MEDICINAL PROPERTIES OF TEA IN RELATION TO BOOSTING IMMUNE SYSTEM – A REVIEW

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INTRODUCTION

One of the major sources of our medicines is plants and there is no change in this reliance on the natural sources even after several advances in the field of pharmacology. People athwart the world make use of natural and traditional preparations that are derived from the material of plant so as to treat the diseases. In some of the earlier studies, it is also found that protective role is possessed by several natural products of plants and plants extracts against synthetic progestins, estrogens’ genotoxic effects etc. Blood’s antioxidant capacity is also improved significantly and consistently with consumption of tea. When the human body has its antioxidant capacity increased then as the beneficial effect, oxidative damage might be reduced. Flavonoids present in tea are powerful antioxidants and the gut absorbs them after consumption. These are plant metabolism’s phenolic products in a large group having wide range of phenolic structures. Significant biological properties are possessed by these structures leading to the benefits associated with tea. Several studies have also revealed the fact that tea consist of flavonoids having strong metal-chelating and antioxidant properties offering protection to human body from diseases. It is also said to calm the inflammation and prevent buildup of plaque in the arteries.[1] In some cases, the diseases lead to formation of species of nitrogen and reactive oxygen in the body and these are not completely counteracted by the antioxidant endogenous defenses. This is the reason why to get protection from most of the chronic diseases, it is important to have antioxidants that are derived from diet. In this case, human diet has tea as an important constituent since it serves as the source of flavonoids with significant level. In vitro, the flavonoids present in black and green tea are found to be highly effective antioxidants and therefore in the human body, they serve active in the form of antioxidants. In this study, the human studies have been evaluated in which tea and its antioxidant functions have been investigated. Extensive study has been carried out for tea flavonoids uptake along with alterations in plasma’s antioxidant capacity after consumption of tea. In conclusion, it is important to find whether or not the oxidative damage caused in the body is reduced by the consumption of tea.
**Tea antioxidants and their activity in humans**

There are wide number of methods that are used to determine the tea flavonoids altering effect on the status of plasma antioxidant. FRAP (ferric-reducing antioxidant power) evaluation is the most common method of all used for this purpose. In this colorimetric evaluation, the plasma’s ability is measured for reducing the intense blue complex known as ferric tripyridyldltriazine to the ferrous form that alters the absorbance.[2] In the result of a study conducted to determine the activity of plasma with tea consumption, it is found that the activity of plasma antioxidant is increased significantly with the intake of green and black tea in comparison to water intake.

**Plant anti-mutagenicity and flavonoids**

In our day to day life, we make use of some sort of chemicals in most of the activities. Several substances such as cosmetics, drugs, petroleum products and pesticides are termed as mutagens. It is also revealed in studies that human diet’s several components consist of natural mutagens in great amount. The major issue with this fact is that such inadvertent exposure might increase the danger of their possibility of improving the genetic load. The mutagens of environment are associated with number of diseases in humans such as ageing, atherosclerosis etc. This calls for an urgent need of the study for intervention possibilities via antimutagenic action. These mutagens of environment could be inactivated by several natural substances having potential for the same. It is also important that these substances are properly characterized so that they could be used accordingly. Antimutagen is the term used for these substances that are present in different quantities in several food items. Some of the significant antimutagens are flavonoids that are found in plants such as Vitamins E, C, A, Beta-carotenes etc. The catechins that are present in tea are termed to be highly powerful flavonoids that guard the body and therefore to get the natural antioxidants, they serve as the best dietary source.[3] In the traditional medicine of India and China, wide ranges of health problems are treated with the help of tea. These include: insomnia visual and mental clarity, treatment, calming effects, poisons detoxification, quenching of thirst, indigestion prevention, digestion improvement, breaking down fats, oils, regulation of temperature of body, bowel evacuation speeding, urination improvement, phlegm loosenings, dysentery treatment, teeth strengthening, skin fungus treatment, epigastric pain treatment, longevity and reducing hunger.

**Benefits of tea**

It is highly beneficial for general health when tea is adopted in the daily schedule in case you are in search of immunity boosting properties of tea when it is consumed on regular basis. This is especially true for those who are suffering from the problem of recurring flu and colds.

It is totally a matter of choice whether or not you want to blend the tea with botanicals. For instance, some people might like to have the green tea along with ginger or ginger and cardamom blended with tea. This offers a palatable drink that help inducing a well being sense and also has the prospects of aiding defense mechanism of body. It is also indicated in some studies that catechins can stay for longer duration in oral cavity when green tea is used for gargling and this serves to be something good for health. Also, oxidized form of catechins can bring down the levels of cholesterol in the body.[7] Therefore it would not be incorrect to say that tea is a great ingredient for a healthy and active lifestyle that also consists of exercise and diet.

**Immunity boosting properties of tea**

Links of tea with good and sound health of a person are not new. It is also known to be more beneficial for those who consume diet of high fats or are overweight. The major risk factors of stroke and heart disease are blood pressure and cholesterol and tea is confirmed to lower their risk. Tea is also known to decrease dementia risk and offer protection to brain. Tea has become the favorite drink of nation and it lifts the immunity of body with bacteria rebalancing that is present in the gut. Microbes are present in amount of trillions in human body and they serve so much important for health that scientists state them as the system of second immunity.

Results from researches have proved that levels of friendly bacteria are higher in tea drinkers that offer defense from several health related ailments and certain firmicutes: connection of microbes to enhanced risk of diabetes, obesity and inflammation.[6]. Key role is there of firmicutes in energy extraction from food and if high levels are there then more chances are there of gaining weight.

Most of the people are aware of the fact that probiotics or fibre can offer help in changing bacteria of gut towards strains that are more favorable. However, it is both surprising as well as pleasant to find that similar effects could also be enjoyed from simple tea cup. Green tea consumed twice a day for duration of two weeks help in significant improvements that is long term as well in gut bacteria. Bifidobacterium levels are boosted with consumption of 3 cups of tea for 10 days duration. The friendly bacteria known as Bifidobacterium are used in drinks and yoghurts.
**Different forms of tea and their benefits**

Tea has been consumed by people all over the world for centuries and this is also for a good reason. Wide ranges of teas are there that are known for immunity boosting, warding off complex health ailments and fighting with inflammation. Some brews are there that offer health advantages better than others and it is also found that drinking tea on regular basis has enduring effect on the overall wellness. Following are some of the well-known teas of the world and the benefits hidden in them.

**White Tea**

The flavor of White Tea is very delicate and this tea originates from the plant named as Camellia sinensis. This variety of tea is the one that is processed the least. As per the studies, this tea is highly effective in fighting against colon cancer in its several forms on account of antioxidants present in this tea in high levels. Teeth also enjoy good effects from this tea since the fluoride source is present in White tea along with tannins and catechins that help in strengthening teeth, fighting against plaque and improve resistance of teeth to sugar and acid. Amount of caffeine in this tea is also the least. It is said to possess healing properties and can finish the disease causing organisms in vitro.[9]

**Herbal Tea**

There is very much similarity in white teas and herbal teas. However, blend of spices, herbs, plants and fruits are also present in this tea along with tea leaves. Caffeine is absent in herbal teas that account for their calming effect. Unique benefits are there of wide range of herbal teas as mentioned below:

1. **Rooibos**: Enhance circulation and blood pressure, lowers the level of bad cholesterol and good cholesterol is boosted that helps in maintain strength of hair while keeping good health of skin.
2. **Chamomile tea**: Muscle spasms and menstrual pain are reduced, stress is reduced and relaxation and sleep are enhanced.
3. **Ginger**: Morning sickness is combated by this tea and it is also helpful in treatment of chronic indigestion, relieving pain of joints.
4. **Peppermint**: Menthol is present in this tea by which upset stomach is soothed and ailments like syndrome of irritable bowel, constipation and motion sickness are cured. Relief from pain caused by migraines and tension headaches are also offered by this tea.
5. **Hibiscus**: Reduce the levels of fat and blood pressure, starve off unhealthy sweets cravings, enhance health of liver and prevent kidney stone formation.

**Green Tea**

Flavonoids are present in high amount in this tea that help in boosting health of heart by reduction of blood clotting and lowering levels of bad cholesterol. It is also helpful in lowering the blood pressure, total cholesterol and triglycerides. Impact of green tea is also seen on several other forms of cancer and it is anti-inflammatory as well to maintain glowing and clear skin.[10] A green tea variety termed as matcha is highly popular. It is a high quality and fine green tea powder derived from entire leaves of shade grown tea bushes. A single cup of this tea is known to be equivalent to green tea 10 cups.

**Black tea**

Plant known as Camellia sinensis is used for making the black tea and green tea is also made from this plant. The fermented and dry nature of these leaves offers a richer flavor to black tea along with darker color. Caffeine is present in black tea and therefore the intake should be monitored. A cup of black tea offer flavonoids benefits to body that help in combating from inflammation, atherosclerosis and coronary heart diseases while supporting the function of healthy immune.[11] Other than consumption in the form of tea, black tea also offers benefits in other forms. It could be cooled after steaming and then scrapes, minor cuts and bruises could be pressed on with it for reducing swelling and relieving pain. Inflammation could also be eased with the bath in black tea.

**Oolong tea**

This variety of tea is a Chinese traditional tea and same plant is used for making it as for black and green teas. The difference lies in processing of tea. Much oxidation is avoided in the case of green tea while oxidation of black tea is done till it achieves black color. The one that lies between these two somewhat is oolong tea that makes it oxidized partially. The characteristic taste and color of oolong tea is on account of partial oxidation in this form. L-theanine is present in oolong tea. This form of amino acid is helpful in enhancing attention and alertness while reducing the levels of anxiety.[12] Some cognitive diseases are also known to be prevented by this tea. High levels of polyphenols are present in oolong tea that are often connected with the prevention of cancer growth, lowering the amount of inflammation and reducing type 2 diabetes risk.

**References**


