

Drinking Coffee Linked to Lower Body Fat and Less Belly Fat in Women

Women who drink two or three cups of coffee a day have been found to have lower total body and abdominal fat than those who drink less, according to a new study published in *The Journal of Nutrition*. Researchers examined data from the National Health and Nutrition Examination Survey, organised by the Centre for Disease Control (CDC) in the United States and looked at the relationship between cups of coffee drunk per day, and both total body fat percentage and abdominal fat.

They found that women aged 20-44 who drank two or three cups of coffee per day had the lowest levels of adiposity, 3.4% lower than people who did not consume coffee. Among women aged between 45-69, those who drank four or more cups had 4.1% lower adiposity percentage. Overall, the average total body fat percentage was 2.8% lower among women of all ages who drank two or three cups of coffee per day.

The findings were consistent whether the coffee consumed was caffeinated or decaffeinated, and among smokers/non-smokers and those suffering from chronic diseases when compared to those



in good health. Dr. Lee Smith, Reader in Public Health at Anglia Ruskin University, London and senior author of the study, said, "Our research suggests that there may be bioactive compounds in coffee other than caffeine that regulate weight and which could potentially be used as anti-obesity compounds. It could be that coffee, or its effective ingredients, could be integrated into a healthy diet strategy to reduce the burden of chronic conditions related to the obesity epidemic."

Researchers Show Drinking Matcha Potentially Reduces Anxiety

A group of Japanese researchers from Kumamoto University showed that anxious behaviour in mice is reduced after consuming matcha powder or matcha extract. Its calming effects appear to be due to mechanisms that activate dopamine D1 receptors and serotonin 5-HT1A receptors, both of which are closely related to anxious behaviour.

The "elevated plus maze" test is an elevated, plus-shaped, narrow platform with two walled arms that provide safety for a mouse. It is used as an anxiety test for rodents with the idea that animals experiencing higher



anxiety will spend more time in the safer walled-off areas. Using this test, researchers found that mouse anxiety was reduced after consuming matcha powder or matcha extract. In addition, when the anxiolytic activity of different matcha extracts were evaluated, a stronger effect was found with the extract derived

using 80% ethanol in comparison to the extract derived from only hot water. In other words, a poorly water-soluble matcha component has stronger anxiolytic effects than a component that is easily soluble in water. A behavioural pharmacological analysis further revealed that matcha and matcha extracts reduce anxiety by activating dopamine d1 and serotonin 5-HT1A receptors."The results of our study show that matcha can be quite beneficial to the human body," said study leader, Dr. Yuki Kurauchi.

Study Suggests Elderberry Helps Fight Flu Symptoms

A recent study by a group of Chemical and Biomolecular Engineering researchers from the University of Sydney's Faculty of Engineering and IT has determined that the elderberry fruit can help the fight against influenza.

Conducted by Professor Fariba Deghani, Dr Golnoosh Torabian and Dr Peter Valtchev as part of the ARC Training Centre for the Australian Food Processing Industry that was established in the Faculty of Engineering and IT, the study showed that compounds from elderberries can directly inhibit the virus's entry and replication in human cells, and can help strengthen a person's immune response to the virus. The group performed a comprehensive examination of the mechanism by which phytochemicals from elderberries combat influenza infections. "Our study has shown that the common elderberry has a potent direct antiviral effect against the flu virus. It inhibits the early stages of an infection by blocking key viral proteins responsible for both the viral attachment and entry into the host cells," said Dr Golnoosh Torabian.

The researchers used commercially farmed elderberries which were turned into a juice serum and were applied to cells before, during and after they had been infected with the influenza virus.



The phytochemicals from the elderberry juice were shown to be effective at stopping the virus infecting the cells; however they were even more effective at inhibiting viral propagation at later stages of the influenza cycle when the cells had already been infected with the virus. "This observation was rather significant because blocking the viral cycle at several stages has a higher chance of inhibiting the viral infection," explained Dr Peter Valtchev.

"In addition to that, we identified that the elderberry solution also stimulated the cells to release certain cytokines to coordinate a more efficient response against the invading pathogen," said Centre Director, Professor Fariba Deghani.

Drinking Black Tea Helps Lose Weight

Black tea has a potential to promote weight loss and other health benefits by changing bacteria in the gut, research indicates for the first time. UCLA researchers have demonstrated for the first time that black tea can promote weight loss and other health benefits by changing bacteria in the gut. In a study of mice, the scientists showed that black tea alters energy metabolism in the liver by changing gut metabolites. The research is published in *European Journal of Nutrition*.

The study found that both black and green tea changed



the ratio of intestinal bacteria in the animals: The percentage of bacteria associated with obesity decreased, while bacteria associated with lean body mass increased. The new findings show that black tea polyphenols, which are too large to be absorbed in the small intestine, stimulate the

growth of gut bacterium and the formation of short-chain fatty acids.

In the study, four groups of mice received different diets; two of which were supplemented with green tea or black tea extracts. After four weeks, the weights of the mice that were given green or black tea extracts dropped to the same levels as those of the mice that received the low-fat diet throughout the study. The researchers also collected samples from the mice's large intestines (to measure bacteria content) and liver tissues (to measure fat deposits). In the mice that

consumed either type of tea extract, there was less of the type of bacteria associated with obesity and more of the bacteria associated with lean body mass. However, only the mice that consumed black tea extract had an increase in a type of bacteria

called *Pseudobutyrvibrio*, which could help explain the difference between how black tea and green tea change energy metabolism. Dr. Zhaoping Li, director of the UCLA Centre for Human Nutrition, chief of the UCLA Division of Clinical Nutrition and the

study's senior author, said the findings suggest that the health benefits of both green tea and black tea go beyond their antioxidant benefits, and that both teas have a strong impact on the gut microbiome.

Study Confirms Fennel as Safe and Effective for Easing Menopause Symptoms

Fennel has been known for its health benefits for digestion and premenstrual symptoms. A new study confirms that it is also effective in the management of postmenopause symptoms such as hot flashes, sleeplessness, vaginal dryness, and anxiety, without serious side effects. The study outcomes are published in *Menopause*, the journal of The North American Menopause Society (NAMS).

Although hormone therapy (HT) is the most effective treatment for managing most menopause symptoms, some women have turned to herbal medicine because they are either not candidates for HT or are concerned about the negative publicity surrounding potential side effects. Fennel has phytoestrogenic properties.

In a trial of women aged 45 to 60 years, soft capsules containing 100 mg of fennel were administered twice daily for eight weeks. Improvements were compared between the intervention and placebo groups at four, eight, and ten weeks, with a significant statistical difference documented. In the end, fennel was concluded to be a safe and ef-



fective treatment to reduce menopause symptoms without serious side effects. The study is one of the first clinical studies to examine the benefits of fennel for managing menopause symptoms, even though it had been previously studied and confirmed to manage premenopause symptoms. "This small pilot study found that, on the basis of a menopause-rating scale, twice-daily consumption of fennel as a phytoestrogen improved menopause symptoms compared with an unusual minimal effect of placebo," says Dr. JoAnn Pinkerton, executive director of NAMS.

Study Shows Significant Benefits to Gut Health from Algae Consumption

Researchers at the University of California San Diego, USA recently completed the first study examining the effects of consuming *Chlamydomonas reinhardtii* and demonstrated that the algae improves human gastrointestinal issues associated with irritable bowel syndrome (IBS) such as diarrhoea, gas and bloating. Results of the project are published in the *Journal of Functional Foods*.

Preliminary data in mouse studies demonstrated that consuming *C. reinhardtii* significantly



reduced the rate of weight loss in mice with acute colitis, which is generally linked to inflammation of the digestive tract. Building off these results, the researchers set out to test for a similar effect when the algae was consumed by human volunteers, including

those with and without symptoms associated with IBS. Volunteers consumed daily spoonfuls of powdered *C. reinhardtii* biomass and reported their gastrointestinal health for one month. Results showed that participants who suffered from a history of frequent gastrointestinal symptoms reported significantly less bowel discomfort and diarrhoea, significantly less gas or bloating and more regular bowel movements.

"The benefits of consuming

this species of algae were immediately obvious when examining the data from both mice and humans who suffered from gastrointestinal symptoms," said Frank Fields, a research scientist in Mayfield's lab and lead author of the paper. Volunteers were pro-

vided with stool sampling kits to assess any changes in their microbiomes. The results indicated that the gut microbiome composition remained diverse, which is typical of healthier individuals, and that no significant changes to the composition of their gut

microbiome occurred during the study as a result of consuming the algae. The scientists believe the benefits could be traced to a bioactive molecule in algae or perhaps a change in gene expression of gut bacteria caused by algae consumption.

New Ginseng Supplement Helpful For Attention, Memory

A recent clinical study of a very specific panax ginseng supplement has shown to be more effective than traditional panax ginseng extract for stress-related cognitive issues. This red ginseng supplement, known as HRG80, is made from ginseng roots that have been cultivated in a controlled manner, which also bypasses some of the sustainability issues that occur with the overharvesting of this important herb.



that those taking the HRG80 supplement had significantly higher attention scores than those taking either a more traditional extract of ginseng or those given a placebo. It was found that stress has a negative effect on the ability to

recall certain information that any other time one would have no issue remembering.

In this study, the researchers looked specifically at the attention and memory of 50 individuals who were tired but otherwise healthy. They found

This research shows that the new ginseng supplement is helpful to people with high-stress jobs or those who are going through a stressful situation. Better attention and memory during stressful times is something that many could certainly use.

Researchers Find Fish Oil Could Help in Depression Treatment

The University of Illinois at Chicago researchers conducted the study using stem cells from adults with depression found that fish oil, when tested in the model, created an antidepressant response. The study has been published in *Molecular Psychiatry*. UIC's Mark Rasenick, principal investigator of the study, says that the research provides a number of novel findings that can help scientists better understand how the brain works and why some people respond to drug treatment for depression, while others experience limited benefits from antidepressant medication.



"It was also exciting to find scientific evidence that fish oil may be an effective treatment for depression," said Rasenick, UIC distinguished professor of physiology and biophysics and psychiatry at the College of Medicine. In the study, the UIC researchers used skin cells from adults with depression that were converted into stem cells at Massachusetts General Hospital and then directed those stem cells to develop into nerve cells. The skin biopsies were taken from two types of patients: people who previously responded to anti-depressant treatment and people who have previously been

resistant to antidepressants. When fish oil was tested, the models from treatment-sensitive and treatment-resistant patients both responded.

"We saw that fish oil was acting, in part, on glial cells, not neurons," said Rasenick, who is also a research career scientist at Jesse Brown VA Medical Center and president and chief scientific officer at Pax Neuroscience, a UIC startup company. "Our study also showed that a stem cell model can be used to study response to treatment and that fish oil as a treatment, or companion to treatment, for depression warrants further investigation," Rasenick said.