



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

NUTRIENTS FOR A HEALTHY BODY

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ABSTRACT

Nutrition is a critical part of health and development. In India, government launches programmes to promote nutrition awareness throughout the first week of September, as it is celebrated as National Nutrition Week. The purpose of this week is to raise awareness among the general public about the value of healthy eating practices and proper nutrition for upholding a healthy lifestyle. People with adequate nutrition are more productive and can create opportunities to gradually break the cycles of poverty and hunger. A balanced diet and an active, healthy lifestyle are required for this. The present study is descriptive in nature collected data from secondary sources aimed to identify the historical perspective and significance of the Nutrition week, to know about the vitamins and their functions, to list out the importance of the vitamins and minerals for a healthy body and to suggest the diet tips for optimum Nutrition. Therefore, every one of us will get awareness of the importance of nutrients for being healthy. Everyone must try to get as many nutrients as possible from our diet. So, that all of us live a happy, healthy and peaceful life.

(Keywords: Nutrition, Nutrients, Malnutrition, Vitamins, Minerals, Diet)

I. RATIONALE OF THE STUDY:

Nutrition is the cornerstone of a healthy body and Nutrition is at the centre of our daily life. In India, government launches programmes to promote nutrition awareness throughout the first week of September, as it is celebrated as National Nutrition Week. The purpose of this week is to raise awareness among the general public about the value of healthy eating practices and proper nutrition for upholding a healthy lifestyle. A balanced diet and an active, healthy lifestyle are required for this. National Nutrition Week focuses on a particular theme each year and addresses it with the launch of various programmes. During the year 2021, theme was 'Feeding Smart Right From Start' and in the current year 2022's theme is - 'Celebrate A World Of Flavours'. Nutrition is a critical part of health and development. Better nutrition is related to improved infant, child and maternal health, stronger immune systems, safer pregnancy and childbirth, lower risk of non-

communicable diseases (such as diabetes and cardiovascular disease), and longevity. Healthy children learn better. People with adequate nutrition are more productive and can create opportunities to gradually break the cycles of poverty and hunger.

Malnutrition, in every form, presents significant threats to human health. Today the world faces a double burden of malnutrition that includes both under-nutrition and overweight, especially in low- and middle-income countries. There are multiple forms of malnutrition, including under-nutrition (wasting or stunting), inadequate vitamins or minerals, overweight, obesity, and resulting diet-related non-communicable diseases. 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. Hence, the present study aims to highlight the list of important vitamins and minerals, diet tips that are essential for a healthy body.

II. OBJECTIVES & METHODOLOGY:

The present study is descriptive in nature collected data from secondary sources and set the following objectives:

- To identify the historical perspective and significance of the Nutrition week.
- To know about the significance of nutrients for a healthy body.
- To list out the importance of the vitamins and minerals for a healthy body.
- To suggest necessary diet tips for optimum Nutrition.

III. HISTORICAL PERSPECTIVE & SIGNIFICANCE OF NATIONAL NUTRITION WEEK:

- Members of the American Dietetic Association (ADA) now known as the Academy of Nutrition and Dietetics instigated National Nutrition Week in March 1973.
- In 1982, the Central Government of India decided to establish the movement as a week-long celebration of National Nutrition Week from 1st September to 7th September every year by identifying various programs to inform the population and motivate them to live a long and healthy life.
- The week-long programme is helmed by The Food And Nutrition Board of India, under the aegis of the Ministry Of Women And Child Development.
- The centre plans various activities to impart education on the importance of nutrition and general health improvement through a good diet. The programmes so started emphasized good nutrition, wholesome food, and a healthy lifestyle. The programme aims at following aspects:
 - ❖ Create awareness about the importance of nutrition through posters and information on social media around healthy life.
 - ❖ Donate few food grains or crops to people in need.
 - ❖ Connect with NGOs and support the people in need.
 - ❖ Replace unhealthy food with nutritious vegetables, fruits, and snacks to replete with all the necessary nutrients that our body requires for various functions.

- ❖ Participate in programs organized by the Community Food and Nutrition Extension Units (CFNEU) of the Food and Nutrition Board of India and promoting the importance of a well-balanced diet.
- ❖ CFNEUs organize campaigns, workshops, exhibitions, awareness drives on National Nutrition Week.
- ❖ Participate in the Ministry of Women and Child Development's various social awareness programs for the upkeep of our overall health.

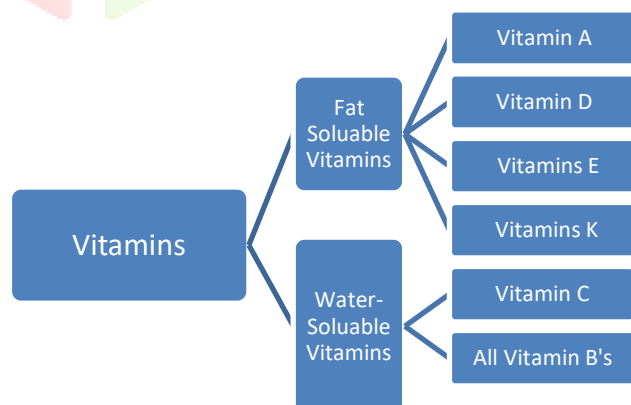
IV. SIGNIFICANCE OF NUTRIENTS FOR A HEALTHY BODY:

Nutrients are substances that provide energy and physical components to the human body or any organism, allowing it to survive, grow, and reproduce. Nutrients can be basic elements or complex macromolecules. Approximately 30 elements are found in organic matter, with nitrogen, carbon, and phosphorus being the most important. Macronutrients are the primary substances required by an organism, and micronutrients are substances required by an organism in trace amounts. Organic micronutrients are classified as vitamins, and inorganic micronutrients are classified as minerals. Nutrient deficiencies, known as '**Malnutrition**', occur when an organism does not have the nutrients that it needs. This may be caused by absorbing insufficient nutrients or by suddenly losing nutrients. When this occurs, an organism will adapt by reducing energy consumption and expenditure to prolong the use of stored nutrients. It will use stored energy reserves until they are depleted, and it will then break down its own body mass for additional energy.

“Vitamins are a group of substances that are needed for normal cell function, growth, and development.”

Vitamins are mainly grouped into two categories:

Chart1: Types of vitamins



- ***Fat-soluble vitamins*** are stored in the body's liver, fatty tissue, and muscles. The four fat-soluble vitamins are vitamins A, D, E, and K. These vitamins are absorbed more easily by the body in the presence of dietary fat.

- **Water-soluble vitamins** are not stored in the body. The nine water-soluble vitamins are vitamin C and all the B vitamins. Any leftover or excess amounts of these leave the body through the urine. They have to be consumed on a regular basis to prevent shortages or deficiencies in the body. The exception to this is vitamin B12, which can be stored in the liver for many years. These include
 - Vitamin B1 (thiamine)
 - Vitamin B2 (riboflavin)
 - Vitamin B3 (niacin)
 - Vitamin B6 (pyridoxine)
 - Vitamin B12 (cyanocobalamin)
 - Pantothenic acid (B5)
 - Biotin (B7)
 - Folate (folic acid or B9)

Some Vitamin-like nutrients are also needed by the body such as:

- Choline
- Carnitine

V. FUNCTIONS OF VITAMINS

Each of the vitamins listed below has an important job in the body. A vitamin deficiency occurs when you do not get enough of a certain vitamin. Vitamin deficiency can cause health problems.

Not eating enough fruits, vegetables, beans, lentils, whole grains and fortified dairy foods may increase your risk for health problems, including heart disease, cancer, and poor bone health (osteoporosis).

- Vitamin A helps to form and maintain healthy teeth, bones, soft tissue, mucous membranes, and skin.
- Vitamin B6 is also called pyridoxine. Vitamin B6 helps to form red blood cells and maintain brain function. This vitamin also plays an important role in the proteins that are part of many chemical reactions in the body. The more protein you eat the more pyridoxine your body requires.
- Vitamin B12, like the other B vitamins, is important for metabolism. It also helps form red blood cells and maintains the central nervous system.
- Vitamin C, also called ascorbic acid, is an antioxidant that promotes healthy teeth and gums. It helps the body absorb iron and maintain healthy tissue. It is also essential for wound healing.
- Vitamin D is also known as the "sunshine vitamin," since it is made by the body after being in the sun. Ten to 15 minutes of sunshine 3 times a week is enough to produce the body's requirement of vitamin D for most people at most latitudes. People who do not live in sunny places may not make enough vitamin D. It is very hard to get enough vitamin D from food sources alone. Vitamin D helps the body absorb calcium. You need calcium for the normal development and maintenance of healthy teeth and bones. It also helps maintain proper blood levels of calcium and phosphorus.
- Vitamin E is an antioxidant also known as tocopherol. It helps the body form red blood cells and use vitamin K.

- Vitamin K is needed because without it, blood would not stick together (coagulate). Some studies suggest that it is important for bone health.
- Biotin is essential for the metabolism of proteins and carbohydrates, and in the production of hormones and cholesterol.
- Niacin is a B vitamin that helps maintain healthy skin and nerves. It also has cholesterol-lowering effects at higher doses.
- Folate works with vitamin B12 to help form red blood cells. It is needed for the production of DNA, which controls tissue growth and cell function. Any woman who is pregnant should be sure to get enough folate. Low levels of folate are linked to birth defects such as spina bifida. Many foods are now fortified with folate in the form of folic acid.
- Pantothenic acid (vitamin B5) is essential for the metabolism of food. It also plays a role in the production of hormones and cholesterol.
- Riboflavin (vitamin B2) works with the other B vitamins. It is important for body growth and the production of red blood cells.
- Thiamine (vitamin B1) helps the body cells change carbohydrates into energy. Getting enough carbohydrates is very important during pregnancy and breastfeeding. It is also essential for heart function and healthy nerve cells.
- Choline helps in normal functioning of the brain and nervous system. Lack of choline can cause swelling in liver.
- Carnitine helps the body to change fatty acids into energy.

VI. BENEFITS OF VITAMINS & MINERALS FOR A HUMAN BODY:

1. Vitamin A: It is extremely important for good vision and it also keeps the skin healthy. Whether it is sweet potatoes or carrots and mangoes, they are great sources of vitamin A.
2. Vitamin B: It helps convert the food into energy. Watermelons and squashes are rich in Vitamin B.
3. Vitamin C: It helps in making collagen in the body and builds your immunity against infections. Oranges, citrus fruits and broccoli are a must have.
4. Vitamin D: It helps strengthen teeth and bones and facilitates in the absorption of calcium in the body. Sunlight is the greatest source of vitamin D but foods like mushrooms, soy milk and fatty fish are also good sources.
5. Vitamin E: It is the best form of antioxidant desired by the body. All green leafy vegetables are rich in Vitamin E.
6. Vitamin F: It contains polyunsaturated fatty acids. They are essential for healing wounds and for the metabolism. Certain kinds of oils, nuts and fish are rich sources.
7. Calcium: It is essential for bones, secretion of hormones and also activates certain enzymes that are important for the body. Milk, broccoli, ragi and spinach must be added to one's diet.

8. Potassium: It regulates your blood pressure and keeps a balance of the fluids in the body. Legumes like rajma and grains are ideal.
 9. Magnesium: It is important for chemical reactions that the body carries out. It also contributes to strengthening of bones. Spinach and pumpkin seeds help in building it.
 10. Iron: Iron helps build to the hemoglobin in the blood. Spinach, nuts and chia seeds are good sources of iron.
 11. Vitamin B1 (Thiamin): It is very important for healthy hair and brain. Soy milk is a great source of vitamin B1.
 12. Vitamin B6 (pyridoxine): It reduces the risk of heart disease. Bananas and watermelons have high levels of Vitamin B6.
 13. Vitamin B12 (Cobalamin): It helps in making new cells and breaking some amino acids. Eggs and fish are rich sources of vitamin B12.
 14. Riboflavin: It is excellent in preventing migraines. It is also known as Vitamin B2. Eggs, meat, legumes and beans are rich in it.
 15. Biotin: It helps in the synthesis of glucose. All whole grains have biotin.
 16. Choline: It helps in the release of acetylcholine, which aids brain activity. Peanuts are rich sources of choline.
 17. Folic acid: It is essential for all women in their child bearing age. It prevents birth defects. It is found in tomatoes, orange juice, chickpeas and eggs.
 18. Vitamin K: It can prevent fractures specially those of the hip. It widely found in cabbage and broccoli.
 19. Copper: It helps to make red blood cells. It is commonly found in prunes and shell-fish.
 20. Chloride: Chloride is very important in order to carry out effective digestion. Chloride is found in sea salt, celery, rye, tomatoes and lettuce.
 21. Phosphorous: It helps to transfer nutrients in and out of our cells, and is also a part of the DNA. Green peas are sources of phosphorous
 22. Zinc: It is needed for the proper functioning of our senses such as taste and smell as well as for healing wounds. It is found in sea food, beans, nuts and chicken.
- If the vitamins and minerals intake is at its optimum best, then it will be less vulnerable to infections or diseases.

VII. NECESSARY DIET TIPS FOR OPTIMUM NUTRITION:

Table1. Diet Tips for Optimum level of Nutrition for a Healthy Body

S.No.	Type of Diet	Optimum level of Nutrition for Body
1.	Protein-Rich Foods	<p>Clinical Nutritionist Dr. Ritika Sammadar says,</p> <ul style="list-style-type: none"> ❖ "One should get 10 to 35 percent of the daily calorie needs through protein. An average 60-kilogram Indian male needs 60 grams of protein and the average 55-kilogram female needs 55 grams." <p>She also adds that</p> <ul style="list-style-type: none"> ❖ "eggs, lean meat, beans, dairy, nuts, seeds and lentils must be eaten for their high protein content."
2.	Grains And Cereals	<p>Medical expert Mahesh Jayaraman suggests,</p> <ul style="list-style-type: none"> ❖ "Give energy and important vitamins and minerals to your body by consuming cereals like rice, maize, millet, sorghum, wheat and barley, starchy roots like potatoes and sweet potatoes, and starchy fruit at least once a day."
3.	Water	<ul style="list-style-type: none"> ❖ Water not only quells thirst but also helps most bodily functions. ❖ Drink at least 6-8 glasses of water every day along with other healthy beverages like coconut water, lemonade and fruit juice. ❖ Adding herbs and spices like cumin seeds, coriander seeds, basil leaves and mint leaves to your drinking water is also a good idea.
4.	Fresh Fruits and Vegetables	<ul style="list-style-type: none"> ❖ Gives fibre, vitamins and minerals, ❖ Fruits and vegetables also offer immunity-boosting properties via antioxidants and flavonoids that help keep us healthy.
5.	Fresh Air for Oxygen	<ul style="list-style-type: none"> ❖ Fresh air <i>increases the flow of oxygen helping you digest food more effectively</i> ❖ "Foods that are rich in iron and nitrates are the key to increasing oxygen supply throughout your body. ❖ Beetroot, leafy vegetables, pomegranate, garlic, cabbage, cauliflower, sprouts, meat, nuts and seeds help to maintain the oxygen levels.

VIII. CONCLUSION:

Finally, to stay healthy, two things are mainly required – a balanced diet and an active and healthy lifestyle. A balanced diet with optimum nutrients is essential for healthy development and function. The Food and Nutrition Board of the Government of India's Ministry of Women and Child Development organises an annual week-long celebration of National Nutrition Week to inform people about this basic phenomenon. The celebration of Nutrition week by the nations will help to build a healthy nation, prosper in all dimensions of the life. With the identification of importance of vitamins and minerals for a healthy body one should cultivate the habit of eating healthy. In order to keep this cycle under control, well-balanced and nutritious food is crucial. There is a proverb to recall here *if we lost wealth we lose nothing, if we lost our health we lose something and if we lost our character we lose everything*. Therefore, every one of us need to aware the importance of nutrients required for a healthy body. All of us must try to get as many nutrients as possible from our diet and everyone should strive to live a happy and healthy life.

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