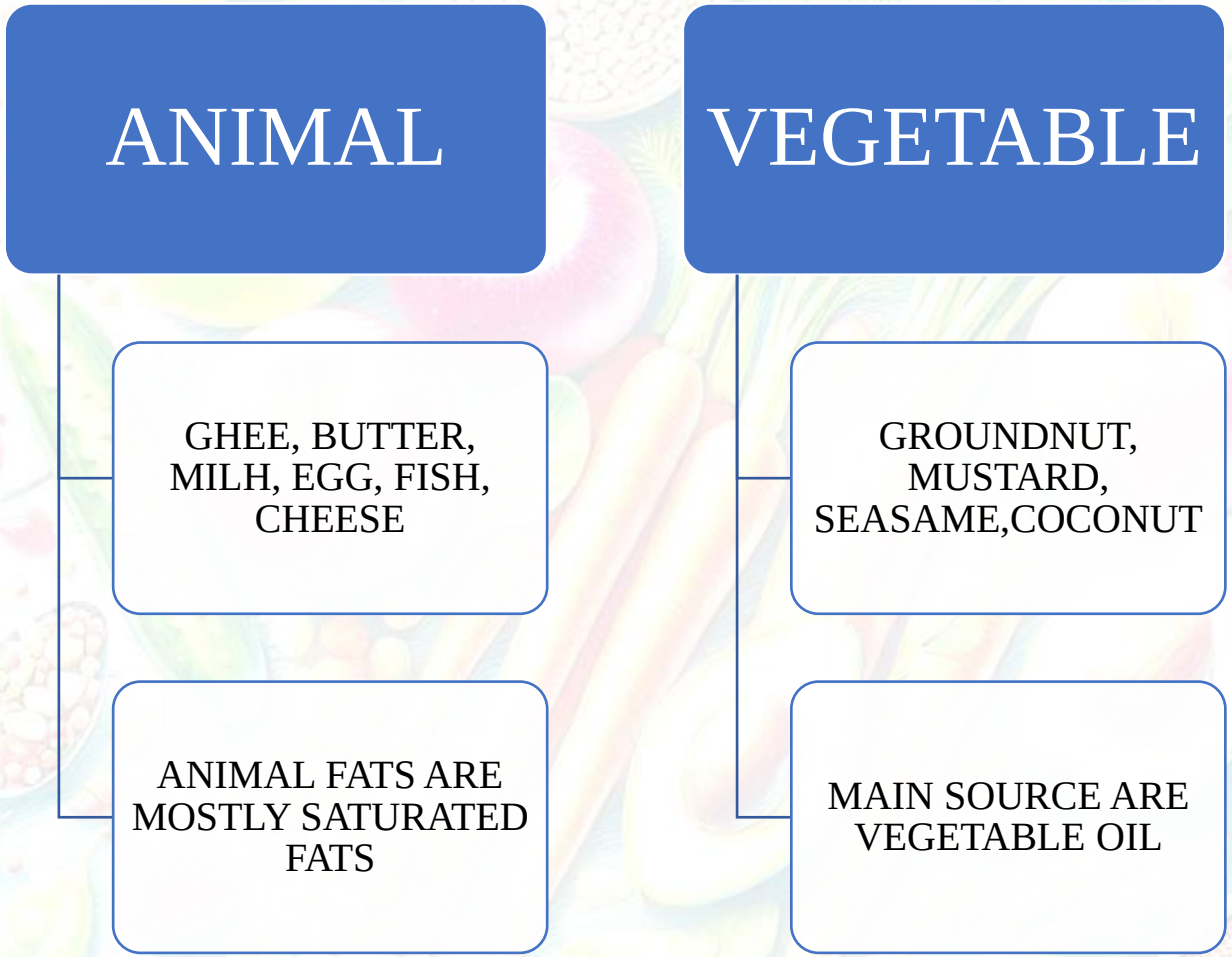
- **Unsaturated.** This is the healthy kind, and there are two types: monounsaturated and polyunsaturated. Monounsaturated fats are found in avocados and peanut butter; nuts like almonds, hazelnuts, cashews, and pecans; and seeds, such as pumpkin, sesame, and sunflower seeds. It is also in plant oils, such as olive, peanut, safflower, sesame, and canola oils.

- Polyunsaturated fats include omega-3 fatty acids and omega-6 fatty acids. Polyunsaturated fats are found in plant-based oils like soybean, corn, and safflower oils, and they're abundant in walnuts, flaxseeds, sunflower seeds, and fish like salmon, mackerel, herring, tuna, and trout.

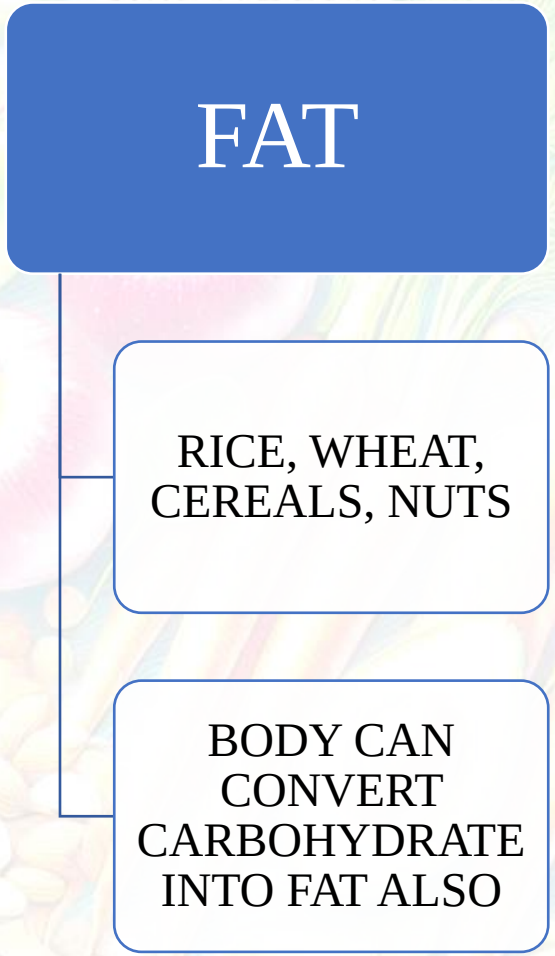
Functions of Fat

- **Storing Energy**
- Serve as a FAT soluble vitamins
- Controlling physiological functions of the body
- Controlling kidney function, acid secretion in stomach, lung physiology and reproduction, gastro-intestinal etc

Source of Fat



Other Source



Carbohydrates (Cho)

- A carbohydrate is a bimolecular consisting of carbon, hydrogen and oxygen atoms. Carbohydrates is essential for the oxidation of fats and synthesis of certain non amino acids. It turns into glucose to give you the energy to function. There are three main source of carbohydrate are

1. Starch
2. Sugar
3. Cellulose

Functions of Carbohydrates

- Energy Production and supply energy into cells
- Energy Storage
- Building Macromolecules
- Sparing Protein
- Lipid Metabolism

Main Source of Carbohydrates

Starches.

They are complex carbohydrates, which are made of lots of simple sugars strung together. Your body needs to break starches down into sugars to use them for energy. Starches include bread, cereal, and pasta. They also include certain vegetables, like potatoes, peas, and corn.

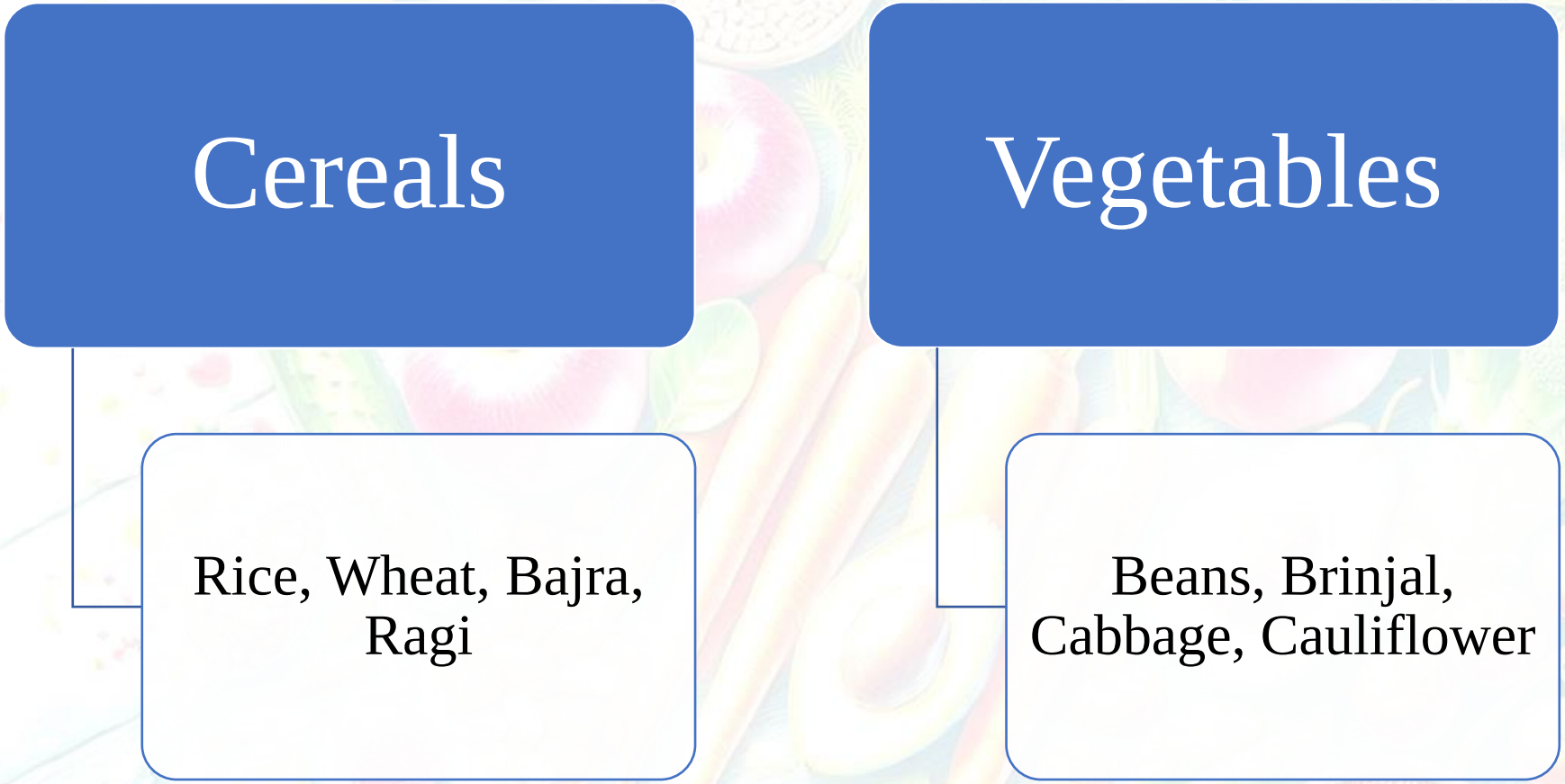
Sugars.

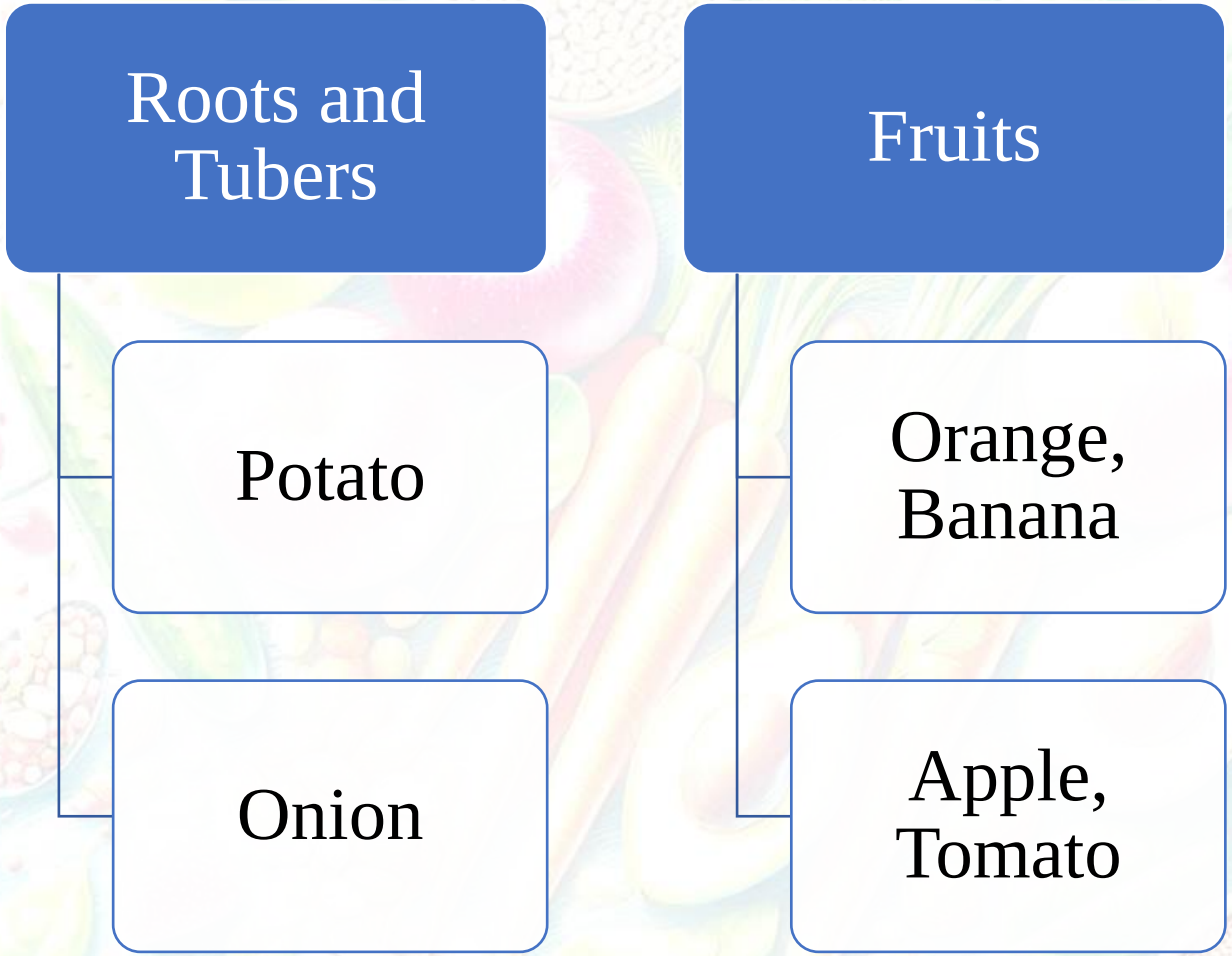
They are also called simple carbohydrates because they are in the most basic form. They can be added to foods, such as the sugar in candy, desserts, processed foods, and regular soda. They also include the kinds of sugar that are found naturally in fruits, vegetables, and milk.

Cellulose

It is also a complex carbohydrate. Your body cannot break down most fibers, so eating foods with fiber can help you feel full and make you less likely to overeat. Diets high in fiber have other health benefits. They may help prevent stomach or intestinal problems, such as constipation. They may also help lower cholesterol and blood sugar. Fiber is found in many foods that come from plants, including fruits, vegetables, nuts, seeds, beans, and whole grains.

Source of Carbohydrates




Roots and Tubers
Potato
Onion
Fruits
Orange, Banana
Apple, Tomato

Vitamins

- Vitamins are substances that your body needs to grow and develop normally. There are 13 vitamins your body needs. Vitamins are organic compounds that people need in small quantities. Most vitamins need to come from food because the body either does not produce them or produces very little.
- Vitamins are divided into two category

FAT SOLUBLE And WATER SOLUBALE

Fat Soluble Vitamins

1. VITAMIN A
2. VITAMIN D
3. VITAMIN E
4. VITAMIN K

Water Soluvale Vitamins

1. VITAMIN B GROUP
2. VITAMIN C GROUP

Vitamin A

- Vitamin A, also known as retinol
- helping your body's natural defence against illness and infection (the immune system) work properly
- helping vision in dim light
- keeping skin and the lining of some parts of the body, such as the nose, healthy
- The amount of vitamin A adults aged 19 to 64 need is:

  700 µg a day for men

  600 µg a day for women

Source of Vitamin A

- Cheese
- eggs
- Oily fish
- fortified low-fat spreads
- milk
- liver and liver products such as liver pâté
- Leafy, dark green vegetables
- dark orange fruits (apricots, cantaloupe) and vegetables (carrots, winter squash, sweet potatoes, pumpkin)

Vitamin D

- Vitamin D is a group of fat-soluble secosteroids responsible for increasing intestinal absorption of calcium, magnesium, and phosphate, and many other biological effects. In humans, the most important compounds in this group are vitamin D_3 and vitamin D_2.
- Vitamin D has other roles in the body, including reduction of inflammation as well as modulation of such processes as cell growth, neuromuscular and immune function, and glucose metabolism . Many genes encoding proteins that regulate cell proliferation, differentiation, and apoptosis are modulated in part by vitamin D. Many tissues have vitamin D receptors

Functions of Vitamin D

- Sunshine vitamin
- Vitamin D fights disease
- Vitamin D boosts weight loss
- promoting healthy bones and teeth
- supporting immune, brain, and nervous system health
- regulating insulin levels and supporting diabetes management
- supporting lung function and cardiovascular health
- influencing the expression of genes involved in cancer development

Vitamin E

- Vitamin E is a group of eight fat soluble compounds that include four to copherols and four to cotrienols. Vitamin E deficiency, which is rare and usually due to an underlying problem with digesting dietary fat rather than from a diet low in vitamin E, can cause nerve problems.
- VITAMIN E A nutrient that the body needs in small amounts to stay healthy and work the way it should. It is fat-soluble (can dissolve in fats and oils) and is found in seeds, nuts, leafy green vegetables, and vegetable oils. Vitamin E boosts the immune system and helps keep blood clots from forming.

Functions of Vitamin E

- It is an antioxidant. This means it protects body tissue from damage caused by substances called free radicals. Free radicals can harm cells, tissues, and organs. They are believed to play a role in certain conditions related to aging.
- It helps keep the immune system strong against viruses and bacteria.
- It helps form red blood cells and widen blood vessels to keep blood from clotting inside them.
- It helps the body use vitamin K.
- Cells also use vitamin E to interact with each other. It helps them carry out many important functions.

Source of Vitamin D

- Fatty fish, such as salmon, mackerel, and tuna
- egg yolks
- cheese
- beef liver
- mushrooms
- fortified milk
- fortified cereals and juices

Source of Vitamin E

- Wheat germ oil
- Sunflower, safflower, and soybean oil
- Sunflower seeds
- Almonds
- Peanuts, peanut butter
- Beet greens, collard greens, spinach
- Pumpkin
- Red bell pepper
- Asparagus
- Mango
- Avocado

Vitamin K

- Vitamin K plays a key role in helping the blood clot, preventing excessive bleeding. Unlike many other vitamins, vitamin K is not typically used as a dietary supplement.
- Vitamin K is actually a group of compounds. The most important of these compounds appears to be vitamin K1 and vitamin K2. Vitamin K1 is obtained from leafy greens and some other vegetables. Vitamin K2 is a group of compounds largely obtained from meats, cheeses, and eggs, and synthesized by bacteria.
- Vitamin K helps to make various proteins that are needed for blood clotting and the building of bones. Prothrombin is a vitamin K-dependent protein directly involved with blood clotting. Osteocalcin is another protein that requires vitamin K to produce healthy bone tissue.

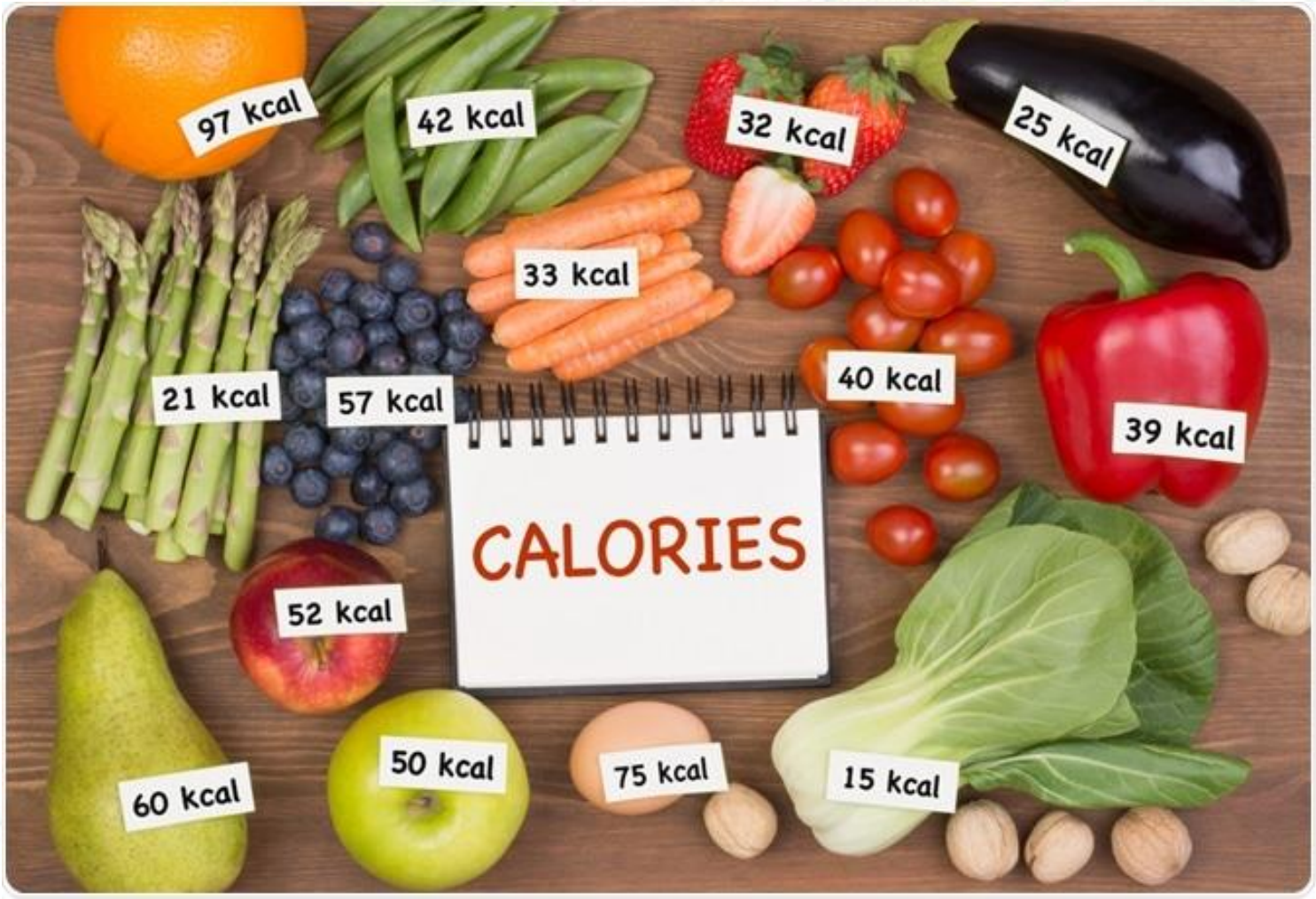
Functions of vitamin k

- Bone health
- Cognitive health
- Heart health

Source of vitamin k

- **LIVER**
- **MEET**
- **FISH**
- **POULTRY**
- **MILK**
- **LEGUMS And GROUND NUT**

Caloric Requirement



Measurement of energy

- The energy value of food is required has long expressed in terms of Kilocalorie(kcal) C.
- **Energy requirement** is the amount of food energy needed to balance energy expenditure in order to maintain body size, body composition and a level of necessary and desirable physical activity consistent with long-term good health. This includes the energy needed for the optimal growth and development of children, for the deposition of tissues during pregnancy, and for the secretion of milk during lactation consistent with the good health of mother and child.
- Human energy requirements are estimated from measures of energy expenditure plus the additional energy needs for growth, pregnancy and lactation. Recommendations for dietary energy intake from food must satisfy these requirements for the attainment and maintenance of optimal health, physiological function and well-being.

Calorie

- A calorie is a unit of energy. "calorie" to mean a unit of energy that could come from a variety of sources, In a nutritional sense, all types of food — whether they are fats, proteins, carbohydrates or sugars — are important sources of calories, which people need to live and function.
- Calories keep the body functioning. All of the processes that the body performs require energy to keep moving. Calories provide our bodies with this energy that is necessary to sustain our daily lives.
- A calorie in nutrition is actually 1,000 of these small calories. These units of 1,000 small calories are also sometimes called large calories, dietary calories, nutritional calories, food calories and Calories with a capital C.
- Different types of macronutrients have standard amounts of calories.

  One gram of protein has 4 calories.

  One gram of carbohydrates has 4 calories.

  One gram of fat has 9 calories

Facts about calorie

- Calorie requirement of human body is calculated by the Harris-Benedict formula and Katch Mcarlde formula
- Adolescence need more high amount of C due to body change
- Nuts are rich in Calorie
- Pregnant women need extra 300 C per day

There are two types of calorie:

A small calorie (cal) is the amount of energy required to raise the temperature of 1 gram (g) of water by 1º Celsius (º C).

A large calorie (kcal) is the amount of energy required to raise 1 kilogram (kg) of water by 1º C. It is also known as a kilocalorie.

- 1 kcal is equal to 1,000 cal.

Calories Needed Each Day

- It’s important to know the number of calories you need to eat to stay healthy
- How many calories you need each day ENERGY IN— depends on a few things:

  Your age

  Whether you are male or female

  How active you are
- **Not Active**—Not much ENERGY OUT. Does only light activity needed for daily life
- **Somewhat Active**—Some ENERGY OUT. Does physical activity equal to walking quickly for 1 ½ to 3 miles (about 30–40 minutes) each day. Plus, does light activity needed for daily life.
- **Very Active**—A lot of ENERGY OUT. Does physical activity equal to walking quickly for more than 3 miles each day (more than 40 minutes). Plus, does light activity needed for daily life.

Requirement of Calorie

- Not everybody needs the same number of calories each day. People have different metabolisms that burn energy at different rates, and some people have more active lifestyles than others.

The recommended intake of calories per day depends on several factors, including:

- overall general health
- physical activity demands
- sex
- weight
- height
- body shape

Calories rich foods

- **Proteins:** Red meats, pork, chicken with skin on (roast or broil don’t deep fry for your health), salmon or other oily fish, beans, whole milk, eggs, cheese, full-fat yogurt.
- **Carbohydrates:** potatoes, brown rice, whole grain pasta, whole grains, whole grain breads.
- **Fats:** Nuts and nut butters, olives, avocado, butter, salad dressings, mayonnaise, high-fat cheeses.

Required calorie based on body weight

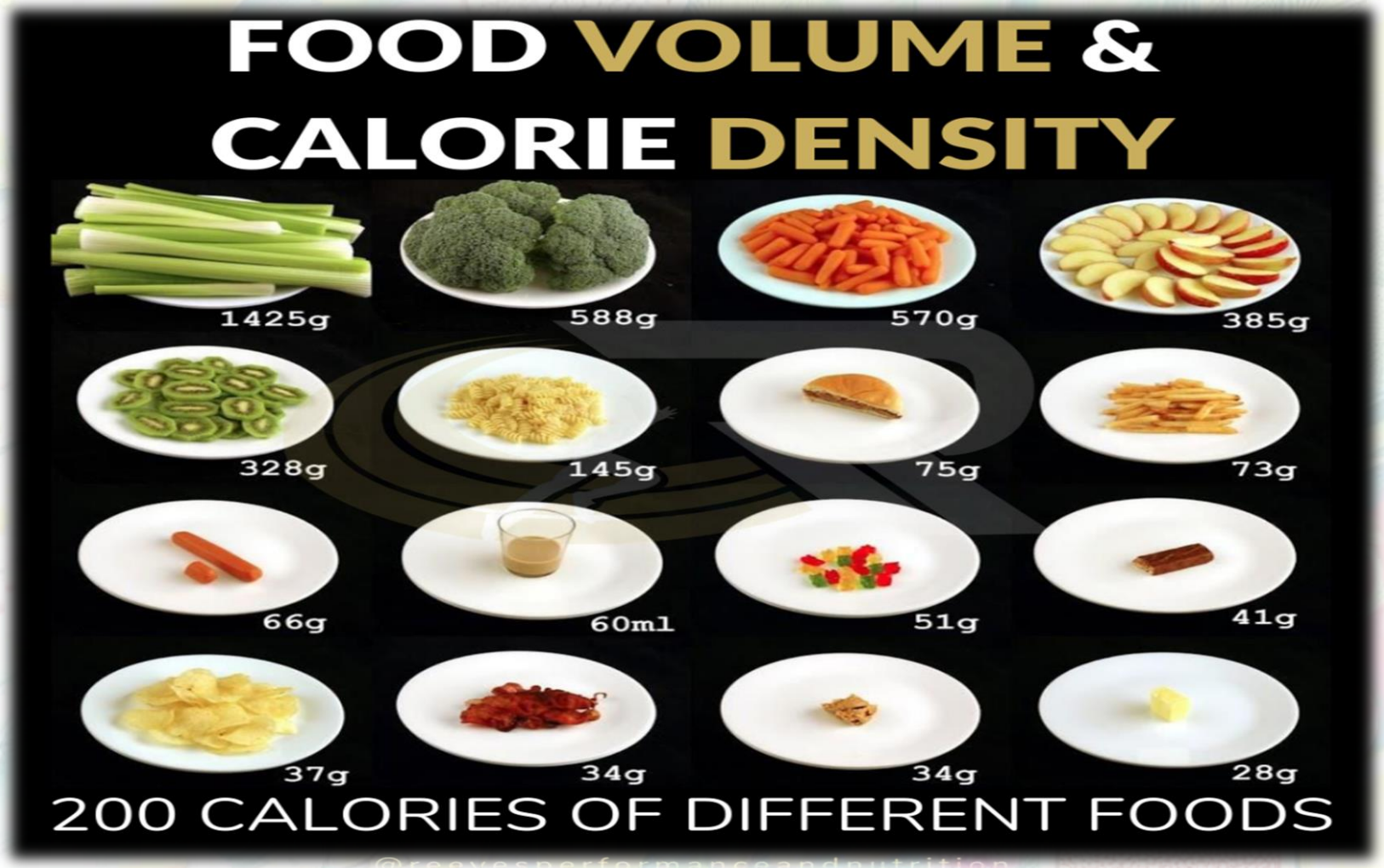
Category	Calorie requirement
Over weight	20 kcal/kg/day
Ideal weight	30 kcal/Kg/day
Under weight	40 kcal/kg/day
Elderly person >50 years	10% less calories for each additional decade
Children - 1st year	1,000 cal
For girls 1-12 years	1,000+100 cal per year of age up to 12 years
For boys 1-12 years	1,000+125 calories per year of age after 12 years

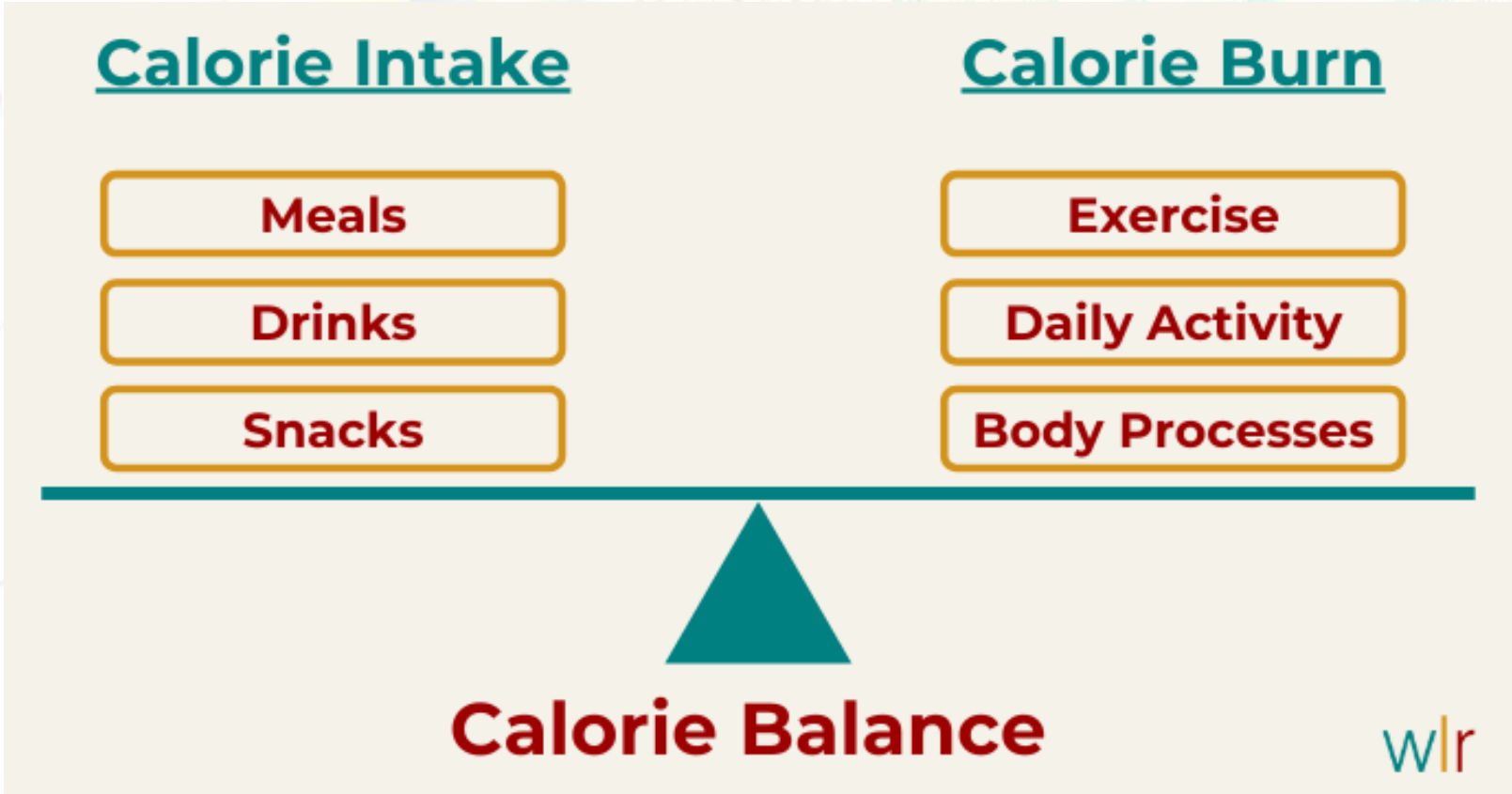
Daily calorie needs based on age, gender and activities

Daily calorie needs based on age, gender, and activity level

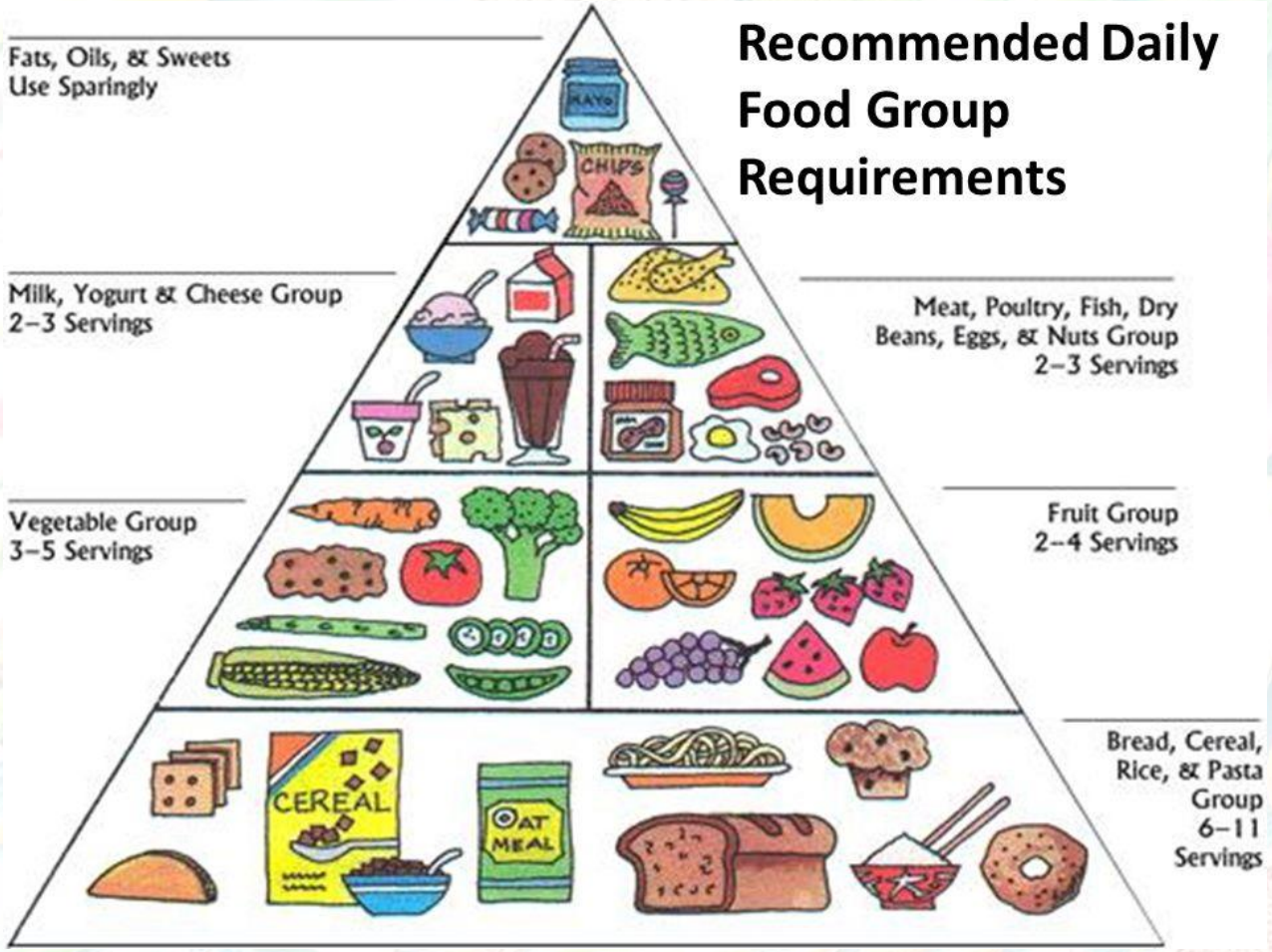
Age (Years)	Gender	Sedentary (Not Active)	Moderately Active	Active
2-3	Male or female	1,000	1,000	1,000
4-8	Male Female	1,200 – 1,400 1,200 – 1,400	1,400 – 1,600 1,400 – 1,600	1,600 – 2,000 1,400 – 1,800
9-13	Male Female	1,600 – 2,000 1,400 – 1,600	1,800 – 2,200 1,600 – 2,000	2,000 – 2,600 1,800 – 2,200
14-18	Male Female	2,000 – 2,400 1,800	2,400 – 2,800 2,000	2,800 – 3,200 2,400
19-30	Male Female	2,400 – 2,600 1,800 – 2,000	2,600 – 2,800 2,000 – 2,200	3,000 2,400
31-50	Male Female	2,200 – 2,400 1,800	2,400 – 2,600 2,000	2,800 – 3,000 2,200
51 and older	Male Female	2,000 – 2,200 1,600	2,200 – 2,400 1,800	2,400 – 2,800 2,000 – 2,200

Calorie & density




Calorie Intake
Calorie Burn
Meals
Drinks
Snacks
Exercise
Daily Activity
Body Processes
Calorie Balance
wlr

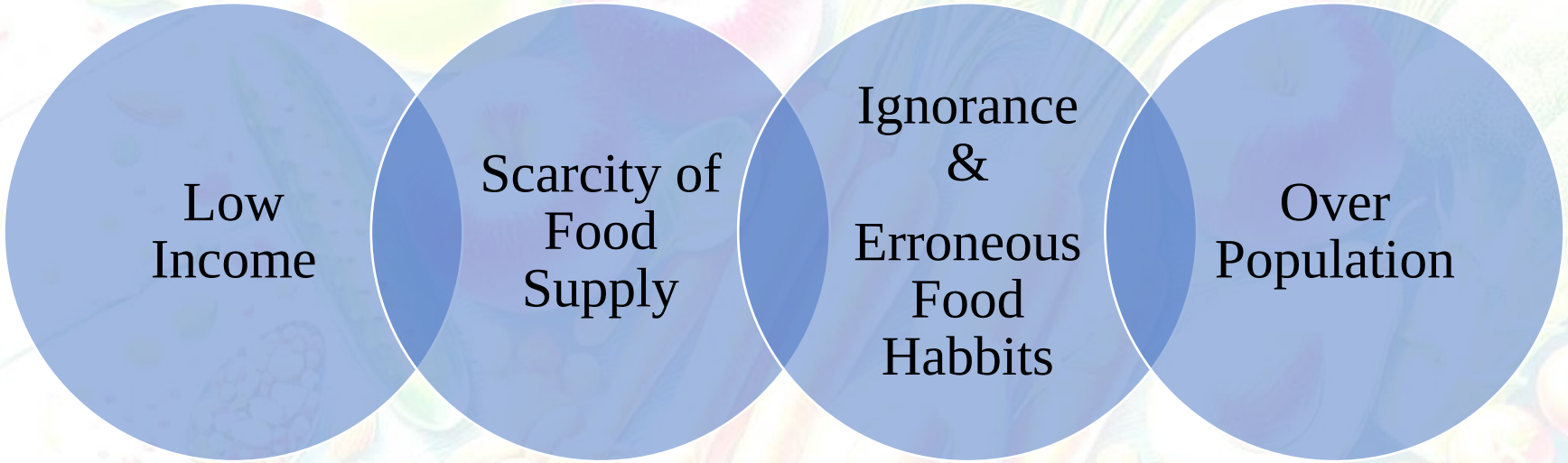
Balanced calorie food



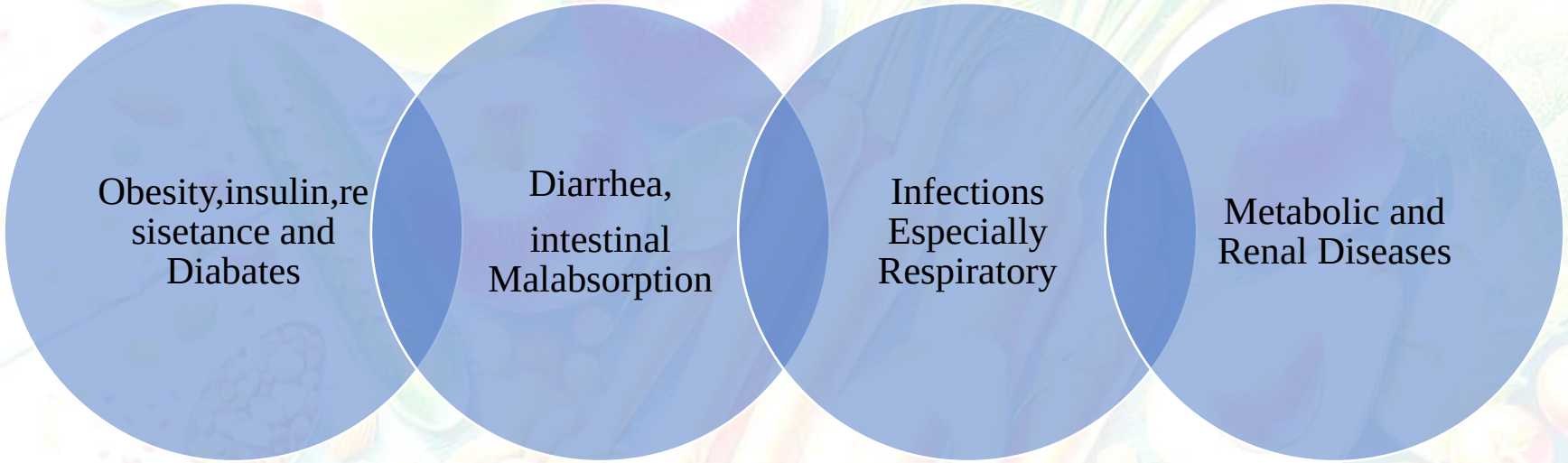
Malnutrition definition

- **Malnutrition refers to deficiencies, excesses, or imbalances in a person’s intake of energy and/or nutrients (WHO).**
- Malnutrition occurs when the body doesn't get enough nutrients. Causes include a poor diet, digestive conditions or another disease.
- Symptoms are fatigue, dizziness and weight loss. Untreated malnutrition can cause physical or mental disability.
- Treatment must address any underlying conditions and replace missing nutrients.

Causes of malnutrition Primary reasons

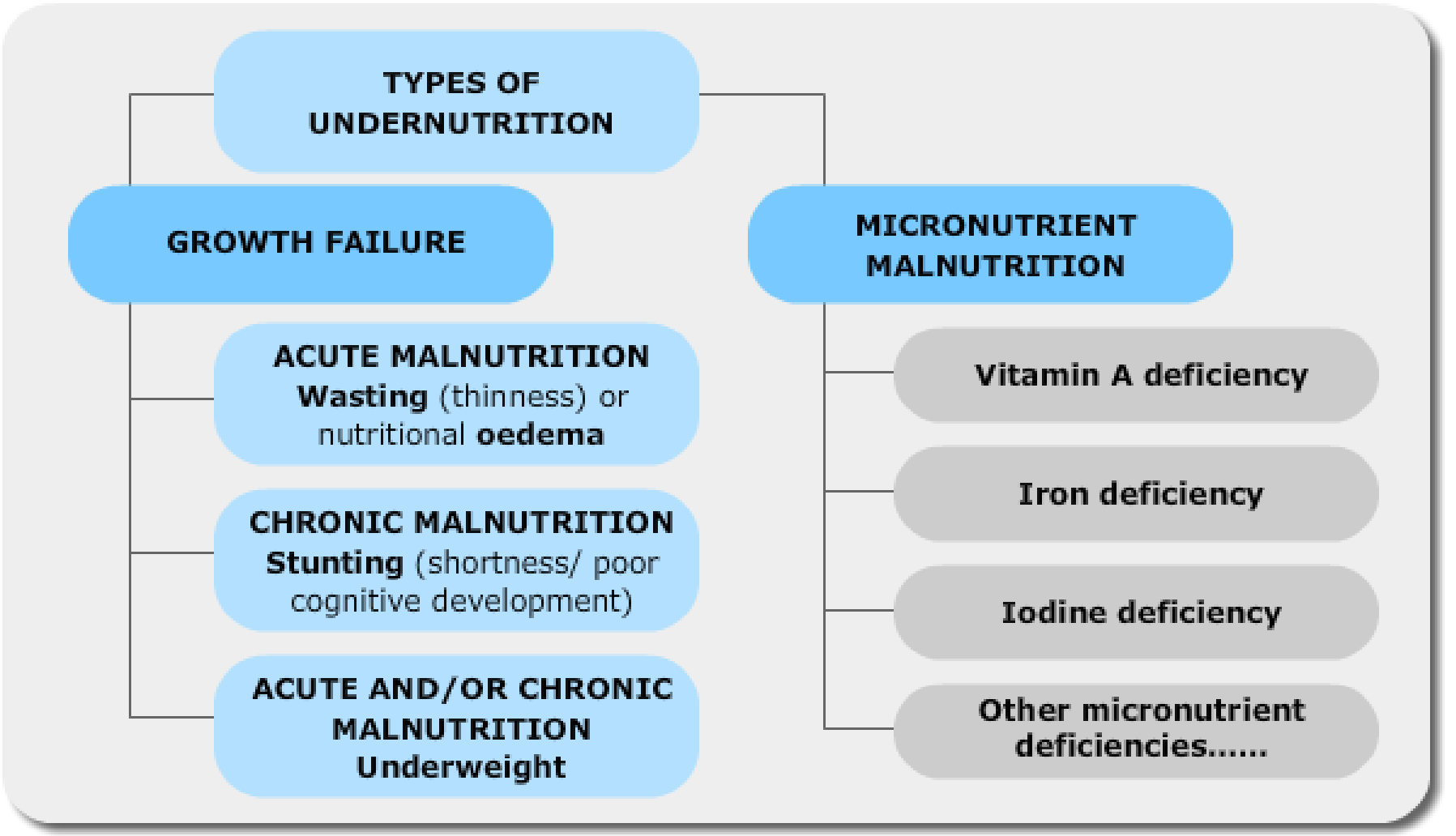


Secondary reasons



Types of malnutrition

- **Under nutrition** which includes wasting (low weight-for-height), stunting (low height-for-age) and underweight (low weight-for-age);
- **Micronutrient-related malnutrition**, which includes micronutrient deficiencies (a lack of important vitamins and minerals) or micronutrient excess; and
- **Overweight, obesity and diet**-related non-communicable diseases (such as heart disease, stroke, diabetes and some cancers).

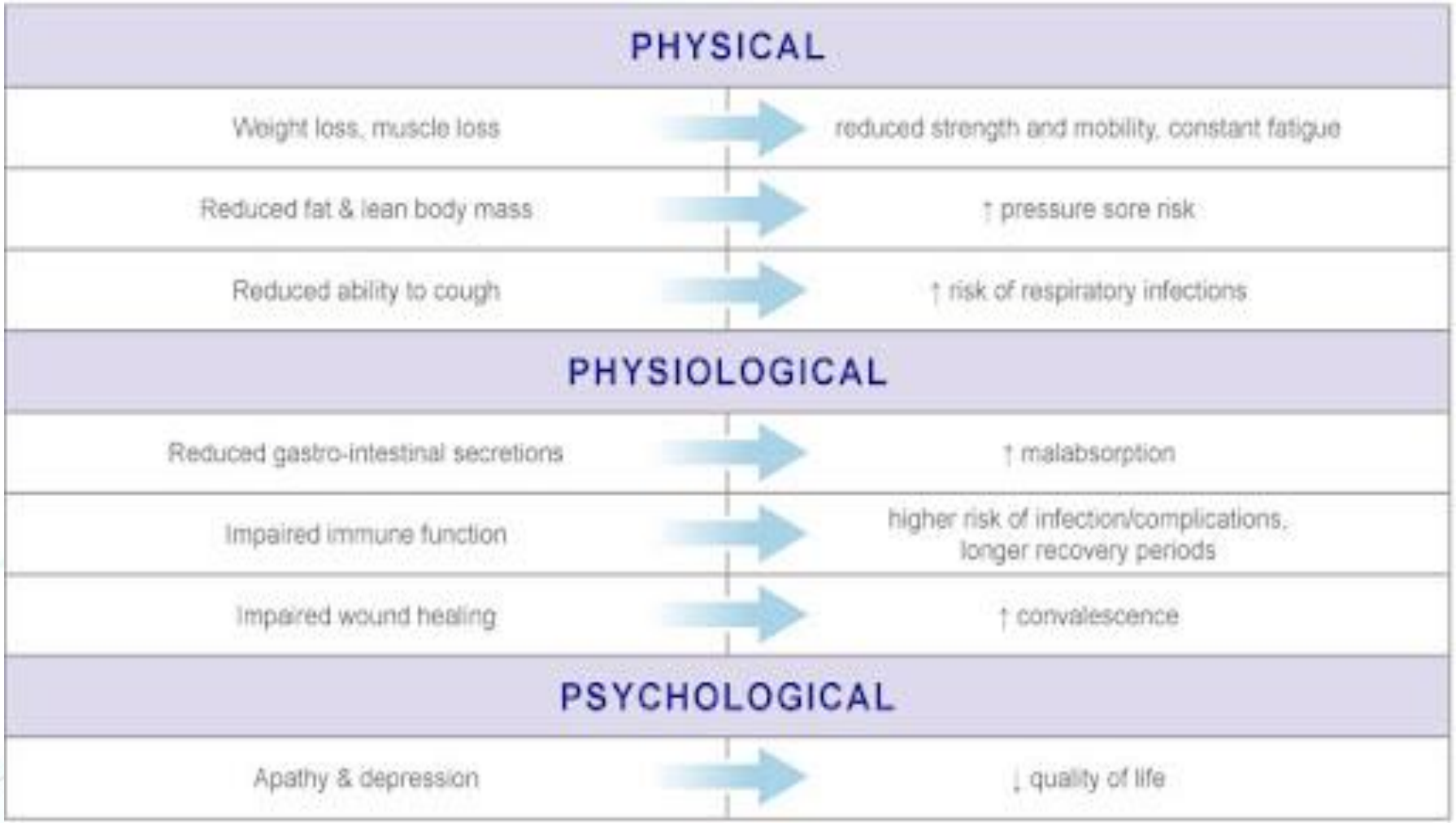

TYPES OF UNDERNUTRITION
GROWTH FAILURE
ACUTE MALNUTRITION
Wasting (thinness) or nutritional oedema
CHRONIC MALNUTRITION
Stunting (shortness/ poor cognitive development)
ACUTE AND/OR CHRONIC MALNUTRITION
Underweight
MICRONUTRIENT MALNUTRITION
Vitamin A deficiency
Iron deficiency
Iodine deficiency
Other micronutrient deficiencies……

Symptoms of malnutrition

Some signs and symptoms of malnutrition include:

- a lack of appetite or interest in food or drink
- tiredness and irritability
- an inability to concentrate
- always feeling cold
- depression
- loss of fat, muscle mass, and body tissue
- a higher risk of getting sick and taking longer to heal
- longer healing time for wounds
- a higher risk of complications after surgery

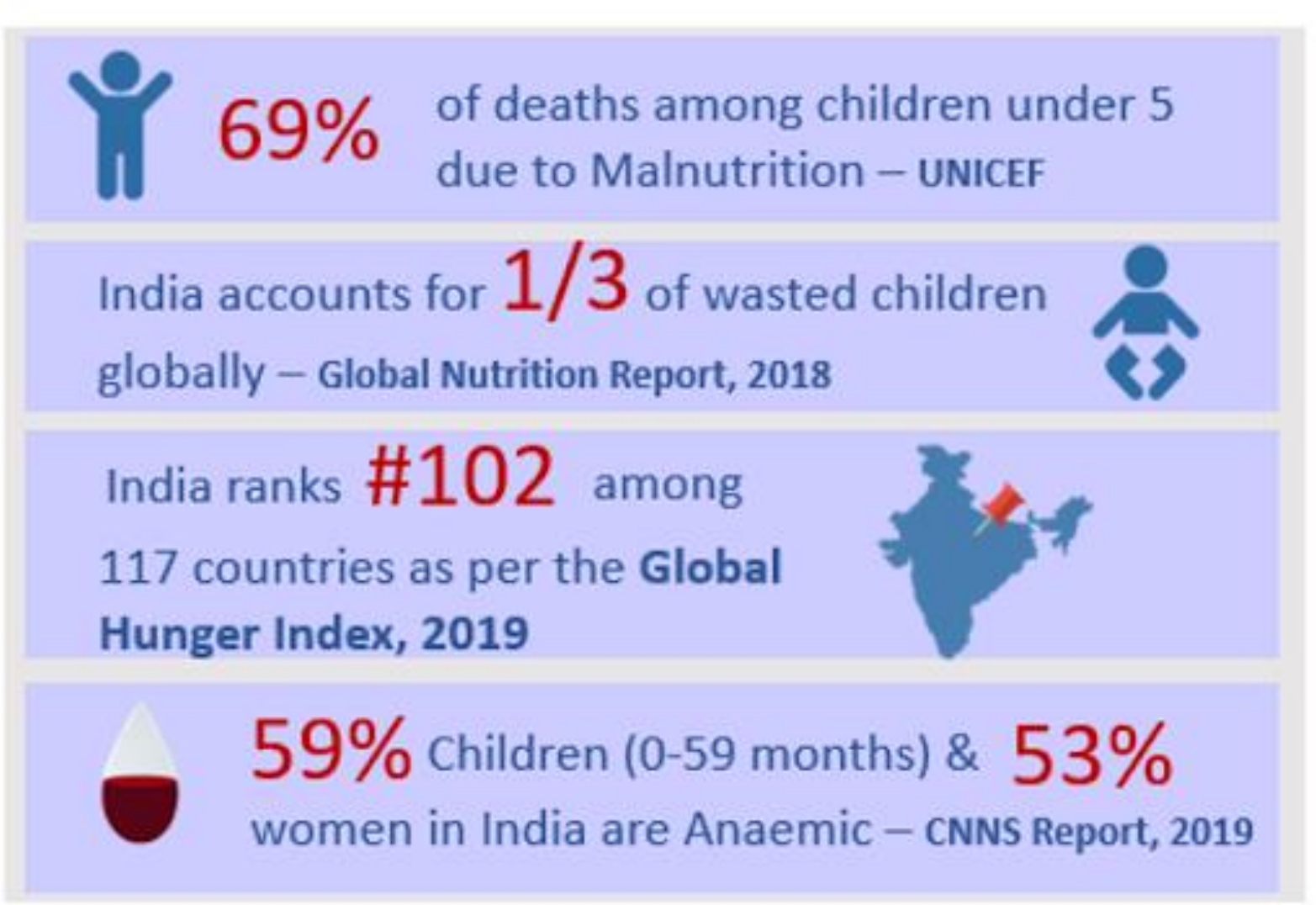
Disease related to malnutrition



World statistics of malnutrition

- Malnutrition, in all its forms, includes under nutrition (wasting, stunting, underweight), inadequate vitamins or minerals, overweight, obesity, and resulting diet-related non-communicable diseases.
- 1.9 billion adults are overweight or obese, while 462 million are underweight.
- Globally in 2020, 149 million children under 5 were estimated to be stunted (too short for age), 45 million were estimated to be wasted (too thin for height), and 38.9 million were overweight or obese.
- Around 45% of deaths among children under 5 years of age are linked to under nutrition. These mostly occur in low- and middle-income countries. At the same time, in these same countries, rates of childhood overweight and obesity are rising.
- The developmental, economic, social, and medical impacts of the global burden of malnutrition are serious and lasting, for individuals and their families, for communities and for countries.

Malnutrition in India



WHO Policy

Led by WHO and the Food and Agriculture Organization of the United Nations (FAO), the UN Decade of Action on Nutrition calls for policy action across 6 key areas:

- creating sustainable, resilient food systems for healthy diets;
- providing social protection and nutrition-related education for all;
- aligning health systems to nutrition needs, and providing universal coverage of essential nutrition interventions;
- ensuring that trade and investment policies improve nutrition;
- building safe and supportive environments for nutrition at all ages; and
- strengthening and promoting nutrition governance and accountability, everywhere.

Balanced Diet

Diet & Balanced diet

- **DIET** : Kind of foods a person or group which lives
- **BALANCED DIET** : Variety of food such contains different quantity and proportions that need the energy, amino acids, vitamins, minerals, fats, carbohydrates and other nutrients adequately need for maintain health. A balanced diet has became an accepted means to safeguard a population from nutritional deficiency
- According to WHO committee all nation should follow and prepare national food policy and nutritional settings for maintain balanced diet for the citizens.

Balanced diet chart

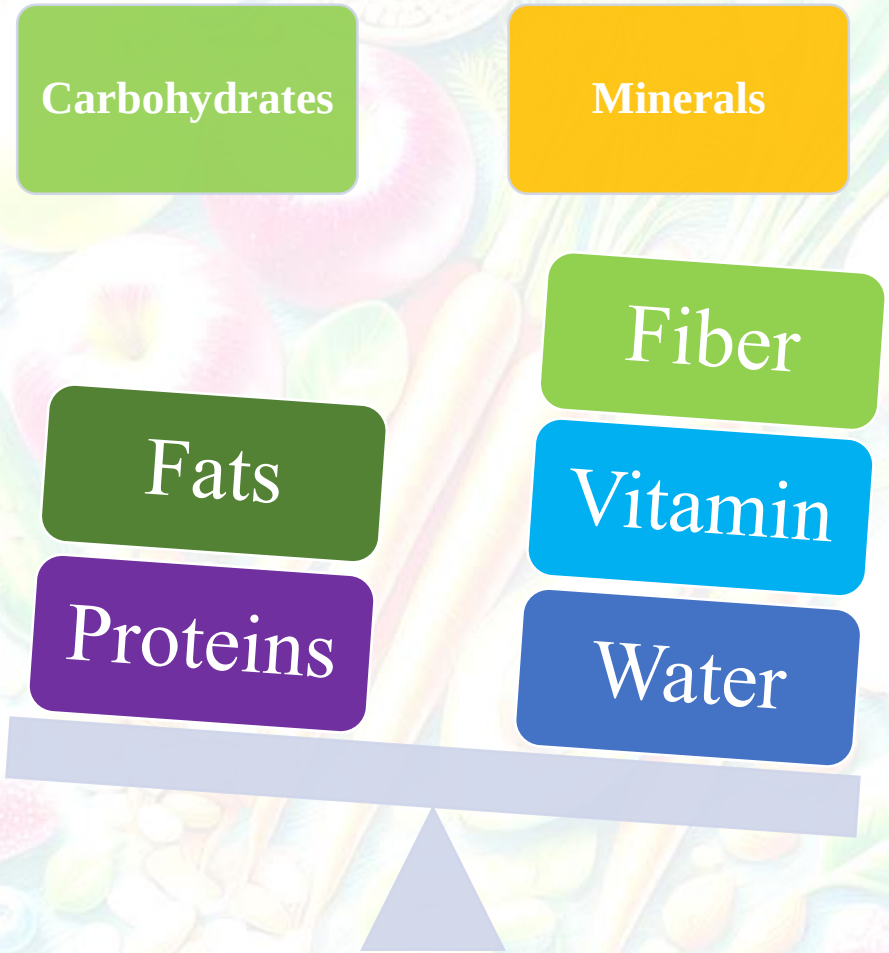
Importance of a Balanced Diet

- Balanced Diet leads to a good physical and a good mental health.
- It helps in proper growth of the body.
- Also, it increases the capacity to work
- Balanced diet increases the ability to fight or resist diseases.

Dietary goals

- FAT should limit approximately 15-30% of daily intake
- Saturated FAT should contribute not more than 10% of total energy intake. Unsaturated vegetable oil should be substituted for the remaining FAT requirement
- Excessive consumption of refined carbohydrate should be avoided, some amount of carbohydrates is rich in natural fiber should be taken
- Sources rich in energy such as fats and alcohol should be restricted
- Salt intake should be reduced to an average of not more than 5g per day (in India avg 15g per day)
- Protein should approximately 10-15 % of daily intake
- Junk foods such as soft drinks that supply empty calories it should be reduced
- A healthy diet is good for your physical and mental health.
- It can reduce the risk and severity of obesity, heart disease, diabetes, hypertension, depression and cancer.

Essential Factors of Balanced Diet



Balanced diet food in life span

- **INFANCY**

  Babies usually double their length and triple their weight between birth and one year of age. Breast milk generally supplies a baby with the required amounts of nutrients, fluids and energy up to about six months of age. It is recommended that infants be exclusively breastfed up to around six months of age.

- **SCHOOL GOING STUDENTS**

  During childhood, children tend to vary their food intake (spontaneously) to match their growth patterns. Children's food needs vary widely, depending on their growth and their level of physical activity. Like energy needs, a child's needs for protein, vitamins and minerals increase with age.

- **ADOLSCENCE**

  he extra energy required for growth and physical activity needs to be obtained from foods that also provide nutrients, instead of just ‘empty calories’.

  Takeaway and fast foods need to be balanced with nutrient-dense foods such as wholegrain breads and cereals, fruits, legumes, nuts, vegetables, fish and lean meats.

  Milk, yoghurt and cheese (mostly reduced fat) should be included to boost calcium intake – this is especially important for growing bones. Cheese should preferably be a lower salt variety.

  Adolescent girls should be particularly encouraged to consume milk and milk products.

- **YOUNG ADULTS**

  Moving away from home, starting work or study, and the changing lifestyle that accompanies the late teens and early 20s can cause dietary changes that are not always beneficial for good health. Nutrients recommendations depend upon lifestyle and physical activity.

- **OLD AGE**

  Physical activity is not much during old age hence carbohydrates and fats need to be restricted. But there is muscle loss and fragility of bones is common, hence protein is required to make up for the loss and for maintaining growth of cells.

  Since teeth start falling off hence chewing becomes difficult and thus milk is a good option for old people.

Benefits of balanced diet

- Control Body Weight. ...
- Fight Off Disease. ...
- Have More Energy. ...
- Sleep Better. ...
- More Brain Power.

National Nutrition Strategy 2017

- National Nutrition Strategy was released by NITI Aayog in 2017. The vision is to achieve Malnutrition free India by 2022.
- Malnutrition is a serious problem in India and the statistics shows the issue is appalling.
- **National Nutrition Strategy – Introduction**

1.The National Nutrition Strategy was released by the NITI Aayog in 2017.

2.The strategy talked about the negative impact of malnutrition on the productivity of the population, and its contribution to the mortality rates.

3.It laid out objectives for the country to achieve in reducing malnutrition rates.

National Nutrition Strategy 2017

- **Key Features of the Strategy:**

1. **Malnutrition-Free India**: Envisions achieving "Kuposhan Mukt Bharat" (Malnutrition-Free India) by 2022.
2. **Lifecycle Approach**: Focuses on addressing nutrition-related issues at different stages of life, from infancy to old age.
3. **Decentralized Interventions**: Encourages state and district-level action plans tailored to local needs.
4. **Multi-Sectoral Approach**: Integrates efforts across health, agriculture, education, water, sanitation, and other sectors.
5. **Key Interventions**:
    1. Addressing undernutrition, stunting, anemia, and low birth weight.
    2. Promoting breastfeeding and complementary feeding practices.
    3. Strengthening the Integrated Child Development Services (ICDS) and Mid-Day Meal (MDM) programs.
6. **Data-Driven Monitoring**: Utilizes real-time data to monitor progress and effectiveness.

Malnutrition

1. Malnutrition in children implies that they are either too short or too thin according to their age.
2. Stunting: Stunting indicates a child’s height is lower than the average for his/her age.
3. Wasting: Wasting indicates a child’s weight is lower than the average for his/her height.
4. Underweight: An underweight child’s weight is lower than the average for his/her age.

Malnutrition in India

1. As per data given by the UNICEF, India was at the 10th spot among countries with the highest number of underweight children, and at the 17th spot for the highest number of stunted children in the world.
2. Malnutrition adversely impacts children's chances of survival, enhances their susceptibility to illness, decreases their ability to learn, and causes them to be less productive in life later on.
3. Malnutrition is also estimated to be a contributing factor in 1/3rd of all deaths of kids below the age of five years.

National Nutrition Strategy – Objectives

- **National Nutrition Strategy – Objectives**
- **Vision:** To achieve Kuposhan Mukt Bharat (malnutrition free India) by 2022.
- **Focus:** To prevent and reduce undernutrition across the lifecycle as early as possible, particularly in the first 3 years of life.
- **Goals:** The Strategy envisions to contribute to major national development goals for a more inclusive growth, like the reduction of infant, maternal and infant mortality through the achievement of the following targets:

National Nutrition Strategy-2017

1. Decrease in the rate of underweight children below 5 years to 20.7% by 2022. (Current rate is 35.7%)
2. Decrease in the prevalence of anemia in kids (6 – 59 months) to 19.5% by 2022. (Current rate is 58.4%)
3. Decrease in the prevalence of anemia in women and girls (15 – 49 years) to 17.7% by 2022. (Current rate is 53.1%)

- As a long term goal, the purpose of the National Nutrition Strategy is to progressively reduce all forms of undernutrition by 2030.

National Nutrition Strategy-2017

1. The POSHAN Abhiyaan (National Nutrition Mission) is being implemented as part of the Strategy with the aim of ensuring a malnutrition free India by 2022. The key objective of this Abhiyaan is to reduce stunting in children by improving usage of key Anganwadi services.
2. The Strategy envisions certain interventions such as:
    1. Encouragement of breastfeeding for the first 6 months after birth
    2. Universal access to young and infant child care (including Integrated Child Development Services [ICDS] and crèches)
    3. Enhanced care, referrals and management of severely undernourished and sick children
    4. Twice yearly vitamin A supplements for children between the ages of 9 months and 5 years
    5. Micronutrient supplements and twice a year deworming for children

National Nutrition Strategy-2017

1. The Strategy also includes steps to augment maternal nutrition and care such as:
    1. Supplementary nutritional support during pregnancy and breastfeeding period
    2. Nutrition and health counselling
    3. Sufficient intake of iodized salt and screening for severe anaemia
    4. Institutional childbirth, lactation management and better postnatal care
2. The Strategy also envisages some reforms in the governance aspects such as:
    1. Convergence of district and state implementation plans for ICDS, NHM and Swachh Bharat
    2. Focus on the most vulnerable communities in districts with the highest levels of child malnutrition
    3. Service delivery models based on evidence of impact