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Tea-- The Cup That Heals

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Introduction

Commonly referred to as the cup that cheers, tea is accepted the world over by a major part of its populace. as the stimulant to usher in the dawn of a new day. Its awakening, refreshing and stimulating properties were the reason for its discovery centuries ago

History

Legend has it that tea was discovered by the Chinese Emperor, Shan Nong, in 2737 B.C. The Emperor had a habit of boiling his drinking water. One day while he was in his garden, a few tea leaves fell by chance into his boiling water which then gave off a rich, alluring aroma. The Emperor, upon drinking this brew, discovered it to be refreshing and energizing. He immediately gave the command that tea bushes be planted in the gardens of his palace. Thus the custom of brewing fresh tea leaves in hot water has been firmly entrenched in China and it quickly spread. Until the fifth century A.D., tea was primarily used as a remedy, due to the medicinal benefits attributed to it. From this time onwards, China's upper class adopted the fashion of presenting packages of tea as highly esteemed gifts and of enjoying drinking tea at social events and in private homes. At around the same time the Chinese tea ceremony began to develop and the tidings of tea began to spread as it reached Japan.

Tea came into use in Western Europe about the middle of the seventeenth century. Tea arrived in Europe via Dutch and Portuguese sailors at the beginning of the 17th century. They had trade relations with China and brought the tea to Britain and Holland at the outset, where it was sold at auctions and became very popular among the aristocracy and the wealthy. The beverage's initial high price prevented it from circulating among the western population at large. At the beginning of the 18th century, with the expansion of tea imports to the west and the consequent decrease in its price, tea became a common product enjoyed by all sectors of the population. At around this period, tea arrived in Northern America, quickly becoming a desirable drink there as well. In New York and Boston, London-style teahouses started developing, where the drink was sold to the general public.

The cultivation and brewing of tea in India has a long history of applications in traditional systems of medicine and for consumption. The consumption of tea in India was first clearly documented in the Ramayana (750-500 BC). Research shows that tea is indigenous to eastern and northern India, and was cultivated and consumed there for thousands of years. However, commercial production of tea in India did not begin until the arrival of the British East India Company, at which point large tracts of land were converted for mass tea production.

Today, India is one of the largest tea producers in the world, though over 70% of the tea is consumed within India itself. A number of renowned teas, such as Darjeeling tea, grow exclusively in India. The Indian tea industry has grown to own many global tea brands, and has evolved to one of the most technologically equipped tea industries in the world. Tea production, certification, exportation, and all other facets of the tea trade in India are controlled by the Tea Board of India.

The Tea Plant

Botanically the tea plant is *Camellia sinensis* Linn., belonging to the Family *Theaceae* whose leaves and leaf buds are used to produce Chinese tea. White tea, green tea, oolong tea, pu-erh tea and black tea are all harvested from this species, but are processed differently to attain different levels of oxidation. Kukicha (twig tea) is also harvested from *Camellia sinensis*, but uses twigs and stems rather than leaves. Common names include tea plant, tea tree, and tea shrub.

There are two major varieties that characterize this species (1) Chinese *Camellia sinensis* var. *sinensis* (L.) Kuntz and (2) *Camellia sinensis* var. *clonal assamica* (Masters) Kitam.



1 A mature tea plant



2. In flower



3. Tea picking



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4. Picked tea leaves

Camellia sinensis is native to mainland China, South and Southeast Asia, but it is today cultivated across the world in tropical and subtropical regions. It is an evergreen shrub or small tree that is usually trimmed to below two metres (six feet) when cultivated for its leaves. It has a strong taproot. The flowers are yellow-white, 2.5–4 cm in diameter, with 7 to 8 petals.

The leaves are 4–15 cm long and 2–5 cm broad. Fresh leaves contain about 4% caffeine. The young, light green leaves are preferably harvested for tea production; they have short white hairs on the underside. Older leaves are deeper green. Different leaf ages produce differing tea qualities, since their chemical compositions are different. Usually, the tip (bud) and the first two to three leaves (two and a bud) are harvested for processing. This hand picking is repeated every one to two weeks.

Therapeutic Applications of Tea

. Many cultures and traditions worldwide have utilized the healing and soothing powers of tea, not only as a relaxing beverage, but also as a medicinal concoction. Unfortunately, its habitual use as article of diet limits very much its therapeutic application. The system is so much accustomed to it that its remedial influence can scarcely be felt, in ordinary doses.

In Digestive problems: There can be no doubt that, under other circumstances, it would be very serviceable in dyspepsia, the very disease of which, through its abuse, it is among the most frequent causes. Occasionally used, it would serve as agreeable tonic in these cases, in which it would also be recommended by its cheering influence upon the spirits, ordinarily so much depressed in that complaint. If, instead of using it at the morning meal, when the stomach and system are most excitable, restricting its employment to the close of dinner, as is done with coffee in France, it might prove serviceable by facilitating the digestion of the food, and rendering it less oppressive to the stomach, and its injurious influence on the nervous centres would be less felt. "Adding tea to your diet is certainly not harmful", Blumberg says. "It's got no calories, and it's got all those flavonoids. And it can be a [healthier] substitute for other beverages that we know do not have those compounds -- such as coffee or soda."

Restorative: Tea would be found an admirable restorative in the exhaustion of excessive labour, mental or physical, and an excellent corrective of mental disquietude arising from morbid states of the system, or the vicissitudes of life. In attacks of nervous headache, or of sick-headache, it often affords great relief to patients not insensible by habit to its effects; and even in those who have brought on habitual headache and nervous disorder by its abuse, it will often control temporarily the paroxysm of those affections if given very freely; just as ardent spirit will relieve, for a time, the horrors which have originated in its continued excess.

Tea has the property to boost one's concentration; if one is feeling low, scattered and unfocused. Green tea, black tea and oolong tea leaves contain the amino acid, theanine which boosts neural activity and concentration. L-Theanine may help the body's immune response to infection by boosting the disease-fighting capacity of gamma delta T cells. The study, published in 2003 by the Brigham and Women's Hospital, included a four-week trial with 11 coffee drinkers and 10 tea drinkers, who consumed 600 milliliters of coffee or black tea daily. Blood sample analysis found that the production of anti-bacterial proteins was up to five times higher in the tea-drinkers, an indicator of a stronger immune response. Able to cross the blood-brain barrier, theanine has psychoactive properties.

Theanine has been shown to reduce mental and physical stress, and improve cognition and mood in a synergistic manner with caffeine. At least 3 cups of tea are recommended and it takes nearly 20 minutes to take effect.

Tea's influence in producing wakefulness may sometimes be taken advantage of, in lethargic and soporose conditions of the system, with good effect. Tea has, with this view, been recommended in the stupor of low fevers.

In Narcotic poisoning: In narcotic poisoning, tea is indicated as medicine. The stupor from this cause may depend either upon a direct sedative influence on the nervous centres, as from chloroform, or upon active congestion, as from opium, alcohol, belladonna, etc

Antioxidant, in cardiac problems: A Dutch research team found that people who drink 1 to 2 cups of tea per day reduce risk of heart attack by 46%, 4 cups a day reduces risk by 69%. They found that people who drank more than three cups of black tea a day had half the risk of having a heart attack when compared to non-drinkers -- and a third the risk of dying from a heart attack if they did suffer one. In a later study, tea drinkers were found to have a lower death rate after their heart attacks, regardless of their gender, age, smoking status or whether they had high blood pressure, were obese or had had a previous heart attack. The researchers took into account green or black tea, taken hot or cold, but not herbal tea. They are certain it was not the caffeine in the tea that made the difference because they evaluated caffeine consumption from other foods and drinks consumed by the people, but found no effect on death rates from heart attacks.

The findings are consistent with research results obtained at Harvard Medical School. The beneficial effect is attributed to flavonoids in tea which neutralize the harmful effect of free radicals. Heavy tea drinkers -- whether they like it black, green, hot or cold -- are more likely to survive a heart attack than those who don't sip the healthy brew. Black teas are high in antioxidants and Indian Darjeeling tea apparently has the highest concentration of anti-apoptotic gene products. Scientists from Boston interviewed 1,900 people after their heart attacks, asking them to recall their consumption of caffeinated tea during the year before the attack. "The more tea people drank, the lower was the death rate", says lead author Dr. Kenneth Mukamal, an assistant professor of medicine at Harvard Medical School. Moderate tea consumption, defined in the study as two cups a week, was associated with a 28 per cent lower death rate when compared to the death rate of non-drinkers. Heavy tea drinkers, who averaged 19 cups a week, fared even better: They had a 44 per cent lower death rate than non-drinkers during the four-year follow-up. The average age of the heavy drinkers was 63, while the moderate and non-drinkers' average age was 61. Mukamal suspects the tea's flavonoids (TP), powerful antioxidants are able to scavenge O₂, OH radicals and protect bio- macromolecules against free radicals and to inhibit membrane lipid damage induced by gas-phase cigarette smoke and maintain membrane fluidity, and help improve the blood vessels' ability to relax. Flavonoids also prevent the so-called bad cholesterol, or LDL from oxidizing, which experts believe may promote hardening of the arteries. The substances may also keep blood from clotting too much.

"A study like ours alone is not enough to advise people to change their [dietary] habits," Mukamal says. However, he also says he would not discourage anyone from drinking tea as "there are no downsides". However, he adds that heart patients shouldn't think they can sip tea

and skip other aspects of their diet. "It's not a panacea," he says. There is very good evidence that asking people to drink tea improves their blood vessels' ability to function normally, including the ability to relax," he says. Other studies have shown that poor blood vessel function is associated with a higher risk for having a subsequent heart attack.

Anticarcinogenic: Black teas are anticarcinogenic (anticancer) and also stimulate the production of immune cells. TP can inhibit growth of human cervical and lung cancer cell line *in vitro*. Black teas induce the degeneration of tumours.

In Degenerative brain disorders: A study published in the *European Journal of Neuroscience*, reports that regular consumption of both black and green tea may help reduce the risk of age-related degenerative brain disorders such as Alzheimer's disease. The study's findings showed that the intake of both black and green tea extracts and catechins strongly blocked the death of neurons.

Other problems: Black tea is diuretic. Tea acts as an emollient, and as an expectorant. Tea leaves are also reported as insect repellent, and as parasiticide.

Green Tea

Green tea, black tea, and Oolong tea all come from the same plant, *Camellia sinensis*. The only difference between these teas is the method by which the leaves are processed. Green tea is produced by steaming and drying the leaves only, while black and oolong tea is produced by withering, rolling, fermenting, and then drying them. Because green tea is not fermented, unlike black and oolong tea, its active ingredients remain largely untouched.

Green tea has recently attracted increasing popularity as a potent anti-oxidant. This type of tea has been shown to reduce the risk of many forms of cancer, which include breast cancer, and has the ability to stabilize blood lipids, which make it a valuable part of an overall heart-care regimen. Green tea's active plant components, the polyphenols, are thought to be responsible for these actions. This tea variety also aids in lowering high cholesterol, high triglycerides, hypertension, and also stimulates immune functions. Green Tea may actually lower the risks for arteriosclerosis. Research has shown that it guards against cardiovascular disease by lowering cholesterol levels, improving the ratio of LDL cholesterol to HDL cholesterol, reduces platelet aggregation, and lowers blood pressure.

Green tea is also known to help ease mental fatigue and has been used in treating digestive tract infections. Traditional Oriental medicine practitioners often use it to relieve migraine headaches. It can also help to prevent plaque buildup on the teeth, and since the leaves contain a natural fluoride, may be helpful in preventing tooth decay. It can help promote the burning of fat in the body, as well as help to regulate blood sugar and insulin levels.

Green tea catechins have been noted to promote weight loss by increasing the metabolism of fats by the liver, inhibiting lipase (fat absorption enzyme) in the digestive tract, and providing a feeling of fullness. Catechins do not function as a stimulant.

Green tea has been shown in several studies to have antibacterial properties. It can aid treatment of digestive tract problems from diarrhoea to cancer. It is also used to treat bruises, earache, headache, hiccups, malaria, neuralgia, scabies, sore throat, toothache, tumours, and wounds. Other beneficial actions of Green tea reported are anti-viral, antioxidant, diuretic, expectorant, stimulant, stomachic, analgesic, astringent, cardiotonic, digestive, nervine, and carminative.

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