



HME103-Principles of Nutrition

Basic concepts about nutrition

Examining Nutritional Habits

Lesson Code-Name: HME103-Principles of Nutrition

Instructor: Assoc. Prof. Dr. Elif Feyza TOPDAŞ

atauni.edu.tr    Atauni1957

What is nutrition?
What is not?



What is nutrition? What is not?

Nutrition is not about suppressing hunger or eating and drinking what you crave...

Nutrition is not only dieting, low calorie diet, cutting fat/bread.

Nutrition is not about being weak, staying fit, having wrong body perception, or starving to the extent of torment in order to punish our body to look healthy.

Nutrition is the use of nutrients for a person to grow, sustain life and maintain health.

In other words, nutrition is a behaviour that should be done consciously to take the nutrients required by the body in sufficient quantities, variety and at appropriate times to grow, maintain and improve health and the quality of life.



Nutrition Science and Related Sciences

Nutrition is a theoretical and applied science.

It examines;

- ✓ The type, quantity, properties and functions of food components in body functioning,
- ✓ Food enrichment and nutritional support products, and
- ✓ Nutrition plan according to the individuals.

Nutrition-related sciences:

- Agriculture
- Livestock breeding
- Biology
- Biochemistry
- Medicine
- Sociology
- Microbiology

Definitions related to nutrition

What is food and food components?

Edible plants and animal tissues are defined as food. In Turkish, 'gıda and yiyecek' are synonyms of 'besin (food)'. Food is all the eatables, drinks or substances we take into our bodies that contain the energy and nutrients necessary to continue our lives, grow as healthy individuals and continue our generation.

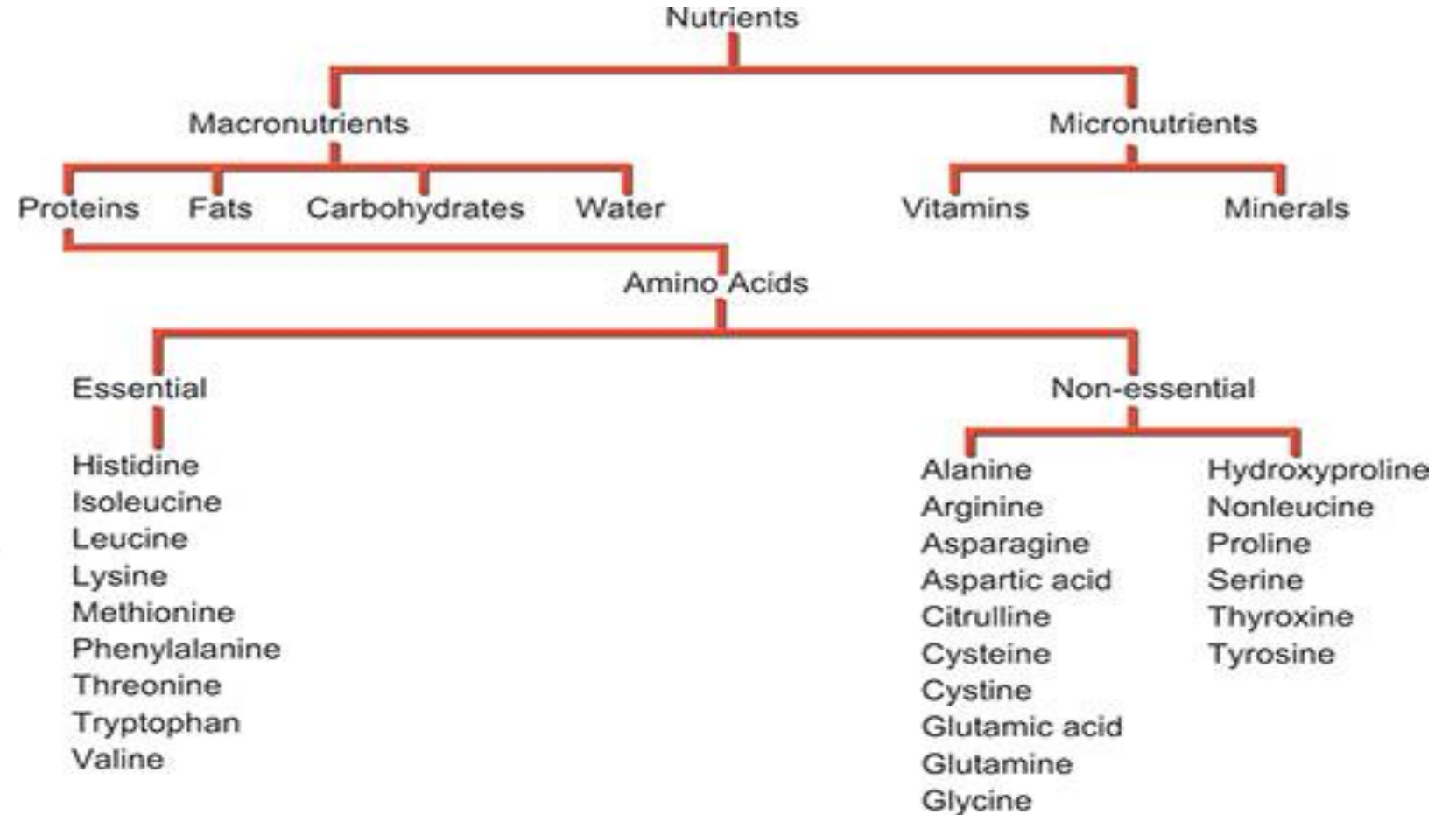
- Carbohydrates,
- proteins,
- fats,
- vitamins,
- water and
- minerals found in foods are called "**nutritional ingredients or food components**".

Milk, yoghurt, cheese, meat, chicken, fish and eggs are foods of animal origin.

Vegetables and fruits, Cereals (wheat, bulgur, rice, etc.) and legumes (dry beans, chickpeas, lentils, etc.) are foods of plant origin.



Classification of Food Components



- Organic / Inorganic
- Essential / Non-essential
- Macronutrients / Micronutrients
- Provides energy / Does not provide energy

FOOD GROUPS

- MILK AND MILK PRODUCTS
- MEAT, EGGS, LEGUMS AND OILSEEDS
- CEREALS
- VEGETABLES AND FRUITS
- Pure energy sources such as SUGAR, OIL and HONEY



What is adequate and balanced nutrition?

"**Adequate and Balanced Nutrition**" is the intake of each of the energy and food components necessary for the body's growth, renewal and functioning in sufficient quantities and their proper use in the body.

When nutritional ingredients (food components) cannot be taken at the level required by the body, malnutrition occurs. Because there is not enough energy and body tissues cannot be made.



Metabolism

All chemical changes that occur within the cell to sustain life are called metabolism.

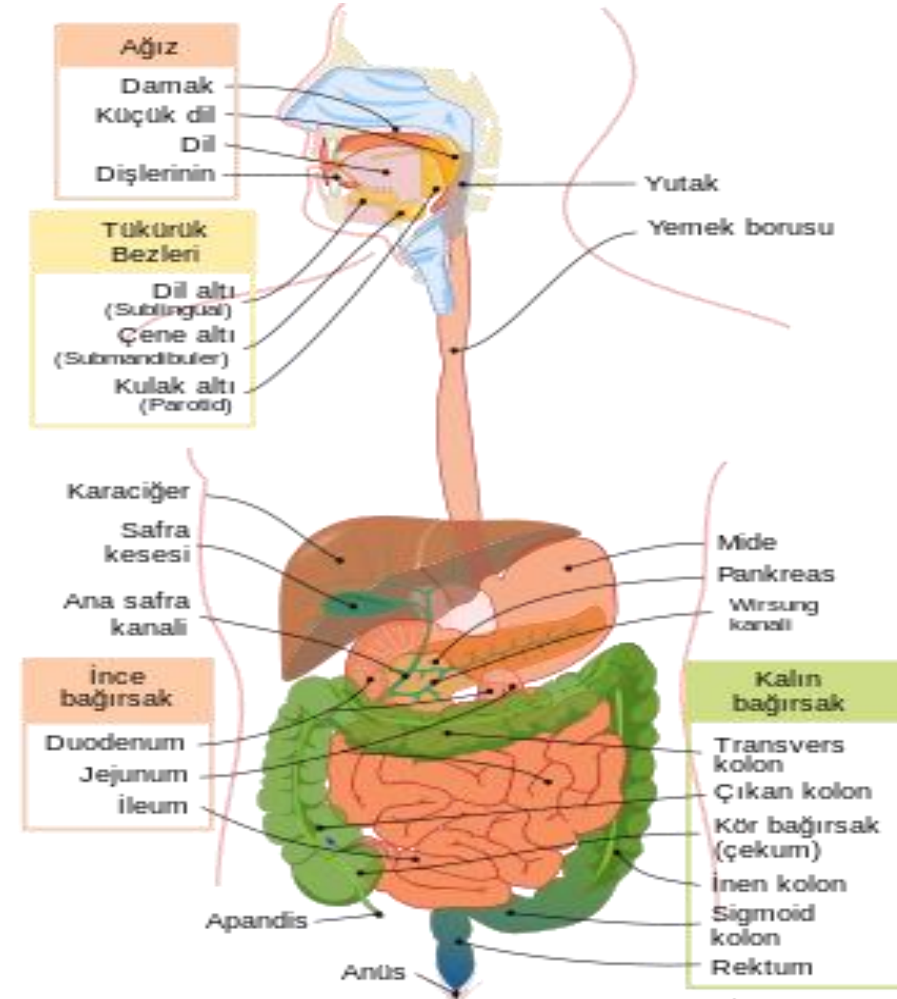
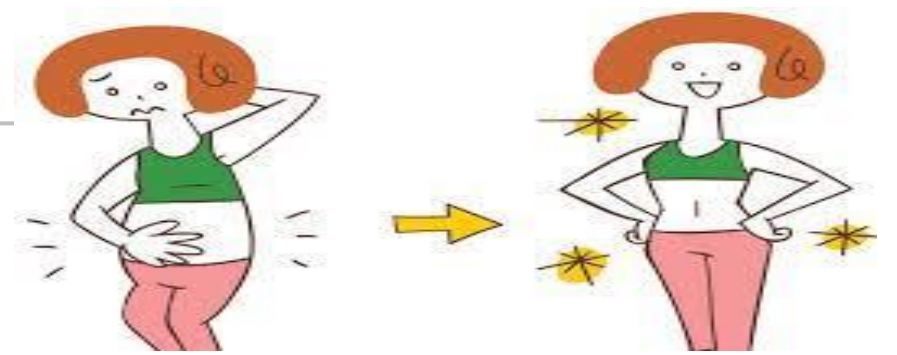
Metabolism is the name given to all the events of creating and consuming energy from nutrients in the cell in order for organs to function, to maintain body temperature, to maintain vitality, and to renew cells.

Digestion

- is the physical, chemical and mechanical processes that nutrients undergo to become absorbable after they are taken into the body.

Digestion starts in the mouth, saliva softens the food and makes it easy to swallow with chewing.

- Foods passing through the pharynx pass into the stomach and are digested with the help of gastric juice secreted in the stomach and digestion is completed by passing into the small intestine and then into the large intestine.

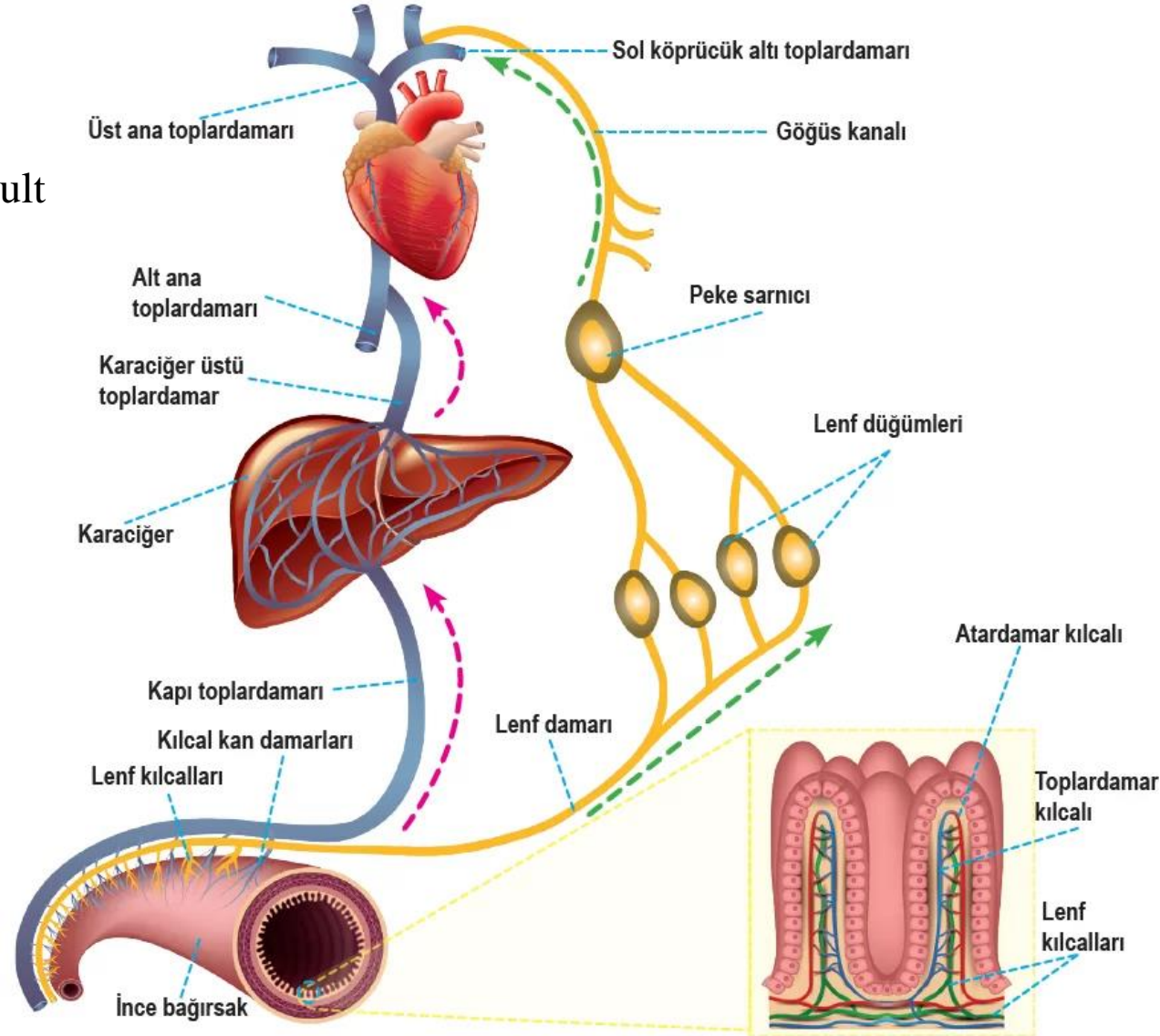


Absorption

The passage of nutrients broken into the smallest pieces as a result of digestion into the blood and lymph is called absorption.

For example; Proteins are absorbed after being broken down into amino acids, fats into fatty acids, and carbohydrates into monosaccharides.

Absorption occurs in the small and large intestines. Nutrients are absorbed mostly through the villi in the small intestine.



Purpose of Nutrition

The aim of nutrition is to ensure that the individual receives the energy and food components he/she needs in sufficient and balanced amounts according to age, gender, physical activity and physiological state.

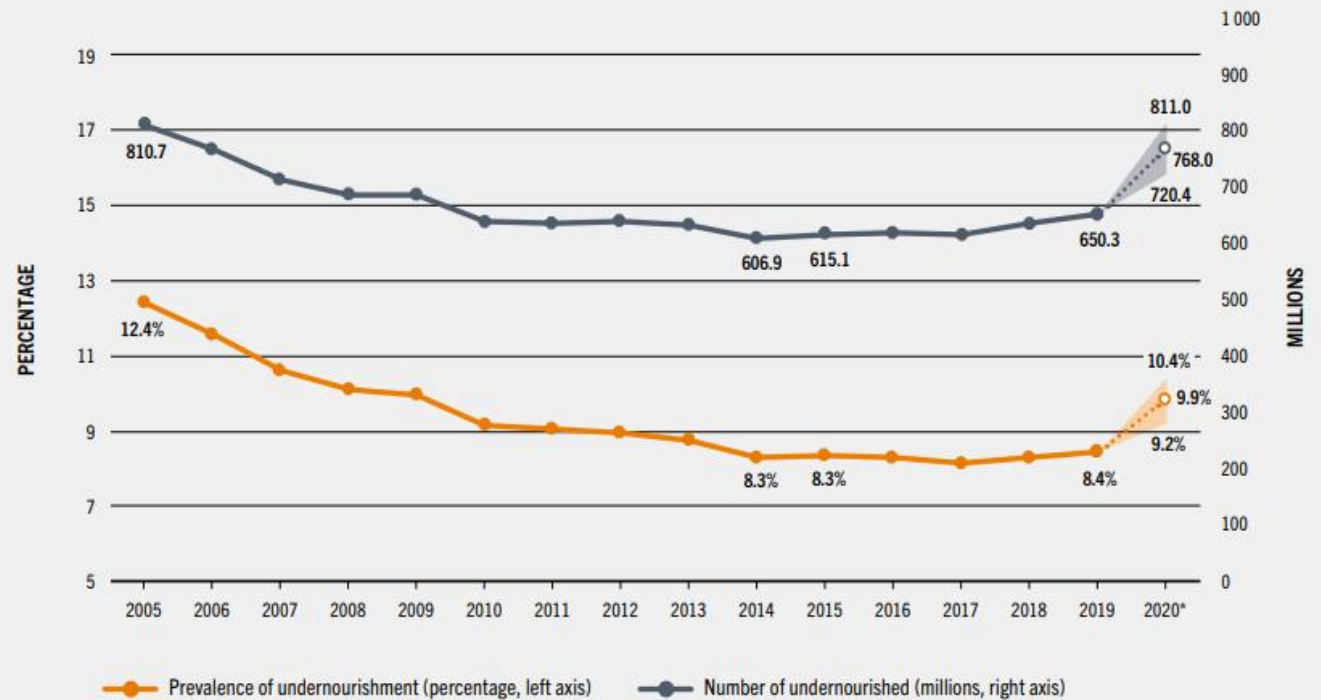
It has been scientifically proven that if any of these food components are not consumed, or if they are consumed too little or too much, growth and development are hindered and health deteriorates.



"According to the global nutrition report announced by the United Nations, the number of malnourished people worldwide has increased to 811 million. This number corresponds to 10 per cent of the world's population.

According to the authors of the research report, the coronavirus pandemic accelerated the increasing trend in the number of malnourished people since 2014. It is stated that one-third of the world's population did not have sufficient access to the necessary food last year. The report also noted that 150 million children under the age of 5 do not have adequate physical development due to malnutrition.

FIGURE 1 THE NUMBER OF UNDERNOURISHED PEOPLE IN THE WORLD CONTINUED TO RISE IN 2020. BETWEEN 720 AND 811 MILLION PEOPLE IN THE WORLD FACED HUNGER IN 2020. CONSIDERING THE MIDDLE OF THE PROJECTED RANGE (768 MILLION), 118 MILLION MORE PEOPLE WERE FACING HUNGER IN 2020 THAN IN 2019 – OR AS MANY AS 161 MILLION, CONSIDERING THE UPPER BOUND OF THE RANGE

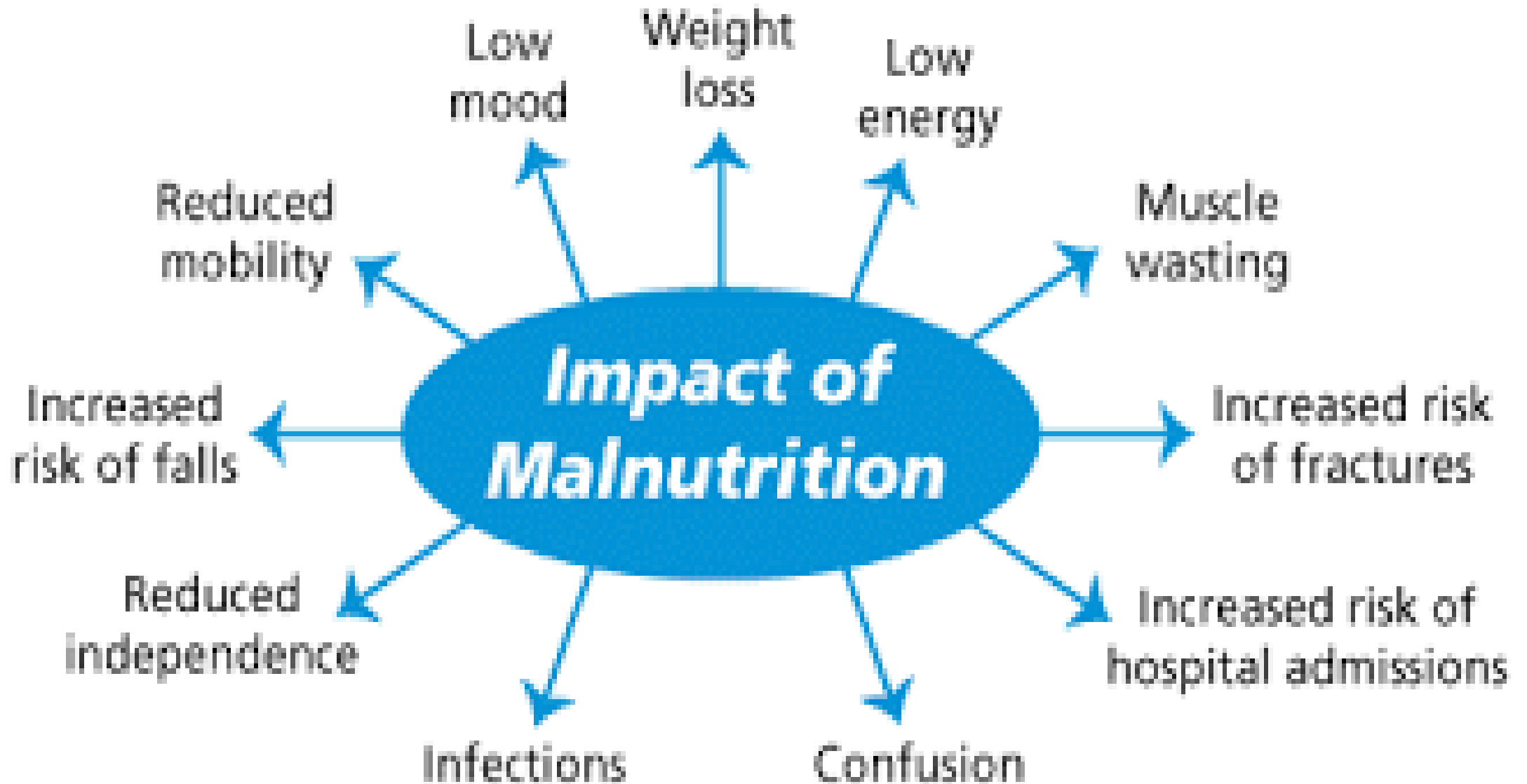


NOTES: * Projected values for 2020 in the figure are illustrated by dotted lines. Shaded areas show lower and upper bounds of the estimated range.
SOURCE: FAO.

Humans need nearly 50 food components for life. Health authorities have determined how much of each of these nutritional ingredients should be taken daily for healthy growth and development, and for a long-term healthy and productive life.

When any of these components are not taken or when they are taken too little or too much, growth and development are hindered and health deteriorates. This situation is called **Unbalanced Nutrition**.





Question: What are the causes of malnutrition?



Causes of malnutrition

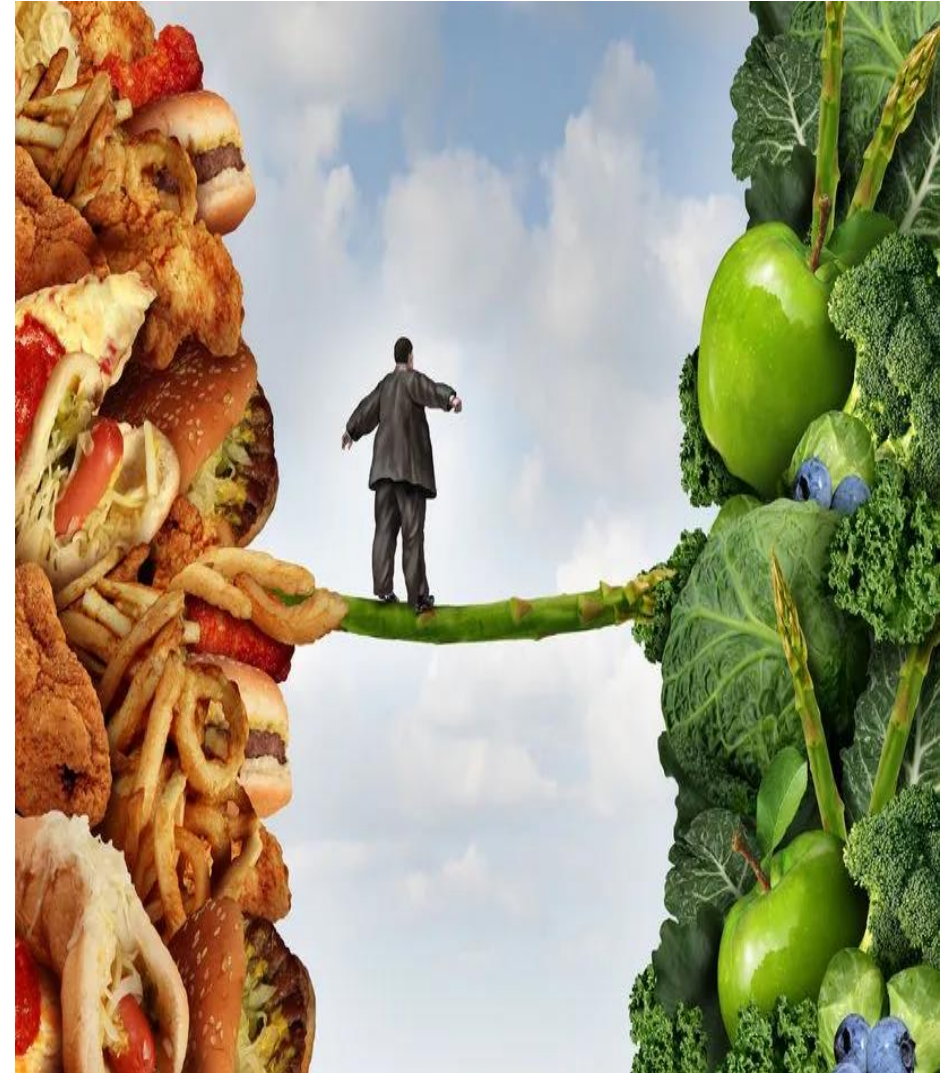
- Eating less than the body needs,
- One-way nutrition,
- Eating less due to psychological reasons and stress,
- Misinformation, lack of knowledge, unconsciousness,
- Cultural and family structure, environmental and health conditions
- Wrong eating habits,
- Insufficient purchasing power
- Applying fad diets,
- Wannabes (like being a size zero, wanting to be like some popular people)
- Fast-food diet (high in energy value, low in other nutrients)



- **Nutrition is an ongoing term of daily life that inevitably involves all individuals.** Eating habits is a term that includes how and why people eat, with whom they eat it, and how they obtain, store, use and dispose of THE FOOD.

Similar to the old saying "Tell me who you are with and I will tell you who you are", today the understanding of "We are what we eat" has become widespread.

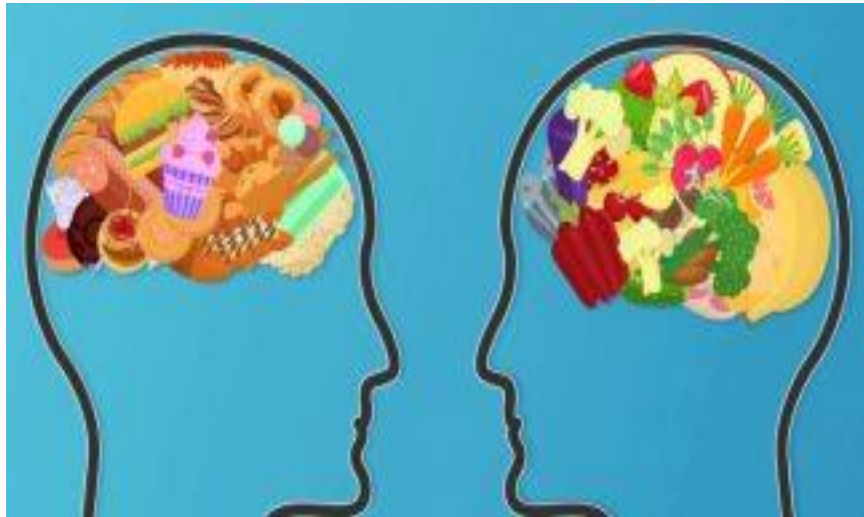
- **What and how individuals and societies eat is as important as what they do not eat and why.**



Nutrition Habits

Nutrition habits;

- includes main characteristics such as the number of daily meals of the individual, the types and amounts of foods consumed in main meals and snacks, purchasing, preparing, cooking and serving food.
- It also includes behavioral patterns such as eating fast or slow, chewing food in the mouth, consuming food when sad, happy or tired, and consuming cold or hot food.





Eating Style and Types

- Night eaters: They wake up in the middle of the night and head to the refrigerator. Or they eat before bed (like sleeping pills). They usually do not eat three meals in a day. They often skip breakfast and/or lunch.
- Impulse eaters: They eat to prevent their fears and desires. They eat frequently until they get sick.
- Liquid food lovers: They consume nearly 1 liter of coffee, soft drinks and/or alcohol every day. They get most of their calories from beverages. They do not follow nutritionally focused diets. They turned to non-nutritious liquids.
- Feast lovers: It is a fast and irregular eating style caused by factors such as stress, tension, anger and depression. They attend an average of 3 visits per month. But they can eat properly and regularly for months between feasts.
- Traditional gluttons: In this group, food represents loyalty to family, trust, and loyalty to the past. People who change their eating habits may become at odds with their families.
- Group of people who eat with knowledge of food and culture: They love cooking. They are concerned with the quality and calories of the food. They enjoy eating.



- Bulky eaters: They live in a confined environment. They gain weight as a result of inactivity. They try to compensate for this situation with their eating habits.
- Eaters in recovery phase: They suddenly stop their routine exercise and do not pay attention to calories. They consume foods to relax during times of tension, stress and distress. After recovery, 1 in 3 continue to excessive eat.
- Chronic dieters: Even though they know everything about diet, they still cannot lose weight. Women aged 40 and over are generally included in this group.

Our country contains the problems of both developing and developed countries in terms of nutritional status. It is known that the most obvious nutritional problem arises from too much energy intake. It is seen that especially carbohydrates and fat containing foods are consumed more.

According to researches, 39% of men and 47% of women are overweight. Excess weight also causes chronic diseases such as nutrition-related cardiovascular diseases, cancer, type 2 diabetes and osteoporosis.



Basic factors affecting eating habits

Eating habits, a cultural part of society, develop and change under the influence of various factors such as geography, climate, agriculture, animal husbandry, industrialization and the spread of mass media, and vary according to various societies.

Factors that mainly affect eating habits can be listed as;

- Nomadism and agricultural structure,
 - Geographical location,
 - Religious beliefs,
 - Socio-economic situation,
 - Biological, Psychological and political situation,
 - Technology, Media, Globalization
- and
- Interacting with other cultures in terms of food types



As a result of these interactions, different eating habits have emerged, some of which can be described as unhealthy. Raising awareness of individuals and society about nutrition has an important place in protecting health and increasing the rate of recovery from diseases.



Fundamentals of healthy and proper nutrition

1. Eating a balanced diet is the first rule of healthy nutrition. It is necessary to consume each food group in accordance with its proportions. Neither too much nor too little should be consumed. The important thing is to consume it in a balanced way. The amount of nutrients required for each age group is different. The meal should consist of as many types of food items as possible. A single meal diet is harmful to the digestive system.
2. The energy consumed with meals should be parallel to the daily energy needs. Thus, obesity is prevented.
3. Fat and Sugar consumption should be kept under control (in appropriate amounts). Candies, chocolate, marmalades and jams are foods that contain a lot of sugar.
4. Consumption of high molecular weight carbohydrates should be increased. By consuming such foods, the intake of fiber and fibrous parts and the amount of essential **food components** also increase.
5. Salt intake should be controlled... The habit of adding salt to meals should be abandoned.
6. Attention should be paid to water and fluid intake.
7. Exercise should be part of a healthy life.
8. Education is critical to healthy eating. Children must have knowledge about cooking and the nutritional values of foods. Future generations should be given better information about choosing the right food.
9. Cooking food is as important as consuming it. The cooking methods of delicious and healthy meals should be harmless.