

Green Tea

HEALTH NEWS

Behind green tea's faint color and mild taste, lie powerful health benefits.

As the weather cools and flu and cold season kicks into high gear, many people will turn to green tea as a natural method of relief. Due to recent findings regarding its health benefits, this beverage's popularity has reached an all-time high. Now, more than 15 million Americans are drinking green tea, with sales up 650 percent from 2002.

STRONGEST ANTIOXIDANT FOUND IN GREEN TEA

In September 1997, a study by Dr. Lester Mitscher, medicinal chemistry professor at the University of Kansas, concluded that green tea contains high concentrations of epigallocatechin gallate (EGCG), the strongest antioxidant. EGCG is over 100 times more effective in neutralizing free radicals than vitamin C and 25 times more powerful than vitamin E, both well-known antioxidants. EGCG also topped other antioxidants, such as butylated hydroxyanisole (BHA), butylated hydroxytoluene (BHT) and resveratrol. Antioxidants are thought to prevent cellular damage that leads to certain diseases—especially cancer.

When compared to black and oolong tea, Mitscher indicated green tea contained, by far, the highest active EGCG concentrations. This is because green tea is steamed immediately after it is picked, which prevents the leaves from oxidizing, thus preserving EGCG. Although the daily green tea consumption needed to experience the antioxidant effect has not been established, Mitscher referred to

previous studies conducted in China and Japan, which revealed a low incidence of degenerative disease. People in these countries customarily drink four or more cups of green tea per day.

ENHANCED WEIGHT LOSS

Two studies have proposed drinking green tea may help you lose weight. The first study compared green tea's metabolic effect, in extract, to that of a placebo. Researchers found green tea drinkers burned an additional 70 calories per day. The difference is believed to be caused by the catechins (i.e., antioxidants which enhance metabolism) in green tea. The second study, done by the University of Geneva, revealed combining caffeine and EGCG enhanced metabolic rate by 4 percent.

STRONGER BONES

A study by researchers from National Cheng Kung University Hospital in Tainan, Taiwan, suggested drinking tea may strengthen bones. Tea contains fluoride and flavonoids, both of which may enhance bone strength. The study was based on 1,037 men and women, ages 30 and older, who were questioned about their tea consumption habits and given bone-mineral density tests.

Researchers found the benefits were most noticeable in people who drank at least two cups of tea per day, for at least six years. People who habitually consumed tea for over 10 years had the highest overall bone mineral densities—6.2 percent higher than non-habitual tea drinkers. Habitual tea drinkers for six to 10 years had bone mineral densities that were 2.3 percent higher than non-habitual tea drinkers. No significant differences between tea drinkers of one to five years and non-habitual tea drinkers were established.

REDUCED CIGARETTE SMOKING EFFECTS

Two studies, one by scientists at the Academy of Preventive Medicine in Beijing, China, and the other by James Klaunig at the Indiana University School of Medicine in Indianapolis, investigated green tea's

effects on oxidative stress (i.e., an imbalance in the pro-oxidant/antioxidant status of a cell) due to cigarette smoke toxins. Oxidative stress appears to cause or be a factor in the development of certain diseases—notably cancer. When smokers drank an equivalent of six cups of green tea per day, their bodies suffered 40 to 50 percent less oxidative damage. This potentially lowers their risk of cancer, emphysema, heart disease and other illnesses. However, it is important to note that those who drink green tea and continue to smoke continue to raise their oxidative damage risk. In addition, nonsmokers also exhibited significant oxidative damage decreases.

ORAL CANCER PREVENTION

At a 1998 symposium in Washington, D.C., Ning Li from the Institute of Nutrition and Food Hygiene, Zheng Sun from the Chinese Academy of Preventive Medicine and Junshi Chen from the Beijing Dental Hospital revealed drinking green tea improves pre-cancerous conditions of oral leukoplakia and suggested it may have certain preventive effects on oral cancer.

The study involved 32 patients, 20 males and 12 females, 23 to 28 years of age with oral mucosa leukoplakia (i.e., a pre-cancerous lesion of oral cancer). During a six-month period, patients drank three cups of green tea per day and applied a green tea and glycerin mixture directly to the lesion. As a result, 38 percent of the patients experienced a reduction in the size of a single lesion or total size of multiple lesions by 30 percent or more. Although 59 percent didn't experience any changes in size, cancerous cell formation rate decreased significantly. While this study's sample size and treatment duration were limited, the results provide encouraging and direct evidence of green tea's preventive effects on human cancer.

PROTECTION AGAINST ESOPHAGEAL CANCER

Research reported in the June 1994 issue of the *Journal of the National Cancer Institute* found that Chinese people who drink green tea have a reduced

It's Tea Time

January is National Tea Month and what better way to celebrate than learning to perfectly prepare green tea from world-renowned tea expert James Norwood Pratt. Now through March 2004, Pratt will conduct free, "tea party" seminars at health clubs across the country to present the facts about green tea as part of the Salada Green Tea Tour. For more information, visit www.greentea.com.

risk of developing esophageal cancer. Green tea is consumed to a much greater extent in China and other parts of Asia. Researchers from the National Cancer Institute and Shanghai (China) Cancer Institute interviewed 900 individuals with esophageal cancer and 1,500 without the disease. Subjects who drank green tea and avoided burning hot fluids had significantly lower cancer risk.

A CANCER PREVENTIVE

A study by Japanese scientists of the Saitama Cancer Research Institute shows that after cancer treatment, early stage breast cancer spreads less rapidly in women with a history of drinking more than five cups of green tea per day. As a result, there is a lower recurrence rate and longer disease-free period.

Green tea and EGCG are natural and readily available inhibitors of TNF- α , a gene expression which promotes growth in cancer cells and surrounding tissue. Since EGCG has also been proven to kill cultured cancer cells without causing harm to surrounding healthy cells, green tea could be beneficial not only for cancer prevention but also in the therapy and prevention of other diseases.

RHEUMATOID ARTHRITIS PREVENTION

In April 1999, medical researchers at Case Western Reserve University in Cleveland, Ohio, published a study reporting that drinking four or more cups of green tea per day may prevent rheumatoid arthritis, an inflammatory disease, and reduce its severity in those currently battling the disease.

The study was conducted on mice with collagen-induced arthritis, which is similar to rheumatoid arthritis in humans. The mice that received green tea were less likely to develop arthritis than those given plain drinking water. Furthermore, the mice that received green tea and still developed arthritis had less severe forms of it.

Researchers concluded the antioxidants in green tea possess not only cancer-preventing properties, but also anti-inflammatory properties. They may prevent or reduce the severity of rheumatoid arthritis symptoms, including pain, swelling, stiffness and loss of function in the joints. Although further research is needed in this area, the study provides encouraging evidence of green tea's preventive effects.

INCREASED HEART ATTACK SURVIVAL RATES

Researchers at Beth Israel Deaconess Medical Center in Boston, Massachusetts, demonstrated that consumption of both black and green tea can increase longevity after a heart attack. In the study, 1,900 heart attack survivors, men and women in their 60s, were asked about their tea consumption. Compared to non-tea drinkers, heavy tea drinkers (i.e., those who drank 19 or more cups per week) reduced their risk of dying over the next three to four years by 44 percent. Moderate drinkers (i.e., those who drank less than 14 cups per week) reduced their risk by 28 percent.

HEART DISEASE REDUCTION

In a study presented at the 1991 International Symposium on Physiological and Pharmacological Effects of Tea, researchers from the National Defense Medical College in Saitama, Japan, revealed that Japanese men who were heavy green tea drinkers reduced their total serum cholesterol levels. The study involved 1,306 men ages 49 and 56 years old. A similar study of 1,371 men over age 40, released in March 1995 by the Saitama Cancer Center, came to the same conclusions. Lowering blood cholesterol is associated with preventing heart disease.

For more information on green tea, please visit www.greentea.com or e-mail info@greentea.com. **AF**

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