

## Nutritional Factors and Health Benefits of Green Leaf Vegetables

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### Introduction

Green leafy vegetables hold a significant position among food crops since they offer sufficient levels of many vitamins and minerals for people. They are a good source of minerals including calcium, iron, and phosphorus as well as vitamins like beta-carotene, ascorbic acid, riboflavin, and folic acid. There are numerous underutilized greens in nature with promising nutritional content that can feed the world's expanding population. Green leafy vegetables are essential for human nourishment, particularly in developing nations. India is blessed with a range of natural landscapes, variable climatic conditions, and changing seasons, which result in a variety of leafy vegetable species (Kumar *et al.*, 2020). Vegetables are frequently referred to as "protective foods" in human diets due to the variety of health benefits they provide due to their high vitamin, essential fatty acid, mineral, amino acid, and dietary fiber content (Shukla *et al.*, 2016). Green leafy vegetables are a blessing for a safe and healthier life and have been in use for centuries. They provide adequate amounts of many vitamins and minerals for humans (Randhawa, 2015)

### Nutritional factors of green leafy vegetables:

- ✚ **Vitamins-** Vitamins are abundant in green leafy veggies. Antioxidant vitamin C plays a critical role in the immune system's defense against bacteria, viruses, and other pathogens. Vegetables that are lush green, spinach is packed with of nutrients. Boiled spinach has 573 micrograms (mcg) of vitamin A per half-cup, or 229% of the dietary value (DV). Spinach may help decrease blood pressure and strengthen the heart, according to some research. Compared to mature plants, fresh, young leaves have more vitamin C content. Compared to the white interior leaves, the green outer leaves of lettuce and cabbage are higher in vitamins. Greater and thinner leaves are often lower

in calories and higher in nutrients. Plant meals contain carotenoids, such as betacarotene, which the body must transform into vitamin A (Trumbo *et al.*, 2001).

- ✚ **Proteins-** Made up of different combinations of amino acids, proteins are large, complicated molecules. In all living things, proteins are essential for maintaining cellular structure, functions, and metabolic activity control. As a result, proteins take precedence in consumers' everyday meals. The most affordable and highest-quality sources of protein are green leafy vegetables. This results from their capacity to produce and accumulate amino acids with the aid of a plentiful supply of light, water, oxygen, and nitrogen, all of which are easily found in the environment (Aletor *et al.*, 2002).
- ✚ **Dietary fiber-** It has long been known that green leafy vegetables are an excellent source of dietary fiber. Epidemiological research indicates that dietary fiber, particularly that found in leafy vegetables like celery, cabbage, spinach, and lettuce, which are known for having a high water content and a high percentage of fiber, is essential in preventing a number of disorders. Additionally, it has been discovered that fiber lowers cholesterol by lessening the body's re absorption of cholesterol that is created to aid in fat digestion. The cabbage family of vegetables, which includes turnips, broccoli, cauliflower, and cabbage, has chemicals that may be useful in preventing cancer (Ogles *et al.*, 2014).
- ✚ **Minerals-** The inorganic compounds known as minerals are necessary for your body to operate correctly. Our bodies contain millions of microscopic cells that need vital nutrients to proliferate. Numerous sources provide these minerals, which include calcium, iron, zinc, and selenium. These minerals have the potential to support hormone secretion, muscle contraction, hormonal balance, bone formation, carbohydrate metabolism, and fluid balance. Our body's mineral imbalance is the root cause of a large number of ailments. Minerals must be obtained from food and water since neither humans nor animals are able to create them (Mohammed and Sharif, 2011).
- ✚ **Essential fatty acids-** Since our bodies are unable to synthesize omega-3, it is necessary for us to consume it orally. Omega-3 is a vital nutrient. Given that it provides several health benefits, this chemical is quite advantageous. It lowers the risk of heart

disease, enhances memory, enhances brain function, controls blood pressure, and manages diabetes, among other health advantages (Da Silva and Imai, 2017). Normal growth and development are dependent on omega-3 fatty acids, which are also essential for the prevention and treatment of autoimmune and inflammatory disorders like as cancer, diabetes, hypertension, coronary artery disease, and arthritis (Hamazaki and Okuyama, 2001).

### Health benefits of green leafy vegetables

- Green leafy vegetables are essential for healthy growth of body, as they contain all vital essential nutrients.
- Vegetables have been firmly linked to improved gastrointestinal and visual health, decreased risk of heart disease, stroke, diabetes, anemia, gastric ulcers, rheumatoid arthritis, and other chronic illnesses, as well as general well-being.
- The phytochemicals present in fresh vegetables possess anti-inflammatory, enzyme-inhibiting, and bioactive properties that can effectively counteract the effects of oxidants. It was once thought that the key to human nutrition and health was a combination of 16 vital minerals and 14 vitamins.
- Iron and mineral nutrients are particularly abundant in leafy plants. Anaemia, a prevalent health issue in youngsters as well as pregnant and breastfeeding women, is caused by iron deficiency.
- One of the many health advantages of fermenting cabbage is that it can be made into sauerkraut, which boosts immunity and aids in digestion. It might even help you lose weight.
- A great supply of folate is found in leafy green vegetables. Folate is thought to be involved in the synthesis of hormones or neurotransmitters that regulate mood, such as serotonin and dopamine.

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