

# Dietary Antioxidants and their Impact on Chronic Disease Prevention

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## DESCRIPTION

In the realm of health and wellness, nutrients are the cornerstone of vitality. These biochemical substances are integral to our body's growth, repair, and maintenance. Our daily diet must be rich in essential nutrients to ensure our body functions optimally. This article explores the primary nutrients, their roles, and the sources from which we can obtain them. Macronutrients are nutrients that our bodies need in large amounts. They include carbohydrates, proteins, and fats. Carbohydrates are the body's primary energy source. They are converted into glucose, which fuels our cells, tissues, and organs. Complex carbohydrates, found in whole grains, vegetables, and legumes, are particularly beneficial as they provide sustained energy and are rich in fiber, aiding digestion. Simple carbohydrates, present in fruits and dairy products, also offer quick energy but should be consumed in moderation to avoid spikes in blood sugar levels. Proteins are the building blocks of life. They are essential for the growth, repair, and maintenance of tissues. Proteins are made up of amino acids, nine of which are essential and must be obtained through diet. High-quality protein sources include meat, fish, eggs, dairy products, legumes, and nuts. For those on plant-based diets, combining different plant proteins can ensure all essential amino acids are consumed. Fats are crucial for many bodily functions, including energy storage, protecting organs, and aiding in the absorption of vitamins. Unsaturated fats, such as those found in olive oil, avocados, and nuts, are heart-healthy and can reduce inflammation. Saturated fats, found in animal products and certain oils, should be limited, while Trans fats, often found in processed foods, should be avoided due to their association with heart disease. Micronutrients, needed in smaller amounts, include vitamins and minerals. Despite their small required quantity, they are

vital for preventing deficiencies and maintaining overall health. Vitamins are organic compounds that facilitate numerous bodily functions. Each vitamin has a unique role. For example, Vitamin A is crucial for vision and immune function, found in carrots and sweet potatoes. Vitamin C, abundant in citrus fruits and bell peppers, is essential for skin health and immunity. Vitamin D, obtained from sunlight and fortified foods, supports bone health by aiding calcium absorption. The B vitamins, found in whole grains and green leafy vegetables, are vital for energy metabolism and brain function. Minerals are inorganic elements that support a variety of bodily processes. Calcium and phosphorus are essential for strong bones and teeth, available in dairy products and leafy greens. Iron, found in red meat and legumes, is necessary for oxygen transport in the blood. Magnesium, present in nuts and seeds, supports muscle and nerve function. Potassium, found in bananas and potatoes, helps regulate fluid balance and muscle contractions. Often overlooked, water is a critical nutrient. It makes up about 60% of our body weight and is involved in virtually every bodily function, from temperature regulation to waste elimination. Drinking adequate water daily is crucial for maintaining hydration and overall health. A balanced diet rich in essential nutrients is fundamental to health and well-being. Incorporating a variety of nutrient-dense foods ensures that the body receives the necessary macronutrients and micronutrients to function optimally.

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## COMPETING INTEREST

The authors declare that they have no competing interests.

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