

# The Impact of Daily Walnut Consumption and Lifestyle on Human Health

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Persian walnut (*Juglans regia L.*) is one of the most nutritious nuts globally, known for its bioactive compounds such as unsaturated fatty acids, polyphenols, and minerals, which have significant effects on human health. This study explores the role of daily walnut consumption alongside a healthy lifestyle in the prevention and management of chronic diseases. The findings indicate that walnuts contribute to cardiovascular health by reducing LDL cholesterol, increasing HDL cholesterol, and preventing atherosclerotic plaque formation. Regular walnut consumption also improves insulin sensitivity and helps prevent type 2 diabetes. The antioxidant and anti-inflammatory properties of walnuts reduce oxidative stress and strengthen the immune system. Due to their high polyphenol and antioxidant content, walnuts exhibit remarkable anti-cancer properties, potentially reducing oxidative stress and inhibiting cancer cell growth to lower the risk of various cancers. Furthermore, walnuts improve cognitive function, alleviate chronic inflammation, and aid in weight management. Recent advances in walnut genetic improvement have further integrated walnuts into a healthy lifestyle. It is recommended to consume approximately 30 grams of raw walnuts daily, including their light brown skin. Consuming stale walnuts with rancid odor or over-roasted walnuts is not advised.

**Keywords: Walnut, Cardiovascular Health, Type 2 Diabetes, Oxidative Stress, Genetic Improvement, Bioactive Nutrients, Peptides, Flavonoids**

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