

Numerous Benefits of Glutathione on Health

Glutathione is an antioxidant produced in cells. It's comprised largely of three amino acids: glutamine, glycine, and cysteine.

Glutathione levels in the body may be reduced by a number of factors, including poor nutrition, environmental toxins, and stress. Its levels also decline with age.

In addition to being produced naturally by the body, glutathione can be given intravenously, topically, or as an inhalant. It's also available as an oral supplement in capsule and liquid form. However, oral ingestion of glutathione may not be as effective as intravenous delivery for some conditions.

1. Reduces oxidative stress: High levels of oxidative stress may be a precursor to multiple diseases. These include Glutathione helps stave off the impact of oxidative stress, which may, in turn, reduce diabetes, cancer, and rheumatoid arthritis.

An article cited in *Journal of Cancer Science and Therapy* indi-



cated that glutathione deficiency leads to increased levels of oxidative stress, which might lead to cancer. It also stated that elevated glutathione levels raised antioxidant levels and resistance to oxidative stress in cancer cells.

2. Improves psoriasis: Whey protein, when given orally, improved psoriasis with or without additional treatment.

3. Reduces cell damage in alcoholic and non-alcoholic fatty liver disease: Glutathione has been shown to improve protein, enzyme, and bilirubin levels in the blood of individuals

with alcoholic and nonalcoholic chronic fatty liver disease. A study reported that glutathione was most effective when given to people with fatty liver disease intravenously, in high doses.

4. Improves insulin resistance in older individuals: Researchers at Baylor School of Medicine used a combination of animal and human studies to explore the role of glutathione in weight management and insulin resistance in older individuals. Study findings indicated that low glutathione levels were associated with less fat burning and higher rates of fat storing in the body.

5. Fights against autoimmune disease: Glutathione helps reduce oxidative stress by either stimulating or reducing the body's immunological response. Autoimmune diseases attack the mitochondria in specific cells. Glutathione works to protect cell mitochondria by eliminating free radicals.

Diverse Medicinal Benefits of Sage

Sage is a herb used as a medicine for Alzheimer's disease, diabetes, high cholesterol, and symptoms of menopause.

Sage might help with chemical imbalances in the brain that cause symptoms of Alzheimer disease. It might also improve how the body uses insulin and sugar.



Administering extracts of two different sage species, common sage and Spanish sage, for 4 months could to improve learning, memory and infor-

mation processing in people with mild to moderate Alzheimer disease.

Consuming common sage leaf extract three times daily for 3 months lowers fasting blood sugar and average blood sugar over time (HbA1c) in diabetes patients.

Common sage consumption thrice daily for 2 or 3 months reduces low-density lipoprotein (LDL) cholesterol and blood fats called triglycerides. It also increases high-density lipoprotein (HDL) cholesterol, in people with high cholesterol.

Research shows that taking common sage extract for 8-12 weeks improves symptoms of menopause, especially hot flashes and night sweats.

Prebiotics to Re-establish Gut Symbiosis

Prebiotics are basically non-digestible fiber compounds in foods, and are composed of oligosaccharides. They stimulate the growth of normal gastrointestinal flora, which in turn hinders the growth of abnormal flora and pathogens.



The health benefits of prebiotics are mainly attributed to the increased production of short-chain fatty acids (SCFA). SCFA are the chief end-products of prebiotic fermentation, and they play an important role in modulating the intestinal barrier. SCFA are also involved in regulating the immune system and inflammatory response.

Prebiotics are not only modulators of gut microbiota, but their potential is being harnessed in a number of diseases such as colorectal cancer and inflammatory bowel diseases. They also aid in the absorption of several minerals, and help in the prevention of obesity and relieving constipation.

Prebiotics may be beneficial in the prevention of colorectal cancer by modifying the composition or activity of the colorectal microflora.

Dysbiotic intestinal microbiota is the major cause of inflammatory bowel disease and hence there has been pioneering research in developing new treatments which target the gut microflora. Prebiotics

improve the gut mucosal barrier and modulate the microflora, and hence help in the prevention of Inflammatory Bowel Disease (IBD). Intestinal dysbiosis is a major cause of constipation. By stimulating the growth of beneficial bacteria, prebiotics like bifidobacteria act as a viable option in relieving constipation.

SCFA production by these bacteria play a pivotal role in modulation of intestinal motility by exerting a trophic effect on the epithelial cells. This ultimately leads to increased blood flow in the region and increased intestinal motility.

Gut microbiota is involved in the development of low-grade inflammation which disrupts the metabolism of glucose and the absorption of fats. These disruptions are distinctive features of obesity. Prebiotics improve the gut barrier integrity and reduce intestinal low-grade inflammation, thus ameliorating metabolic alterations and promoting weight loss.

The cholesterol-lowering effects of prebiotics are mainly due to the production of SCFAs by prebiotics. The SCFAs generated are absorbed in the portal vein and metabolized by the liver, resulting in the lowering of blood pressure. Prebiotics are also involved in the absorption of fats and phospholipids in the lower intestine. This binding effect of prebiotics also leads to decreased levels of cholesterol.

Omega-3 Fish Oil Supplements' Benefits on Heart Disease

Omega-3 fish oil contains both docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA). Omega-3 fatty acids are essential nutrients that are important in preventing and managing heart disease.

Findings show omega-3 fatty acids may help to:

- Lower blood pressure
- Reduce triglycerides
- Slow the development of plaque in the arteries
- Reduce the chance of abnormal heart rhythm
- Reduce the likelihood of heart attack and stroke
- Lessen the chance of sudden car-

diac death in people with heart disease

The American Heart Association (AHA) recommends that everyone eats fish (particularly fatty, cold-water fish) at least twice a week. Salmon, mackerel, herring, sardines, lake trout, and tuna are especially high in omega-3 fatty acids. While foods are your best bet for getting omega-3s in your diet, fish oil supplements are also available for those who do not like fish. The heart-healthy benefits of regular doses of fish oil supplements are unclear, so talk to your doctor to see if they're right for you. If you have heart disease or high triglyceride levels, you may need even more



omega-3 fatty acids. Ask your doctor if you should take higher doses of fish oil supplements to get the omega-3s you need.

The AHA says taking up to 3 grams of fish oil daily in supplement form is considered safe. Taking more than 3 grams of fish oil daily may increase the risk of bleeding.

Multifaceted Benefits of Cranberry Extract

Cranberry has been used for reducing the risk of “bladder infections” or urinary tract infections. It has also been used for decreasing the smell of urine in people who are unable to control urination (incontinent).

Cranberries contain compounds called proanthocyanidins, which prevent *E. coli* bacteria from attaching to the lining of your urethra and bladder.

Several studies have found that taking cranberry pills containing 36 mg of proanthocyanidins every day for two months can significantly reduce the frequency of UTIs, especially in women.

Other studies have found no beneficial effects in different populations, including elderly people living in nursing homes or those with bladder disorders.

It is unclear whether cranber-

ry pills are as effective as traditional antibiotics at preventing UTIs, as studies have found conflicting results.

These mixed conclusions could be due to differences in study design or because cranberry may not be as effective at preventing the 25–35% of UTIs caused by fungi or bacteria other than *E. coli*.

Cranberries are full of antioxidants, which protect your body from damage caused by free radicals. Free radical damage has been linked to many chronic illnesses, including heart disease and diabetes.

Regularly drinking cranberry juice may lower risk of heart disease by increasing HDL cholesterol, reducing inflammation and preventing cholesterol oxidation.

Certain compounds in cranberry juice can help eliminate *H. pylori* bacterial infections in the stom-



ach, reducing your risk of stomach ulcers.

Several studies have found that cranberry juice can significantly reduce blood sugar levels in people with diabetes.

Test-tube and animal studies have shown that compounds found in cranberries may protect against cancer and slow the growth of tumors.

Compounds in cranberry juice can also boost immunity and reduce symptoms of the flu.

Adrenal Extract to Treat Rheumatoid Arthritis and Other Diseases

Adrenal extract is a chemical that is made from the adrenal glands of slaughtered cows, pigs, and sheep.

Orally, adrenal extract is used for low adrenal function, fatigue, stress, lowered resistance to illness, severe allergies, asthma, certain skin conditions such as eczema and psoriasis, and rheumatoid arthritis.

Adrenal extract is also put under the tongue for physical or emotional stress, poor stress tolerance, general fatigue, allergies, autoimmune disorders, depression, pain and inflammation, low blood pressure, low blood sugar, drug and alcohol withdrawal, and discontinuation of cortisone drugs.



Intravenously, adrenal extract has been used for treating low adrenal function, high levels of potassium in the blood, and ulcerative colitis, and for preventing miscarriage.

Agaricus Mushroom for Cancer Treatment

Agaricus mushroom is used for various types of cancer, and for the side effects of cancer treatments, but there is no strong evidence supporting any uses.

Some developing research suggests agaricus mushroom might strengthen the immune system, fight tumor development, and work as an antioxidant.

Early research shows that taking agaricus mushroom extract might reduce some of the side effects of chemotherapy, including weakness and loss of appetite.

Some diabetes medications work better when they are given with agaricus mushroom extract. Consuming agaricus mushroom extract might help reduce liver damage in people with hepatitis B infection. Taking agaricus mushroom extract helps reduce fatigue and improve symptoms in people with ulcerative colitis.



Benefits of Aged Black Garlic Extract for Cardiovascular Health

Aged black garlic, which is a whole raw garlic bulb fermented under controlled temperatures and humidity for approximately one month. Its unique aging process helps to increase the number of antioxidant compounds inside each bulb, including polyphenols, flavonoids, and melanoidins, and it has a lengthy history of use in traditional medicine in Asian countries for a number of uses.

Pharmactive Biotech recently released its aged black garlic extract, ABG10+, which has now undergone a clinical trial at the Autonomous University of Madrid led by Sara Amor, PhD, and published in the journal *Nutrients*.

In a 16-week study, groups of rats were either fed standard chow, or chow that contained high amounts of fat and sucrose. From week 8 on, half of the high-fat diet rats were treated with Pharmactive's aged black garlic extract, which resulted in a lower mean caloric intake, body weight, triglycerides, LDL cholesterol, insulin, and leptin serum concentrations and a higher HDL cholesterol than non-treated rats. Additionally, the aged black garlic extract decreased adipose weight, and caused reductions in the obesity-induced vasoconstriction of rats on the high-fat diet. Researchers said that further studies are needed in order to assess the differences in supplement bioavailability between rats and humans.



ABG10+ is the first black garlic extract to be standardized to a higher concentration of SAC, via high performance liquid chromatography-based technology, and is produced using the company's proprietary aging process.

"As ABG10+ treatment significantly reduced body weight gain in HFD-fed rats, the improved metabolic and vascular profiles of these animals may be the result of the decrease in body weight," the authors said.

Medicinal Benefits of Algal Oil

Algal oil is an oil made from certain marine algae, and is used as a source of omega-3 fatty acids. Two of the most important omega-3 fatty acids contained in algal oil are docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA).



Algal oil is most commonly used along with another fatty acid to fortify infant formula. It is also used for improving thinking skills in children and older people, lowering cholesterol, improving vision in people with a certain eye condition (retinitis pigmentosa), and many other conditions, but there is no good scientific evidence to support these uses.

Algal oil contains omega-3 and omega-9 fatty acids. These fatty acids can reduce inflammation, improve levels of some fats in the blood, and help with brain function.

Some research shows that consuming algal oil can improve an older person's ability to remember past events. It also seems to improve some forms of learning.

Consuming 1.5 tablespoons per day of an algal oil that is high in oleic acid may help to prevent heart disease. Algal oil might also help lower triglycerides.

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