Carbohydrates

A carbohydrate is a naturally occuring compound. or a derivative of such a compound with the general chemical formula $C_x(H_2O)_y$. made up of molecules of carbon (C), hydrogen (H) and oxygen (O). Carbohydrates are the most widespread organic substances and play a vital role in all life.

Protein

*Protein is a chain of amino acids joined by peptide bonds in a specific sequences.

*Protein is an essential nutrient. There is no life without protein. Protein is contained in every part of your body. Next to water, protein is the most plentiful substance in your body.

Lipids

Lipids can be more formally defined as substances such as a fat, oil or wax that dissolves in alcohol but not in water. Lipids contain carbon, hydrogen and oxygen but have far less oxygen proportionally than carbohydrat-es. Lipids include fatty acids, neutral fats,

waxes and steraids.

Minerals

Minerals are a natural substance such as coal, salt, oil, etc., especially one that is found in the ground. Some minerals are also present in food and drink and are very important for good health.

Vitamins

A Vitamin is an organic molecule that is an essential micronutrient which an organism needs in small quantities for the proper functioning of its metabolism. Essential nutrients cannot be synthesized in the organism, either at all or not in sufficient quantities, and therefore must be obtained through the diet.

MINERALS

Minerals are a natural substance such as coal, salt, oil etc., especially one that is found in the ground. Some minerals also present in food and drink and are very important for good health.

Minerals in foods are the elements present in food that are required by our body to develop and function properly.

MINERALS IN FOOD EXAMPLES:-

There are many examples of minerals in food; these include:

* Calcium
* Phosphorus
* Potassium
* Sodium
* Iodine
* Iron
* Magnesium

The body also requires other minerals in trace amounts such as selenium, cobalt and molybdenum. These elements are known to a specific function in the human body.

TYPES OF MINERALS IN FOOD

Our body requires minerals in specific quantities. Some of them are required in large doses, while others may be required only in traces.

Hence, based on the requirement of the body, minerals in food are classified into two types.

MACROMINERALS

Macrominerals are those minerals which are required in relatively large doses. Therefore they are also called major minerals.

Macrominerals include sodium, calcium, chloride, magnesium, potassium, phosphorus and sulfur. These minerals are vital for the proper functioning and metabolism of the body. Our body cannot produce these minerals; hence they need to be obtained from a food source.

MICROMINERALS

Also called trace minerals, these are minerals which are required in small amounts. Therefore, they are also called minor minerals. Trace minerals include iron, copper, iodine, zinc, manganese, fluoride, cobalt and selenium.

If these trace minerals are taken in excessive quantities, mineral toxicity is induced.

CALCIUM

Sources : Almonds, carrots, Milk, Broccoli, canned Fish, Papaya, Garlic and cashew.

Functions :

* Helps blood clotting.
* Helps muscle contraction and nerve function.
* Essential for building strong and healthy

bones.

Diseases:

Too much calcium in our diet may cause constipation and kidney problems.

CHLORIDE

Sources:

Table salts, Soy Sauce, liver unprocessed Meat, Milk and peanuts.

Functions:

Maintains proper blood volume, blood pressure, and pH of our body fluids.

Diseases:

Low chloride may also occur with congestive heart failure, diabetic ketoacidosis, aldosterone deficiency, prolonged vomiting or gastric suction.

COPPER

Sources:

Crab, Lobster, Mussels, Oysters, Nuts, Wholegrains and yeast extract.

Functions:

* Formation of red blood cells.
* Helps with the functioning of the nervous system.

Diseases:

Copper deficiency leads to problems with connective tissue, muscle weakness, anemia, low white blood cell count, neurological problems and paleness.

IODINE

Sources :

Seafood, seaweed and iodised salt.

Functions :

* Promotes the normal functioning of the thyroid gland.
* Helps in the proper functioning of brain functions.
* Promotes normal growth and development of cells.

Diseases :

Iodine deficiency is the most common cause of thyroid enlargement and goiter.

IRON

Sources :

Meat, Eggs, Beans, Baked potato, Dried Fruits, Green Leafy Vegetables, Whole and Enriched Grains.

Functions :

* Help in transporting oxygen to all parts of the body.
* Produces and stores the energy for further metabolisms.

Diseases :

Excess of iron can result in cardiovascular problems, liver disease, loss of interest in sex, infertility and impotence.

MAGNESIUM

Sources :

Honey, Almonds, Seafood, Tuna, chocolates, Pineapple, Pecans, Artichokes and Green Leafy Vegetables.

Functions :

* Provides structure for the healthy bones.
* Provides energy from the food molecules.
* Maintains proper functioning of muscle and nervous system.

Diseases :

Hypocalcaemia, hypokalaemia and cardiac and neurological manifestation, diabetes, hypertension, Coronary heart disease and Osteoporosis.

MANGANESE

Sources :

Cereals, Nuts, Oils, Vegetables and Wholegrains.

Functions :

* Help maintain water balance.
* Controls nerve impulse transmissions.

Diseases :

Epilepsy, Osteoporosis, Diabetes, Hemodialysis.

SODIUM

Sources :

Table salt, Cheese, Milk, Soy sauce, unprocessed Meat.

Functions :

* Maintains cellular osmotic pressure.
* Helps in maintaining blood volume and blood pressure and the fluid balance in the body.

Diseases :

Too much of sodium in blood cells increases the risk of stroke, other heart-related disorders and Hypernatremia.

SULFUR

Sources :-

Cheese, Eggs, Nuts, Turnips, onions, Fish, Wheat Germ, cucumbers, Corn, Cauliflower and Broccoli.

Functions :-

* Involved in protein synthesis.
* Protects your cells from damage.
* Helps in promoting the loosening and shedding of skin.

Diseases :

Growth is retarded, Chlorosis.

PHOSPHORUS

Sources :

Mushrooms, Meat, Cashews, Oats, Fish, Beans, Squash, Pecans, Carrots and Almonds.

Functions :

* Helps the body to store and use energy.
* Works with calcium in the formation of strong, healthy bones and teeth.

Diseases :

Hypophosphatemia, rickets in children and Osteomalacia in adults.

POTASSIUM

Sources :

Spinach, Apples, Oranges, Tomatoes, Papaya, Bananas, Lemons, celery, Mushrooms, Pecans,

Raisins, Pineapple, Rice, Cucumbers, Strawberries, Figs, Brussels Sprouts, and Legumes.

Functions:

*Controls nerve impulses and muscle contractions.
*Helps in maintaining fluid balance in the body.
*Maintains proper functioning of muscle and nervous system.

Diseases:

Vomiting, diarrhoea.

ZINC

Sources:

Beef, Pork, Dark Meat, Chicken, Cashews, Almonds, Peanuts, Beans, Split peas and Lentil.

Functions:

*Aids in wound healing.
*Supports the immune system.
*Helps in the formation of strong bones.
*controls the functioning of the sense organs in the nervous system.
*Important and the essential process of cell division and reproduction.

Diseases:

Excess of zinc intake causes diarrhoea, heart problems, kidney malfunctioning, vomiting.