Healthy Nutrition

Dr. Burhan A. Salih PhD. Biochemistry In addition to providing the substance for building and maintaining the body, the energy for all of the body's functions comes from the food consumed. Further, there is increasing evidence that mental processes and behavioral attitudes are influenced by nutritional status and specific nutrients. A healthy diet helps to protect against malnutrition in all its forms, as well as noncommunicable diseases (NCDs), including such as diabetes, heart disease, stroke and cancer.



 Unhealthy diet and lack of physical activity are leading global risks to health.



Food constituents

 The major food constituents are water, carbohydrates, proteins, lipids, minerals, vitamins and Fiber depending on the sources (animals or plants)



Water (H₂O)

 Water A major component of food is water, which can encompass anywhere from10% in grains to 50% in meat products to around 70-80% in fruit and vegetable products.





Carbohydrates (Sugar) C₆H₁₂O₆

 The carbohydrates in foods are mixtures of carbon, hydrogen and oxygen and can be classified as simple and complex carbohydrates



Proteins



 Proteins are polymers of amino acids. They are mainly composed of carbon, nitrogen, hydrogen, oxygen, and some sulfur. They play a fundamental role in the structure and function of cells.



lipids

 The term lipid comprises a diverse range of molecules such as water insoluble or non polar compounds of biological origin, including triglycerides, fatty acids, phospholipids, sphingolipids, glycolipids terpenoids, waxes, retinoids and steroids.



Vitamins

 Vitamins are nutrients required in small amounts for essential metabolic reactions in the body. Fourteen different vitamins have been shown to be essential for normal growth and health in humans. The vitamins as a class have no particular chemical structure in common, but they can be divided into the fat soluble and water soluble vitamins.



Minerals



 Minerals are inorganic substances, present in all body tissues and fluids and their presence is necessary for the maintenance of certain physicochemical processes which are essential to life. Although they yield no energy, they have important roles to play in many activities in the body.



- Minerals may be broadly classified as macro (major) or micro (trace) elements.
- The macro minerals include calcium, phosphorus, sodium and chloride,
- The micro elements include iron, copper, cobalt, potassium, magnesium, iodine, zinc, manganese, molybdenum, fluoride, chromium, selenium and sulfur.

Fiber

 Fiber. Eating foods high in dietary fiber (grains, fruit, vegetables, nuts, and beans) can help you stay regular and lower your risk for heart disease, stroke, and diabetes. It can also improve your skin and even help you to lose weight.



Body energy

 The major sources of energy for man and other animals are carbohydrates, fats, and proteins. These nutrients have additional specific functions, but their conversions to energy are of fundamental importance. The energy value of foods is measured in heat units called calories. A calorie, is the amount of heat required to raise the temperature of one gram of water one degree Celsius (from 14.5° to I5.5°C). The kilocalorie (1000 calories) is the unit commonly used in expressing energy values of foods.

- Carbohydrates , which generally are about 98% digested and fully oxidized by man, provide man with about 4 kcallg.
- Most fats are generally digested to the extent of 95% yielding 9 kcal/g.
- Proteins, due to incomplete digestion and oxidation, generally also yield an energy equivalent of 4 kcal/g.
- Thus on an equal weight basis, fat generally yields 2.25 times as many calories as protein or carbohydrate.

What is a healthy diet?

 we all need a balance of protein, fat, carbohydrates, fiber, vitamins, and minerals in our diets to sustain a healthy body.

A healthy diet includes the following:

 Fruit, vegetables, legumes (e.g. lentils and beans), nuts and whole grains (e.g. unprocessed maize, millet, oats, wheat and brown rice).



- Less than 10% of total energy intake from free sugars , which is equivalent to 50 g (or about 12 level teaspoons)
- Free sugars are all sugars added to foods or drinks by the manufacturer, cook or consumer, as well as sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates.

- Less than 30% of total energy intake from fats . Unsaturated fats (found in fish, avocado and nuts, and in sunflower, soybean and olive oils) are preferable to saturated fats (found in fatty meat, butter, palm and coconut oil, cream and cheese)
- avoid intake *trans*-fats of all kinds, including both:
- industrially-produced *trans*-fats (such as frozen pizza, pies, cookies, biscuits, wafers, and cooking oils)
- ruminant trans-fats (found in meat and dairy foods)

• Less than 5 g of salt (equivalent to about one teaspoon) per day (8). Salt should be iodized.

conclusion



- A healthy diet and a proper nutrition prevent health problems, and supply body with the right balance of carbohydrates, proteins, minerals and vitamins. Diet contain all kinds of food in required proportion is referred to balance diet.
- Therefore for someone to have healthy living he should mindful of the diet and ensure it is a balanced diet

