

From VOA Learning English, this is **SCIENCE IN THE NEWS** in Special English. I'm Avi Ariditti.

And I'm Faith Lapidus. Today, we report on caffeine and two popular drinks: tea and coffee. We tell about a study that found black tea is better for your health than coffee. We also tell about a separate finding that coffee drinkers may have a lower risk of oral cancer than other people. And we examine how climate change may affect one of the most popular kinds of coffee.

For years, caffeine has been the "drug" of choice in many cultures. Caffeine has been considered socially acceptable because it is found in drinks like tea or coffee. People who consume a lot of caffeine-based drinks may think they are addicted -- depending heavily on the substance. But if they stop using such drinks, they will experience only mild symptoms of withdrawal for a few days.

The real addiction may be emotional. Many people claim they cannot start their day unless they get their "fix," which is, in many cases, a cup or two of coffee. Some people drink coffee throughout the day. Even young people who may not touch tea or coffee are still putting caffeine into their bodies when they have energy drinks, which have high amounts of caffeine.

Caffeine is a bitter substance found in coffee, tea, soft drinks, chocolate, kola nuts, and some medicines. It has many effects on the body, including helping to activate the central nervous system. This can make you more awake and give you increased energy.

America's National Institutes of Health says drinking two to four cups of coffee a day is not harmful for most people. But it warns that too much caffeine can make you restless, irritable and worried. It may also cause headaches, abnormal heartbeats and other problems. The NIH says women who are pregnant or breast-feeding should limit their consumption of caffeine. And it says caffeine may affect how the body reacts to some drugs and vitamins. It suggests talking with a doctor if you have questions.

Black Tea May Help Prevent Diabetes

Would you like a drink of coffee or tea? A mathematical study showed that tea -- especially black tea -- might be the best choice. The study showed that few people have Type 2 diabetes in countries where people drink a lot of tea.

Diabetes is a life-threatening condition that reduces the ability of the body to turn glucose -- or sugar -- into energy. It is a growing problem around the world. The number of people with diabetes is expected to rise sharply, to 438 million, over the next 20 years.

A team of researchers studied the amount of black tea sold in 50 countries. It compared the sales records with information from the World Health Organization about diseases in those nations. People in Ireland were the top tea-drinkers. On average, each person there drank more than two kilograms of black tea a year. People in China, Morocco and Mexico drank the least tea.

The study showed a link between black tea sales and rates of diabetes, but not with any other health condition. Organizers of the study say the link does not necessarily prove that black tea prevents diabetes. But they say earlier research had suggested that some parts of black tea have a possible link to good health. People have been drinking tea for many centuries. It is one of the world's most widely-consumed hot drinks.

Coffee is one of the world's most popular drinks -- perhaps *the* most popular. Results of a large American study may help to make it even more popular. The study showed that drinking coffee might help reduce the risk of oral or pharyngeal cancer, a deadly form of cancer.

Researchers questioned 970,000 American men and women who took part in the 30-year-long Cancer Prevention Study. One of the questions was about their use of coffee.

The researchers were with the American Cancer Society. They found that people who drank about four cups of coffee a day reduced their risk of oral/pharyngeal cancer by 49 percent compared to those who had little or no coffee.

Oral cancer and cancer of the pharynx, or upper part of the throat, are aggressive forms of cancer. And they are difficult to treat. Oral and pharyngeal cancers are rare in the United States. But they are among the top 10 forms of cancer worldwide.

Janet Hildebrand is an epidemiologist and population expert with the American Cancer Society. She led the study. She says the less coffee someone drank, the higher their risk of cancer. And the more coffee someone drank, the lower their risk of cancer.

“So it went down a little bit with each cup. And the lowest risk found was found for...four, five, six cups per day.”

The researchers found only a small health benefit in drinking two decaffeinated cups of coffee per day. And they found that tea drinkers did not have a reduced risk of cancer even though tea -- especially green tea -- is known to help human health in other ways.

Janet Hildebrand says coffee is thought to have substances that benefit the human body.

“Two compounds for example have been studied for their anti-cancer properties, and they have been found to possibly help regulate cell replication and to, sort of, prevent proliferation.”

Ms. Hildebrand says she and other researchers would like to know whether coffee drinking helps people who already have oral and pharyngeal cancers.

The study describing how coffee consumption can reduce the risk of oral and pharyngeal cancer was published in the *American Journal of Epidemiology*.

Global Warming May Affect Coffee Production

Scientists in England and Ethiopia are warning that coffee could be a victim of rising temperatures in Earth’s atmosphere. About 70 percent of all commercially-grown coffee is Arabica coffee. Although Arabica coffee is grown on plantations around the world, it only grows naturally in the highlands of southern Ethiopia. It is very sensitive to climate changes. But the wild plants have a genetic diversity that growers use to improve the cultivated crop -- which does not react well to climate change.

The scientists work at London's Royal Botanic Gardens at Kew and the Environment and Coffee Forest Forum in Ethiopia. They have finished the first computer model of the influence of climate change on wild Arabica. The model shows problems for coffee plants for the rest of this century. The scientists predict Arabica could disappear in at least one area within ten years because of climate change, deforestation, habitat loss or agriculture pressure.

Because Arabica is the only coffee grown in Ethiopia, the local industry could be badly hurt by climate change. It could lead to a loss of farm land, require stronger government action, and even cause crop failure. The findings were published in the journal *PLoS ONE*. The scientists say they hope the study will lead to new ways to help Arabica survive in the wild.

Finally, a company in Thailand is producing some of the world's most costly coffee with help from elephants. The coffee is called Black Ivory. It is grown in an area called the Golden Triangle. It is made from coffee beans that are fed to elephants. The partially-eaten beans are then gathered from the elephant's solid waste and roasted.

The Canadian man who developed the Black Ivory coffee says enzymes in the elephant's stomach break down proteins that make coffee taste bitter. The result, he says, is coffee with what he calls a unique, earthy taste.

Using elephants -- and people to search through elephant waste for the beans -- is a costly process, so the coffee can be pricey. It costs about \$1,100 per kilogram. That is almost \$50 per cup! The Black Ivory Coffee company says it takes 33 kilograms of raw beans to produce one kilogram of usable beans. The company says eight percent of its sales go to the Golden Triangle Asian Elephant Foundation, which watches and helps improve the health of elephants in the area.

This **SCIENCE IN THE NEWS** was written by Christopher Cruise, with reporting by Jessica Berman, and VOA's Central News Division. Our producer was June Simms. I'm Faith Lapidus.

And I'm Avi Arditti. You can find transcripts, MP3s, and podcasts of our programs at learningenglish.voanews.com. Join us again next week for more news about science in Special English on the Voice of America.