

# Benefits of Drinking Green Tea

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**ABSTRACT:** *Tea is derived from the plant of Camellia sinensis and can typically be classified according to how they're handled into groups. In general, Camellia sinensis unfermented green tea has been considered to be superior to black tea in order to be healthy. It provides a specific group of catechins that, as antioxidant, anti-inflammatory and antiproliferative, have biological activity that is potentially essential for the prevention and management of chronic types of disease. In the existence of green tea polyphenols, oral cavity oxidative stress and inflammation, as a result of cigarettes linked to nicotine and acrolein, can be minimised. Moreover, by alteration of odorant sulphur components, green tea polyphenols can shut down halitosis. Green tea typically protects healthy cells against malignancy and has the potential to trigger cell death in oral cancer cells locally. The therapeutic advantages of green tea in the area of oral health are gradually inferred in unison. Latest studies on the medicinal benefits and nutritional importance of green tea against cancer will be discussed in this study.*

**KEYWORDS:** *Black tea, Camellia sinensis, Green Tea, Oolong Tea.*

## INTRODUCTION

Tea is made from *Camellia sinensis* leaves and is among the currently the most frequently consumed drinks. It is suspected that the tea plant emerged in the landmass that includes Tibet, Western China and Northern India. Since prehistoric times, drinking the beverage tea has been deemed a health-promoting practise. A theoretical justification for this belief is provided by modern medical science. With each new research that is reported in the published studies, the evidences that supports the medical benefits of tea drinking grows stronger. Green tea has attracted attention in Western countries over the last years and due to research studies indicating the beverage's health outcomes. *C. sinensis* is a plant which, depending on the degree of fermentation, contains a wide range of tea that can be categorised into four types[1]. The making of 4 kinds of tea is:

1. Green tea (unfermented) - It is prepared to in order to avoid the oxidation of green leaf polyphenols,
2. Black tea (fermented) or red tea (Pu-Erh) - Oxidation is facilitated throughout its development, so that many of these compounds are oxidised.
3. Oolong (partially fermented) - It is partially oxidized
4. White tea - It is derived from new development buds and young leaves which have been steamed and then drying to inactivate polyphenol oxidation[2].

Black tea is 78% of the tea consumed worldwide, only about 20% is green tea and <2% is oolong tea. In the U. S., black tea is typically consumed, oolong tea is the most common in China and Taiwan, and green tea in China, Japan and Korea is the most popular. The health benefits examined with green tea include antioxidants, anti-inflammatory, anticarcinogenic, cardiovascular, oral and antimicrobial health benefits. This paper analyses the oral advantages

of green tea objectively, examines the potential common mechanism responsible, and assesses the human significance of the health consequences reported[3].

## LITERATURE REVIEW

### *Chemical composition of green tea*

Green tea is an unique combination of essential substances like amino acids, organic acid, lipid, vitamin, polysaccharides and thiamine, plus polyphenol, flavonoid, flavonol and other components. Polyphenol are the core elements of green tea, and flavonoids seem to be the main polyphenols (called catechins). In addition to a certain levels of caffeine, green tea also contains garlic acids, quercetins, kaempferols, myricetins and chlorogenic acids, although portion of that is observed in coffee. One drink of green tea probably includes polyphenols of around 300-400 mg and caffeine between about 50 and 100 mg. Green tea is available on the market in individual tea bags, loose-leaf and instant-powder, as packaged and flavoured with sugars or an artificial sweetener. Medications of green tea are marketed in capsules or fluid extract form[4].

### *Mechanism of action*

Green tea is abundant in polyphenolics, including its main ingredient being catechin. Research has shown that catechins provide numerous pharmacological effects, including antioxidant, anti-inflammatory, anti-carcinogenic, anti-arteriosclerotic, and antibacterial impact. Polyphenols are the main pharmacological action that focuses on the antioxidant effects in green tea. Green tea inhibits the body's reactive oxygen species (ROS) that restricts DNA, RNA, protein oxidation, lipid oxidation and cell suicide activation harm. By inhibiting the activity of the ROS molecule, ingestion of green tea could avoid these all degeneration.

### *Therapeutic application*

Day by day, the beneficial effects of catechins from green tea (*C. sinensis*) are being widely acknowledged. In olden history, traditional Chinese medicine treated green tea as a balanced beverage. Recent human research suggests that green tea could even help in the management of endothelial function and vascular homeostasis and the related reduction of the risk of atherogenesis and cardiovascular disease and also some types of cancer, and to the advancement of oral health and other physiological functions, such as antihypertensive effects, solar ultraviolet protection, bone mineral density, antiseptic density. In the gastrointestinal tract, tea catechins are very well consumed and engage synergistically in their disease-modifying behaviour, so consuming unfractionated green tea is the easiest and most effective form of avoiding intestinal disorders. Green tea has been found to stimulate intracellular antioxidants in the gastrointestinal tract, prevent the development of procarcinogenes, inhibit angiogenesis and proliferation of cancer cells. Inconsistent findings have been provided by studies on the preventive effect of green tea on esophageal cancer; furthermore, negative associations of tea consumption with gastrointestinal and colon cancers are being reported widely[5]. Many more uses of green tea are:

- Weight Loss
- Anti aging

- Immunity
- Liver Disease
- Cardio Vascular Disease
- Cancer
- Arthritis
- Diabetes
- Alzheimer
- Parkinson
- Cold and Flu
- Asthma
- Stress
- Food Poisoning
- HIV
- Control Blood Cholesterol Levels
- Anti-inflammatory
- Genital warts

#### *Prevention of dental caries and plaque*

Human wellbeing can be seriously impaired by oral pathologies such as dental caries, periodontal disorders and loss of teeth. Amongst other, dental caries are caused by infectious disorders induced by multiple nutritional and bacterial infection-related causes. Green tea protects from the dental caries and plaque scores caused by bacteria. It regulates bacteria and reduces saliva and dental plaque acidity, which is now known to be a valuable resource for cavity prevention. It has been shown in recent studies that green tea inhibits the collection of bacteria and thus results in the development of plaques on the teeth, which contributes to a decrease in human amylase excretion, inhibits glucosyltransferase, and eventually restricts the biosynthesis of glucan that gets trapped on the teeth. Furthermore, it was specified that routine consumption of green tea in human studies could reduce the severity of tooth decay. Several scientists have shown that  $\alpha$ -amylase behavior in human saliva was decreased by tea extract. The intake of tea is also likely to be an anticariogenic agent that decreases the cariogenic potential of food that contains starch, like muffins and sweets[6].

#### *Side Effects*

The dangers of a large dosages of green tea are:

- Consuming a massive proportion can trigger neural tube birth defects in infants attributed to the prevalence of caffeine, catechins and tannic acids in green tea due to folic acid antagonism.
- Consuming tea or coffee stains or discolours the dental plaque, but the teeth themselves do not.
- Increased time for bleeding
- Enhanced bladder cancer risk
- Stained restorative aesthetic content in the oral cavity
- Insomnia, anxiety, irritability, nausea and headaches
- Diuresis and abdominal pain
- Heart disturbances, tremors and irritability[7].

### Precautions

Patients like pregnant and breast-feeding mothers, those with cardiac problems or blood pressure changes, stomach ulcers, issues with the kidney or liver or mental issues, thyroid hyperfunction, increased vulnerability to spasm and some psychiatric disorders (e.g., panic states of anxiety) need not consume green tea remedies or extract or intake just one or half a cup in a day.

### CONCLUSION

Due to its cooling, slightly bitter and astringent taste that people seem to love, tea is the world's most commonly consumed beverage. Usually, tea can be split into groups depending on how it is prepared. Today, because of its positive impacts on humans, green tea has become more prominent in the global population. In this world today, the likelihood of contracting a lot of illnesses is affected by dietary habits, so drinking green tea is a quite simple and cheap habit to sustain a healthier life. This reduce the probability of diabetes, cardiovascular disorders, dental and obese caries, etc.

As human scientific evidence is still minimal, the exact extent of health benefits needs to be determined by future studies. Future research in this field would be encouraged by the creation of different biomarkers and even some molecular markers for green tea intake.

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