



DIET AND NUTRITION FOR THE WELLBEING OF THE HUMAN BODY

Harish Kumar K M.Sc., Ph.D

*Assistant Professor & HOD of Environmental Science, Government First Grade College, Hosakote
Bengaluru North University, Karnataka Pin- 562114*

ABSTRACT

The definition of what constitutes a healthy diet is continually shifting to reflect the evolving understanding of the roles that different foods, essential nutrients, and other food components play in health and disease. A large and growing body of evidence supports that intake of certain types of nutrients, specific food groups, or overarching dietary patterns positively influences health and promotes the prevention of common non-communicable diseases (NCDs). Greater consumption of health-promoting foods and limited intake of unhealthier options are intrinsic to the eating habits of certain regional diets such as the Mediterranean diet or have been constructed as part of dietary patterns designed to reduce disease risk, such as the Dietary Approaches to Stop Hypertension (DASH) or Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) diets. In comparison with a more traditional Western diet, these healthier alternatives are higher in plant-based foods, including fresh fruits and vegetables, whole grains, legumes, seeds, and nuts and lower in animal-based foods, particularly fatty and processed meats. To better understand the current concept of a “healthy diet,” this review describes the features and supporting clinical and epidemiologic data for diets that have been shown to prevent disease and/or positively influence health. In total, evidence from epidemiological studies and clinical trials indicates that these types of dietary patterns reduce risks of NCDs including cardiovascular disease and cancer.

KEY WORDS: *Health and Nutrition, Diet during pandemic, Mental health of Human Body.*

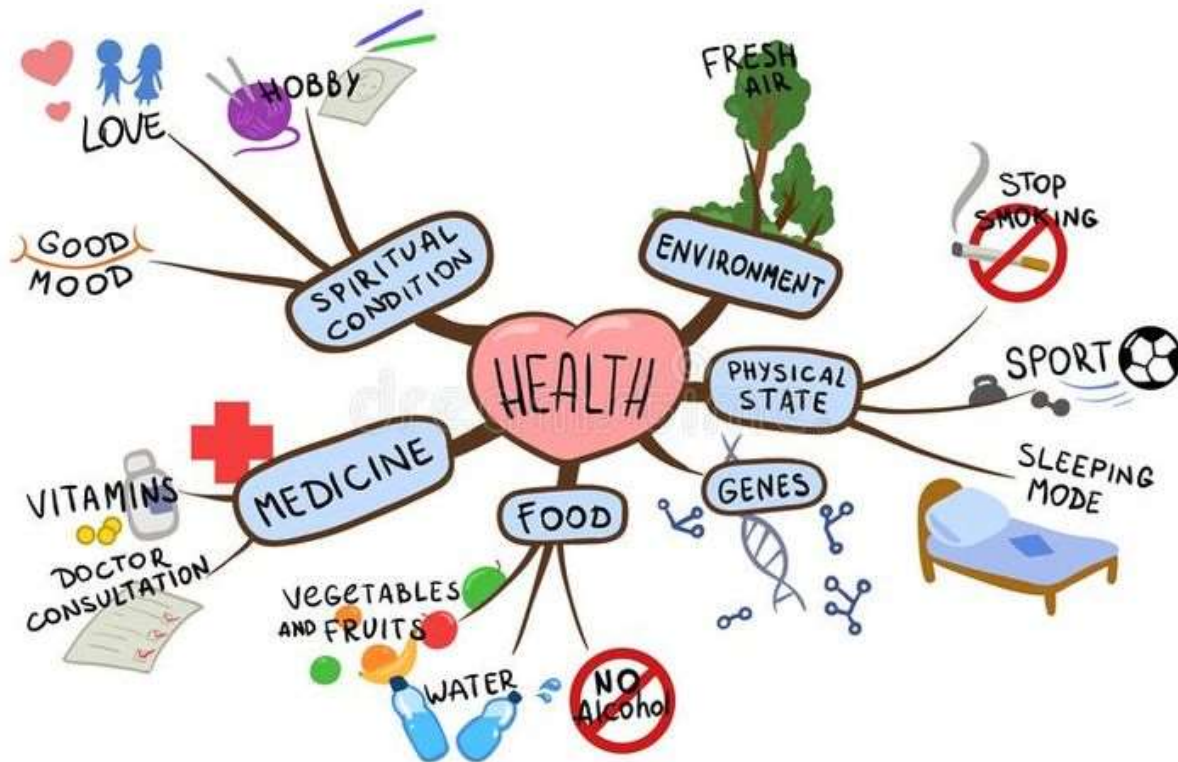
INTRODUCTION

Non-communicable diseases (NCDs) such as cardiovascular disease, cancer, chronic respiratory diseases, diabetes, obesity, and cognitive impairment are among the leading causes of death and disability throughout the world, affecting populations in developed as well as developing countries. Although there are established genetic and environmental contributors to NCD risk, modifiable lifestyle-related factors play a large role at the individual level. Dietary choices, for example, contribute to the risk for developing hypertension, hypercholesterolemia, overweight/obesity, and inflammation, which in turn increase the risk for diseases that are associated with significant morbidity and mortality, including cardiovascular disease, diabetes, and cancer. Indeed, the marked rise in chronic NCDs has a causal link to global dietary patterns that are becoming increasingly Westernized being characterized by high levels of fatty and processed meats, saturated fats, refined grains, salt, and sugars but lacking in fresh fruits and vegetables. In recognition of the importance of the

diet as a determinant of disease risk, the World Health Organization (WHO) Global Action Plan for the Prevention and Control of Non-communicable Diseases includes strategies for addressing unhealthy diet patterns among its initiatives directed at reducing behavioral risk factors; the other components comprise physical inactivity, tobacco use, and harmful alcohol use. Dietary changes recommended by WHO include balancing energy intake, limiting saturated and trans fats and shifting toward consumption of unsaturated fats, increasing intake of fruits and vegetables, and limiting the intake of sugar and salt. Many of these dietary targets naturally occur in regional diets such as the Mediterranean diet or are included as part of evidence-based diets designed to reduce disease risk, such as the Dietary Approaches to Stop Hypertension (DASH) or Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) diets. To better understand the current concept of a “healthy diet”, this narrative review describes the features and supporting clinical.



➤ *Mind map for good health with diet and nutrition*



ADVANTAGES OF A HEALTHY DIET: A NEED OF AN HOUR DURING COVID 19

1. Heart health : According to the **Centers for Disease Control and Prevention (CDC) trusted source**, heart disease is the leading cause of death for adults in the United States. The American Heart Association (AHA) Trusted Source state that almost half of U.S. adults live with some form of cardiovascular disease. High blood pressure, or hypertension, is a growing concern in the U.S. The condition can lead to heart attack, heart failure, and stroke. Some sources report that it is possible to prevent up to 80% of premature heart disease and stroke diagnoses with lifestyle changes, such as increasing physical activity and healthful eating.

The foods people eat can reduce their blood pressure and help keep their heart healthy

The dietary approaches to stop hypertension diet, known as the DASH die trusted Source, includes plenty of healthful foods for the heart. The program recommends the following:

- eating plenty of vegetables, fruits, and whole grains
- choosing fat-free or low fat dairy products, fish, poultry, beans, nuts, and vegetable oils
- limiting saturated and trans fat intake, such as fatty meats and full-fat dairy products
- limiting drinks and foods that contain added sugars

- restricting sodium intake to less than 2,300 milligrams per day — ideally 1,500 mg daily— and increasing consumption of potassium, magnesium, and calcium

2. Reduced cancer risk

Eating foods that contain antioxidants can reduce a person's risk of developing cancer by protecting cells from damage.

The presences of free radicals in the body increases the risk of cancer, but antioxidants help remove them to lower the likelihood of this disease.

Many phytochemicals found in fruits, vegetables, nuts, and legumes act as antioxidants, including beta-carotene, lycopene, and vitamins A, C, and E.

According to the National Cancer Institute Trusted Source, though human's trials are inconclusive, there are laboratory and animal studies that link certain antioxidants to a reduced incidence of free radical damage due to cancer.

Foods high in antioxidants include:

- berries such as blueberries and raspberries
- dark leafy greens
- pumpkin and carrots
- nuts and seeds

Having obesity may increase trusted Source a person's risk of developing cancer and result in poorer outcomes. Maintaining a moderate weight may reduce these risks. In a 2014 study trusted Source, researchers found that a diet rich in fruits reduced the risk of upper gastrointestinal tract cancers. They also found that



a diet rich in vegetables, fruits, and fiber lowered the risk of colorectal cancer, while a diet rich in fiber reduces the risk of liver cancer.

3. Better mood

Some evidence suggests a close relationship between diet and mood.

In 2016, researchers found that diets with a high glycemic load may trigger increased symptoms of depression and fatigue.

A diet with a high glycemic load includes many refined carbohydrates, such as those found in soft drinks, cakes, white bread, and biscuits. Vegetables, whole fruit, and whole grains have a lower glycemic load. If a person suspects they have symptoms of depression, talking to a doctor or mental health professional can help.

4. Improved gut health

The colon is full of naturally occurring bacteria, which play important roles in metabolism and digestion. Certain strains of bacteria also produce vitamins K and B, which benefit the colon. These strains also help fight harmful bacteria and viruses. A diet low in fiber and high in sugar and fat alters the gut micro biome, increasing inflammation in the area. However, a diet rich in vegetables, fruits, legumes, and whole grains provides a combination of prebiotics and probiotics that help good bacteria thrive in the colon.

These fermented foods are rich in probiotics:

- yogurt
- kimchi
- sauerkraut
- miso
- kefir

Fiber is an easily accessible prebiotic and is abundant in legumes, grains, fruits, and vegetables. It also promotes regular bowel movements, which can help prevent bowel cancer and diverticulitis.

5. Improved memory

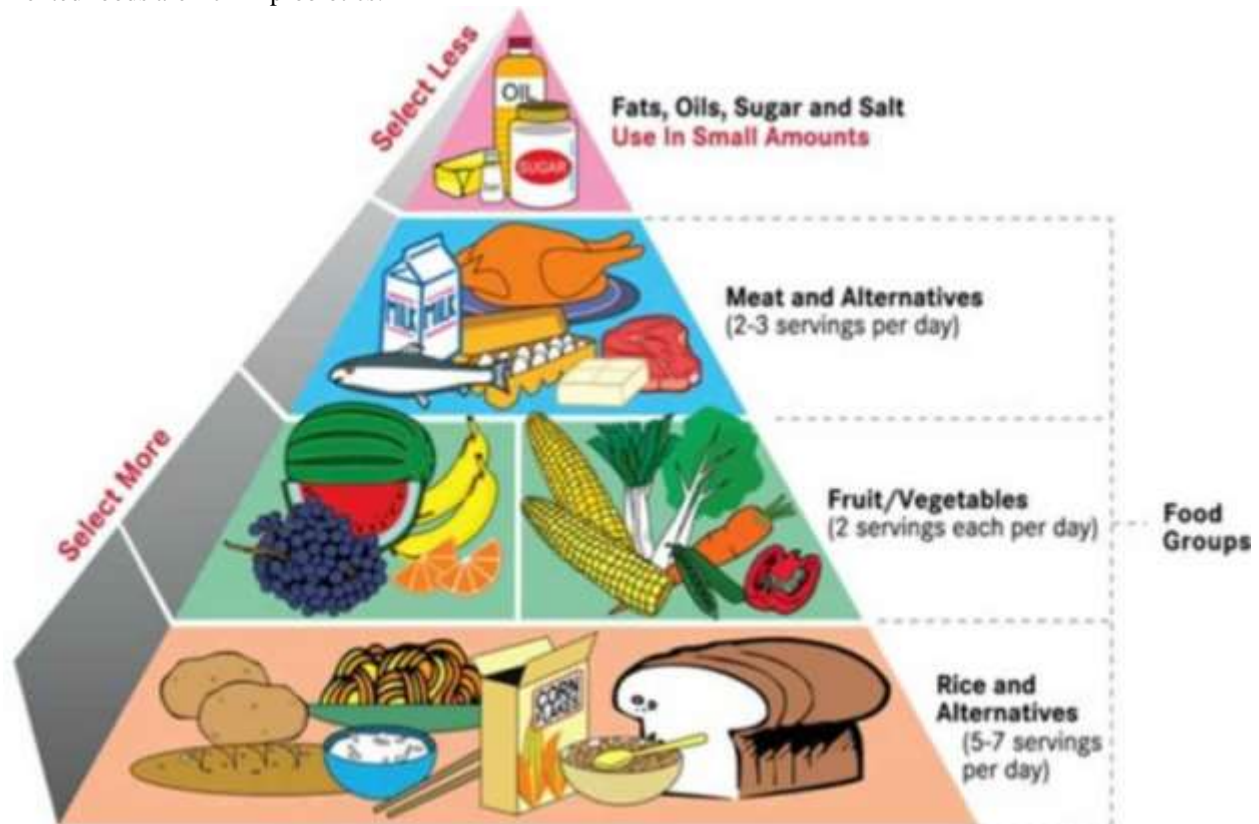
A healthful diet may help maintain cognition and brain health. A 2015 study identified nutrients and foods that protect against cognitive decline and dementia. The researchers found the following to be beneficial:

- vitamin D, vitamin C, and vitamin E
- omega-3 fatty acids
- flavonoids and polyphenols
- fish

Among other diets, the Mediterranean diet incorporates many of these nutrients

SOME OF THE HEALTHY FOODS TO EAT

There are many delicious foods and beverages to choose from when following a lacto-vegetarian diet for weight loss.





What to Eat

Try incorporating the following ingredients into your daily meal plan:

- **Vegetables:** Tomatoes, spinach, eggplant, mustard greens, okra, onions, bitter melon, cauliflower, mushrooms, cabbage and more
- **Fruits:** Including mango, papaya, pomegranate, guava, oranges, tamarind, lychee, apples, melon, pears, plums, bananas
- **Nuts and seeds:** Cashews, almonds, peanuts, pistachios, pumpkin seeds, sesame seeds, watermelon seeds and more
- **Legumes:** Mung beans, black-eyed peas, kidney beans, lentils, pulses and chickpeas
- **Roots and tubers:** Potatoes, carrots, sweet potatoes, turnips, yams
- **Whole grains:** Brown rice, basmati rice, millet, buckwheat, quinoa, barley, corn, whole-grain bread, amaranth, sorghum
- **Dairy:** Cheese, yogurt, milk, kefir, ghee
- **Herbs and spices:** Garlic, ginger, cardamom, cumin, coriander, garam masala, paprika, turmeric, black pepper, fenugreek, basil and more
- **Healthy fats:** Coconut milk, full-fat dairy, avocado, coconut oil, mustard oil, olive oil, peanut oil, sesame oil, ghee
- **Protein sources:** Tofu, legumes, dairy, nuts and seeds

Meals and snacks should focus on fresh, whole foods flavored with spices. Additionally, adding non-starchy vegetables like greens, eggplants or tomatoes to your meals will provide a boost of fiber that can help you feel satisfied for a longer period of time after eating

Nutrition and immunity

The researcher wrote in his study that the immune system functions at all times, but specific cells become activated by the presence of pathogens. The activation leads to a marked increase in the immune system's demand for energy-yielding substrates, including fatty acids, glucose, and amino acids.

Calder believes that some nutrients, including vitamin A and D, are direct regulators of gene expression in immune cells. They play important roles in the maturation, differentiation, and responsiveness of immune cells.

He mentioned that antioxidants also play critical roles in protecting the body against oxidative stress. Classic antioxidant vitamins include vitamin C and E, including antioxidant enzymes such as catalase, glutathione peroxidase, and superoxide dismutase.

Vitamin A, B6, folate, C, D, and E, including trace elements such as zinc, copper, iron, and selenium, have been demonstrated to play key roles in supporting the immune system and reducing the risk of infections, he said.

"It would seem prudent for individuals to consume sufficient amounts of essential nutrients to support their immune system to

help them to deal with pathogens should they become infected," Calder explained.

"Consumption of a diet of diverse and varied plant-based and animal-based foods that are consistent with current healthy eating guidelines would be best to support the immune system," he encouraged.

HOW TO CHOOSE A RIGHT DIET AND NUTITION

Having a balanced diet means trusted Source eating foods from all main food groups in the right quantities. These food groups are:

- whole grains
- fruits
- vegetables
- protein
- dairy
- fats

The following sections discuss healthful choices from these food groups.

Whole grains

Whole grains are products made from the entire grain, which includes the germ and bran. In contrast, refined grains contain only part of the grain.

Whole grain foods have excellent health benefits. A meta-analysis from 2016 Trusted Source looked at 45 different studies, concluding that a high intake of whole grains helps protect against many health conditions, with benefits that include the following:

- a lower risk of heart disease
- a lower risk of cardiovascular disease
- a lower total cancer risk
- reduced all-cause mortality

Whole grain foods are high in fiber and are good sources of B vitamins and trace minerals, including iron, zinc and magnesium. Grains lose much of their healthful properties if they have gone through a refining process.

Examples of whole grains are:

- whole meal bread
- whole wheat pasta
- whole grain cereals, such as oatmeal
- corn

To make sure the grains are whole, look for the word "whole" or "whole grain" as the first ingredient that a manufacturer has listed on the package under nutritional information.

Fruits and vegetables

Fruits and vegetables are rich in vitamins, minerals, and fiber. According to the American Heart Association (AHA) Trusted Source, choosing a variety of colorful fruits and vegetables is the best way to get all the vitamins and minerals the body needs.

The AHA recommends filling half of the plate Trusted Source with fruit or vegetables for each meal, making up 4.5



cups Trusted Source of each per day. This quantity can include fresh, frozen, and canned varieties.

For the most health benefits, people can check product labels and avoid canned, frozen, or dried products with high sodium or added sugars.

Juices labeled “100%” are part of this food group, but eating whole fruits or vegetables is better, as they will provide more fiber.

The Centers for Disease Control and Prevention (CDC) Trusted Source report that a diet high in fruits and vegetables can help with weight management programs. The CDC also links this type of diet with a lower risk of many conditions, including:

- heart disease
- stroke
- diabetes
- high blood pressure
- some cancers

All fruits and vegetables have health benefits, and healthcare professionals recommend that people consume a wide variety. Read about the top healthful fruits and most healthful vegetables here.

Protein

Protein is an important macronutrient that every cell in the body needs. It helps build and repair cells and body tissues, including the skin, hair, muscle, and bone. Protein is also important for blood clotting, immune system responses, hormones, and enzymes.

Many protein-rich foods also contain high levels of minerals, including iron, magnesium, and zinc.

Protein occurs in both animal and plant foods. Animal sources include meat, fish, and eggs. Beans, nuts, and soya are protein options for those following a vegan or vegetarian diet.

A general guideline from the Food and Drug Administration (FDA) recommends that people get 50 grams (g) of protein per day on a 2,000 calorie diet. Individual protein needs will vary, however, depending on a person’s activity levels and weight. A healthful diet should include a range of protein foods.

Read more about high protein diets and plant-based sources of protein.

Dairy

Dairy products can be excellent sources of calcium. A calcium-rich diet promotes healthy bones and teeth.

According to the U.S. Department of Agriculture (USDA), the dairy food group contains:

- fluid milk products
- foods made from milk that retain their calcium content, such as yogurt and cheese
- calcium-fortified soymilk, or soy beverage

Milk-based foods that do not retain calcium, such as cream, cream cheese, and butter, are not part of this food group.

The USDA suggests that people may need 2–3 cups of dairy products per day.

There is some controversy over whether dairy is good or bad for you.

Choose low fat or fat-free versions of dairy products, such as milks and yogurts, to benefit trusted Source heart health. However, consuming dairy is not necessary to be healthy, as long as people get essential nutrients, such as calcium, from nondairy sources. Dairy alternatives can be part of a healthful diet.

CONCLUSION

“Lower the activation energy for habits you want to adopt, and raise it for habits you want to avoid. The more we can lower or even eliminate the activation energy for our desired actions, the more we enhance our ability to jump-start positive change.

“We shouldn’t need to be told something so obvious, but cranky toddlers aren’t the only ones who resist much needed naps. Adults routinely shortchange themselves on sleep, and the result is less self-control.”

Psychology also tells us that if you don’t categorically forbid yourself something, but just say that you’ll do it later – most often later you’ll simply lose the desire. This is also the case with diets.

“...people who had told themselves “Not now, but later” were less troubled with visions of chocolate cake than the other two groups... Those in the postponement condition actually ate significantly less than those in the self-denial condition...No change will be a success if you don’t begin by accepting yourself already before introducing changes – this helps at times when you lack the strength to work on your changes.

REFERENCES

1. <https://dietlabs.co/10-surprising-conclusions-from-10-articles-that-will-change-the-way-you-think-about-diet-and-motivation/>
2. <https://www.medicalnewstoday.com/articles/153998#summary>
3. <https://www.healthifyme.com/blog/best-indian-diet-plan-weight-loss/>