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Editorial

Effect of Green Tea (*Camellia sinensis*) on Health Benefits

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EDITORIAL

Green tea is one of the most widely consumed beverages that are rich in polyphenolic compounds such as catechins and is available in various forms. *Camellia sinensis* is richer in antioxidants related to other forms of tea. *Camellia sinensis* (Green tea) is produced from mature leaves with minimal processing (only drying). Green tea is also currently used in the preparation of a variety of foods, pharmaceutical preparations, dentifrices, and cosmetics. Green tea is a widespread neutraceutical as an anti-oxidant. To produce green tea, freshly harvested leaves are quickly steamed or pan-fried to inactivate enzymes, thereby preventing fermentation and producing a dry, stable product. Two beneficial constituents in green tea are catechins and amino acids L-theanine lessen the impact of caffeine. When green tea is brewed, its caffeine combines with catechins in the water reducing the caffeine's activity linked to coffee or cocoa. The components of green tea that are the most significant medically are the polyphenols, with the flavonoids being the most important. It provides a dietary source of biologically active compounds considered to be favourable to human health. The chemical composition of green tea consists of:

- Proteins
- Enzymes
- Free Amino acids (1–5.5%) [Theanine (4%)]
- Carbohydrates (lignin (6.5%),
- Trace amounts – lipids, pigments, steroids, vitamins and volatile compounds.
- Fresh tea leaves contain alkaloids

Its major content, (-)-epigallocatechin-3-gallate, has been shown to have beneficial effects on several diseases including cancer, metabolic syndrome, cardiovascular diseases, and neurodegenerative diseases. The phytochemicals existing in green tea are notorious to stimulate the central nervous system and retain overall health in humans. Polyphenols present in green tea are very effective in decreasing the levels of mutans in saliva like *Streptococci* and *Lactobacillus*. Rinsing mouth with green tea helps to avoid the growth of oral noxious bacteria. Furthermore, the consistent intake of it can transform gut microbiota into the beneficial ones. Green tea phytochemicals are an effective source of exogenous antioxidant aspirants that could nullify excess endogenous reactive oxygen species and reactive nitrogen species inside the body. Numerous *in vivo* and *in vitro* studies recommend that green tea supplementation intensifications the collagen and elastin fiber content, and destroys collagen degrading enzyme MMP-3 production in the skin, conferring an anti-wrinkle effect.

Catechins existing in green tea helps to decrease our body weight by interacting with gut microbiota hence, act as anti-obesity substance. Green tea also possesses many anti-radiation, immunological, anti-cancer, anti-blood coagulation and anti-oxidant properties. It also inhibits the attachment of bacteria to the epithelial cells and avoids infection because attachment is the significant step in initiation of infection. Green tea has been shown to be anti-mutagenic and prevention of tumour blood vessel growth properties. The foremost changes in dietary habits and lifestyles may reduce their risk up to huge extent. A numeral of epidemiologic studies showed the preventive effect of green tea consumption against heart disorders such as high blood cholesterol, atherosclerosis, coronary heart disease, and hypertension. It has also been effective in lowering cholesterol levels, inhibiting the abnormal formation of blood clots, reduction of platelet aggregation, and migration of smooth muscle cells. Research studies endorse that normal consumption of green tea is beneficial but extreme intake may be noxious for the health.

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