

## WHY IS TEA GOOD FOR YOU

A. Ekanayake

*(Biochemist, Tea Research Institute of Sri Lanka,  
Talawakele, Sri Lanka)*

From time immemorial tea has been considered as an effective but mild drink and is the one most sought after next to water. One reason for its continued widespread useage is that no harmful effects have been associated with tea drinking. Starting from a luxury which only the rich could afford, tea has now become the world's cheapest and most widely used drink. It has truly become a beverage of international friendship and a bond that brings people together.

Tea as a beverage is consumed in many different forms. In its widely accepted conventional form of consumption it is either consumed alone ("plain" tea) or with added milk and sugar. However, a host of other forms of consumption such as green tea, lemon tea, orange tea, mint tea based on a variety of "instants" are also in vogue.

From a nutritional point of view tea brews contain about 1 - 2% proteins, 4 - 5% carbohydrates, amino acids, lipids and vitamins. The mineral content of tea is about 5% and many of them like potassium, magnesium, calcium, manganese, zinc, iron etc are essential to human health.

Beneficial effects of drinking tea can in most instances be associated not only with the water soluble components directly, but also with the singular combinations in which they are present in a cup of tea.

It is most important to realise that the pharmacological properties of a particular substance can be modified profoundly by the presence of other active substances. A good case in point is the caffeine component in tea. Numerous researchers have shown that the properties of tea-caffeine are different to those of either coffee-caffeine or pure caffeine. The pharmacological effects claimed for tea have been attributed to caffeine and

polyphenols. While excess of either of these compounds is harmful their occurrence in combination does not cause any undesirable effects. While some of the well known "stimulant" properties of caffeine are retained in the tea beverage, other pharmacological properties of caffeine have not been actively expressed even in very strong tea. Important among these are the unpleasantness or "heart burn" associated with increased stomach acidity on consuming pure caffeine as against a soothing effect on consuming tea. Caffeine has the effect of dilating the blood vessels resulting in increased rate of respiration and muscular performance without elevating blood pressure.

The diuretic, relaxant and stimulant properties associated with pure caffeine are also retained in tea, thus providing a very pleasant means to administer caffeine to humans when needed as a therapeutic necessity.

The incidence of atherosclerosis and the occurrence of higher serum lipid levels - "the scourge of the developed world" have been associated positively with high levels of consumption of caffeine or of coffee. The same amount of caffeine when ingested as tea had either no discernible effect or did actually reduce this incidence. It has been surmised that tea contains some constituent (unidentified) which has a pharmacological action opposite to that of pure caffeine. The polyphenolic compounds of tea have been linked to this effect due to their ability to exert a protective (anti-oxidant) effect on Vitamin C, which is known to reduce high levels of serum cholesterol in humans.

Extensive Russian literature indicates that the strengthening of the walls of blood vessels and the control of their permeability could be credited to the action of the phenolic compounds such as those present in tea. Although the term "Vitamin P" associated with compounds having this activity has been discontinued, such effects have been conclusively demonstrated by research carried out even in non-tea producing countries.

In the all-important area of cancer research, a slightly decreased risk of bladder cancer has been shown

for persons drinking tea, as against an increased risk of pancreatic cancer for those consuming as little as even one to two cups of strong coffee a day.

The singular combination of polyphenols and caffeine in tea contributes to an increased level of catecholamines such as epinephrine giving effectively an anti-depressant action thus earning for itself very rightly the epithet "the cup that cheers".

Tea infusions have also marked controlling effects on a variety of disease-causing micro-organisms, particularly those associated with gastro-intestinal disturbances. This may be one reason why tea infusions are prescribed as home remedies to people suffering from such disorders. Recently, anti-viral properties of black tea infusions against polio virus type I was reported. Coffee extracts incidentally had no such beneficial effects.

Finally, both the fluoride and non-fluoride components of tea infusions have been shown to be effective in dental caries prevention by both human and animal studies. This is because it has been estimated that tea brews contain 2 - 3 parts per million of fluoride so that tea drinking can contribute a substantial proportion of the human requirement of fluoride which is necessary for the prevention of dental caries. However, the beneficial effects that accrue from this practice would be minimal if the tea is over-sugared.

The above described pharmacological and therapeutic properties of tea infusions adequately substantiate the claim that Tea is Good for You.