

## NUTRITIVE VALUE OF DIFFERENT FOODS AND THEIR IMPORTANCE IN HUMAN HEALTH

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### Abstract:

This article is based on the study of different types of food and their nutritive value and its importance in human to live healthy life. These nutrients nourish our body and keep us fit and healthy. They can minimize risk of many chronic diseases. Nutrients, which are source of energy essential for our bodies building, are classified as carbohydrates, fats, fiber, minerals, proteins, vitamins and water. Foods that are naturally rich in nutrient include fruits and vegetables, lean meats, fish, whole grains, dairy products, legumes, nuts, and seeds also are high in nutrients. Foods containing rich nutrient are low in sugar, sodium, starches, and bad fats. They contain lot of vitamins and minerals and very few calories. Our body needs vitamins and minerals, known as micronutrients. Daily food intake and nutritional value can influence our overall health over long period of time.

**Keywords:** Fruits, vegetables, nutrition, minerals, vitamins, Energy, health, diseases etc.

### Introduction:

#### Nutrition

Nutrition is defined as the process of consuming food and converting it into energy and other vital nutrients required for carrying out different body functions. All the organisms on the earth need nutrients for proper growth, development and functioning, but they show deviation in how they fulfill their demand. Some of the animals feed on complex organic compounds and some are feed on inorganic compounds to meet their requirement of food. The mode of nutrition varies from species to species.

Nutrition is a basic human need and essential requirement for a healthy life. For proper growth and development a proper diet is essential from the very beginning of life stages to remain active. Health and nutritional status of the population of any country largely depends on production, distribution and consumption of food. The recommended dietary allowances (RDA) are nutrient-centred and scientific in nature. Food not only provides nutrients but also contribute to other components like non-nutrient phytochemicals which have a positive impact on health of an individual. It is essential to believe nutrition in terms of foods, since people consume food and not the nutrition. Therefore, emphasis must be given to the food-based approach for attaining best nutritional status rather than a nutrient based approach. Scientific knowledge on nutrients is given in the form of dietary guidelines or dietary advice by any dietician. Diet is nothing but recommended dietary allowances of nutrients that should be consumed by an individual. The dietary guidelines encourage the concept of nutritionally adequate diets and healthy lifestyles from the early stage of childhood. To ensure nutritional adequacy in any person there is a need of formulation of dietary goals and specific guidelines. The dietary guidelines can be directly applied to general people or specific high risk groups to get health benefits. It can also be used by medical and health personnel, nutritionists and dietitians. The guidelines are consistent with the goals set in national policies on Agriculture, Health and Nutrition. The dietary guidelines should to be practical, dynamic and flexible to the current existing situation. To reach the goals specified in the National Nutrition Policy the guidelines can be considered as an integral element of the National comprehensive plan. The major dietary issues of concern are insufficient/ imbalanced intake of foods, low birth weight, protein deficiency malnutrition in

children, chronic energy deficiency in adults, micronutrient malnutrition and diet-related noncommunicable diseases.

### **Importance of food nutrition in human life:**

Carbohydrates, fats and proteins are needed in large amounts while vitamins and minerals constitute the micronutrients and are required in small amounts. These nutrients are necessary for physiological and biochemical functions by which the human body acquires, absorb and utilizes food to maintain health.

### **Carbohydrates**

Simple or complex carbohydrates are major sources of energy in all human diets. They provide energy of 4 Kcal/g. The simple carbohydrates like glucose and fructose are found in fruits, vegetables and honey, sucrose in sugar and lactose in milk, while the complex polysaccharides are starches in cereals, millets, pulses and root vegetables and glycogen in animal foods. In India, 70-80% of total dietary calories are obtained from carbohydrates present in plant foods such as cereals, millets and pulses. Dietary fiber delays and retards absorption of carbohydrates and fats and increases the hunger value. Diets rich in fiber reduce glucose and lipids in blood and increase the bulk of the stools. Food containing complex carbohydrates are healthier than low-fiber diets based on refined and processed foods.

### **Proteins**

Proteins are primary structural and functional unit of cell of every living organism. Almost half the protein in our body is in the form of muscle and the rest of it is in bone, cartilage and skin. Proteins are complex molecules composed of different amino acids. Some essential amino acids are not synthesized in the human body, which are obtained from proteins of daily diet. Other nonessential amino acids can be synthesized in the body to build proteins. Proteins perform vital role and also provide energy (4 Kcal/g). A protein requirement is vary with age, physiological status and stress. More proteins are required by growing infants and children, pregnant women and individuals during infections and illness or stress. Animal based foods like meat, fish, pork, milk, sea food and eggs and plant based foods such as pulses, cereals and legumes are rich sources of proteins.

### **Fats**

Fats Vitamins and minerals Oils and fats such as butter, ghee and vanaspathi constitute dietary visible fats. Fats are a concentrated source of energy providing 9 Kcal/g, and are made up of fatty acids in different proportions. Fats are derived from mainly two sources viz. the invisible fat present in plant and animal foods; and the visible or added fats and cooking oil. Vitamins like A, D, E and K and carotenes are fat-soluble therefore fat serves as a vehicle for promotion and absorption of fat. They are also sources of essential polyunsaturated fatty acids. It is necessary to have adequate and good quality fat in the diet with sufficient polyunsaturated fatty acids in proper proportions for meeting the requirements of essential fatty acids.

### **Vitamins and minerals**

Vitamins are organic compounds required by the body in very small amounts. Human body does not produce vitamins or very small quantity; therefore they must be present in our daily diet. Vitamins requirement vary from organism to organism. Vitamins are essential for numerous body functions and for maintenance of the structure of different body parts like skin, bone, nerves, eye, brain, blood and mucous membrane etc. Different vitamins play different role in body. They are either water soluble or fat-soluble. Vitamins A, D, E and K are fat-soluble. The body stores fat-soluble vitamins in fatty tissue and the liver, and reserves of these vitamins can reside in the body for few days and sometimes for months. Through the intestinal tract body absorb fat-soluble vitamins with the help of Dietary fats. While vitamin C and vitamin B groups (B-complex vitamins) are water- soluble. Water soluble vitamins do not stored by body and released through urine. Our diet must have a regular supply of vitamin B complex.

### **Minerals**

Minerals are inorganic elements found in body fluids and tissues. The important macro minerals are sodium, potassium, calcium, phosphorus, magnesium and sulphur, while zinc, copper, selenium, molybdenum, fluorine, cobalt, chromium and iodine are micro minerals. They are required for maintenance and integrity of skin, hair, nails, blood and soft tissues. They also govern nerve cell transmission, acid/base and fluid balance, enzyme and hormone activity as well as the blood-clotting processes. Approximate calorific value of some food types are given in Table 1 given below.

**Table -1: Nutritional value of different food types per 100gm serving.**

Sr. No.	Food Type	Energy (Kcal)	Protein (g)	Fat (g)	Carbs (g)	Fiber (g)
1	Milk	149	7.7	8	11.7	0.0
2	Rice	68	1.42	0.15	14.84	0.2
3	Kidney bean	346	23	1	61	5
4	Raw penuts	567	25.8	49.2	16.1	8.5
5	Soyabean	446	36	20	30	9
6	Wheat	346	12	1	71	1
7	Green gram	348	24	1	60	1
8	Shepu	37	3	0	5	1
9	Spinach	26	2	1	3	1
10	Potato	97	2	0	23	0
11	Ladies finger	35	2	0	6	1
12	Cauliflower	66	6	1	8	2
13	Banana	116	1	0	27	0
14	Guava	51	1	0	11	5
15	Apple	52	0.3	0.2	13.8	2.4
16	Mango	74	1	0	17	1

#### **Importance of Healthy diet food in human life:**

- Prevents cancer such as pancreatic cancer and colon cancer.
- Regulate the glycemic content of the blood.
- Minimizes blood glucose levels to a large extent.
- Regulates metabolism in the body.
- Regulates Heart Health reduces the risk of heart attack.
- Fruits and vegetables help in weight Management.
- Lowers cholesterol levels in the blood.
- Ensures proper brain activity and boosts concentration and memory.
- Aids the body antioxidant defenses.
- Natural detoxifier helps reduce the symptoms of the allergies.

#### **Impact of Nutritional Deficiencies in human:**

Poor nutrition can lead to a lack of energy, digestive problems, food allergies, weight loss, depression and anxiety and many chronic diseases like Diabetes, Osteoporosis, Arthritis, coronary heart disease, cancer, Hypertension etc. Gaining proper nutritional knowledge about the food we eat and pursuing good habits in our routine life help to achieve a good health over lifetime.

#### **Nutritional deficiencies and health condition includes following:**

1. Ariboflavinosis: low levels of vitamin B2
2. Beriberi: Due to low levels of vitamin B1 (found in cereal husks)
3. Bleeding & low bone density: Vitamin K deficiency
4. Biotin deficiency: common in pregnancy caused by low levels of vitamin B7.
5. Hypocobalaminemia: low levels of B12
6. Anemia: It is caused by iron deficiency in blood

7. Magnesium deficiency: occurs with certain medications and medical problems
8. Night blindness: Seen in patients with low levels of Vitamin A
9. Paraesthesia: low levels of vitamin B5 leading to a “pins and needles” feeling
10. Pellagra: low levels of vitamin B3
11. Potassium deficiency: occurs with certain medications and medical problems
12. Rickets: severe vitamin D and/or calcium deficiency
13. Scurvy: low levels of vitamin C

Including balanced diet in our food menu can help prevent these conditions. Vitamin supplements may be required for certain people, such as pregnant or nursing mothers and people with intestinal conditions.

**Conclusion:**

A healthy diet is very important to live life healthy and disease free. There are many health issues associated to poor diet and nutrition. For example, the wrong food habit can lead to a lack of energy, weight gain, and digestive problems and contribute to depression and anxiety. That's why there is a growing awareness of nutrition and a demand for good dietary advice and qualified Nutritional Therapists in current time. There has never been a better time to study nutrition. Good nutrition means obtaining the required quantity of nutrients from healthy foods in the right combinations. An important part of the study of food nutrition is looking at its importance with regards to malnutrition and diseases that can result from the deficiency of healthy food.

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