

### **Phytonutrient Rich Coffee and Tea Consumption Reduces Diabetes Risk**

A meta-analysis on the health benefits of coffee and tea has revealed that for each daily cup of coffee was associated with a 7 per cent reduction in the risk of developing diabetes, according to findings published in the *Archives of Internal Medicine*.

“If such beneficial effects were observed in interventional trials to be real, the implications for the millions of individuals who have diabetes mellitus, or who are at future risk of developing it, would be substantial,” wrote the reviewers, led by Rachel Huxley from the University of Sydney, Australia.

### **Another lifestyle modifier for the world’s biggest health epidemic**

In the US, there are almost 24 million people with diabetes, equal to 8 per cent of the population. The total costs are thought to be as much as \$174 billion, with \$116 billion being direct costs from medication, according to 2005-2007 American Diabetes Association figures.

Significant research indicates that the coffee bean can influence various health factors, such as reducing the risk of developing diabetes, and improving liver health.

Coffee is a key component of the Mediterranean diet. Overwhelming evidence shows that following this dietary pattern, high consumption of fruits, vegetables, whole grains, legumes, fish and olive oil, combined with moderate physical activity virtually eliminates the risk of developing type two diabetes.

### **Tea time is great for our health**

Lead researcher Rachel Huxley and her co-workers reviewed data of over 500,000 individuals with over 21,000 cases of type-2 diabetes from prospective studies. Eighteen studies looked at coffee, six studies also included information about decaffeinated coffee, and seven studies reported on tea consumption.

In addition to risk-lowering effects of additional regular coffee consumption, three to four cups of decaffeinated coffee were associated with a 33 per cent lower risk of diabetes, compared to drinking no decaf.

Tea drinkers also benefited, with three to four cups associated with a one-fifth lower risk of developing diabetes.

“That the apparent protective effect of tea and coffee consumption appears to be independent of a number of potential confounding variables raises the possibility of direct biological effects,” wrote the reviewers.

### **Beneficial constituents**

Commenting on the possible bioactives and mechanism of action, Huxley and her co-workers noted that because of risk reductions associated with decaffeinated coffee, the effects were unlikely to be due to caffeine. Other compounds in coffee and tea, such as magnesium, antioxidant lignans or chlorogenic acids, may be involved.

Chlorogenic acid is a family of naturally occurring organic compounds. These are esters of cinnamic acids and quinic acid. It is an important biosynthetic intermediate. Chlorogenic acid also is one of the phenols found in coffee, in the bamboo, as well as many other plants. This compound, long known as an

antioxidant slows the release of glucose into the bloodstream after a meal. Coffee extract are utilized in nutritional supplements to address blood sugar handling challenges.

Source: *Archives of Internal Medicine*

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*"Coffee, Decaffeinated Coffee, and Tea Consumption in Relation to Incident Type 2 Diabetes Mellitus: A Systematic Review With Meta-analysis"*

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## **Omega-3 rich Mediterranean Diet Reduces Risk of Diabetes**

Numerous studies show that the Mediterranean diet is likely the healthiest dietary pattern for human health . Already credited with preventing cardiovascular disease, possibly preventing asthma in small children, and protecting the skin against sun damage and wrinkles, it is now seen as a possible way to avoid developing Type 2 diabetes.

Dr A Martinez-Gonzalez, professor of epidemiology and chair of the Department of Preventive Medicine and Public Health at the University of Navarra, Pamplona, Spain, and his colleagues – decided to investigate the benefit of the Mediterranean diet on blood sugar regulation. Their research was published last May in the *British Medical Journal*.

"Many studies have shown that the Mediterranean food pattern has a role in prevention of cardiovascular disease," Dr Martinez-Gonzalez wrote in the study. "The similarity of some risk factors and some empirical and mechanistic evidence suggest that the Mediterranean diet can also protect against diabetes."

The SUN study involved over 13,000 graduates from the University of Navarra with no history of diabetes. They were recruited between December 1999 and November 2007, and their dietary habits and health were tracked for over four years.

When the results were analyzed at the end of the study, participants who stuck to the diet had a lower risk of diabetes than those who had strayed. Those who seriously adhered to the Mediterranean diet were rewarded with an **83% relative reduction** in their risk of developing diabetes.

Dr Martinez-Gonzalez noted that it was the participants with higher risk factors for developing diabetes who stuck most closely to the Mediterranean diet. These were people who were older, had a family history of diabetes, and many of them were ex-smokers.

This group was therefore expected to have a higher incidence of diabetes, but this was not the case, he said. In fact, they ended the study with a lower risk of diabetes, suggesting that "adherence to a Mediterranean diet is associated not only with a reduced risk of diabetes "but that "the diet might provide substantial protection."

## **Mediterranean Diet Low in Saturated Fat, High in Fiber**

The classic Mediterranean diet is high in fiber from lots of vegetables, fruit, and fish. This dietary pattern is low in saturated fats and trans-fatty acids, and allows a moderate amount of alcohol.

"Moreover, a particular feature of the diet is the abundant use of virgin olive oil for cooking, frying, spreading on bread, or dressing salads," Dr Martinez-Gonzalez noted.

“Despite having a relatively high total fat content, this food pattern is rich in mono-unsaturated fatty acids from olive oil, and poor in saturated fatty acid. This leads to a high ratio of monounsaturated fatty acids to saturated fatty acids.

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