Turmeric

Curcuma Longa

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Turmeric is a rhizome (root) from the family of Zingiberaceae, which also includes ginger and cardamom. It is native to India and Asia and has been used for thousands of years in Ayurvedic medicine.[1] It is a staple spice in Indian and Asian cooking, used in soups, stews, sautéed dishes. A popular drink with heated milk, commonly called "golden milk" or "turmeric latte" has been an Ayurvedic tradition for centuries and is gaining popularity. Turmeric is the major ingredient in curry powder and is responsible for its yellow color, due to the high amount of certain polyphenols, called curcuminoids. Most studies on the benefits of turmeric actually focus on curcumin rather than turmeric root. Although curcumin supplements are widely available, consuming turmeric in its whole form may be more beneficial due to the synergistic effect of all of its beneficial compounds, such as other curcuminoids and volatile oils like tumerone, atlantone, and zingiberone.[1] Other important nutrients found in high quantities in turmeric include manganese, iron, vitamin B6, fiber, and copper. Turmeric is known for its anti-inflammatory properties, potentially as a result of the ability of curcumin to reduce ciruclating interleukin-6 concentrations, [2] and it's ability to inhibit COX-2 enzyme.[3] A meta-analysis involving supplementation of curcuminoids from turmeric found that it may reduce circulating CRP levels, which are biomarkers of inflammation.[4] The anti-inflammatory effects of curcumin are similar to Ibuprofen, which may have beneficial indications for pain management in those suffering from osteoarthritis.[5] There is also research demonstrating the potential of curcuminoids from turmeric to have anti-cancer properties,[6,7] however, based on review and meta-analysis, more research is needed to substantiate this effect.[8,9] Curcumin has been shown to have detoxification effects which may be protective for the liver in cases of drug metabolism.[10] Consumption of curcumin extract also provides anti-diabetic support and improves insulin resistance.[11] Recent research indicates that curcumin may be protective against Alzheimer's disease.[12]

Cumin

Cuminum cyminum

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Cumin belongs to the same plant family, Apiaceae, as parsley, dill, and caraway. The cumin plant is native to Egypt where it was once used in mummification in addition to seasoning soups and breads.[13] The seeds are often used to warm up dishes in Indian, Middle Eastern, and Mexican cooking, and they can be used whole or ground into a powder.[13] It is often used to spice up chili, soups, sauces, and marinades. Cumin is high in iron, and it is also a good source of manganese, copper, calcium, magnesium, phosphorus, and thiamine.[13] Medicinal properties of cumin can be attributed to its polyphenols and volatile oils, and much of the research is based on essential oil

extracts from the seeds. Although traditionally used as a digestive aid,[13] studies show that cumin also has antioxidant,[14] antimicrobial,[15,16] and antifungal,[17–19] properties. Research with an animal model has shown that cumin seed may have hypoglycemic and hypolipidemic effects,[20] and in a human study has shown to lower BMI and serum insulin levels in overweight adults.[21] This indicates a potential for decreasing risk of diabetes and cardiovascular disease. Research also shows that cumin may have anticarcinogenic effects.[22–24]

Garlic

Allium sativum

Photo:https://www.tasteofhome.com/article/how-to-mince-garlic/

Along with chives, onions, and leeks, garlic is a part of the Amaryllidaceae family. It is originally from Asia, and has been used as a medicinal food for thousands of years.[25] Garlic cloves can be used whole, crushed, chopped, roasted, sautéed, or dried and powdered. It is commonly used to add flavor to sauces and dressings, soups and stews, or with sautéed dishes. Garlic contains a bioactive compound called allicin which becomes activated when it is crushed or cut. For this reason, it is a good idea to crush or cut the garlic clove and wait a few minutes before exposing it to heat. Unfortunately, much of the research on the potential health benefits of garlic involve taking it in supplement form, usually as Aged Garlic Extract, rather than in whole food form. However, due to the bioactive components within garlic that may be responsible for many of its common health claims, it can be assumed that those benefits that are shown in the research may still be applicable when consuming garlic in its whole food form. It contains organosulfur compounds that have shown to be antimicrobial,[26] antiviral,[27] anticarcinogenic,[28] and play an important role in the body's detoxification system.[25] Other nutrients that are high in garlic include manganese, pyridoxine, vitamin C, copper, selenium, phosphorus, thiamine and calcium.[25] Garlic is most well-known for its cardioprotective functions, such as reducing blood pressure,[29,30] and research also shows that garlic exhibits hyperlipidemic effects to lower LDL cholesterol and total cholesterol.[31] Supplementation with Aged Garlic Extract has beneficial effects on the immune system, including the improvement of cold and flu symptoms.[32] Garlic is a potent antioxidant that involves the increase of glutathione oxidase and superoxide dismutase.[33] Studies show that it may be effective in reducing fasting blood glucose, although more research is needed to examine this effect.[34] One interesting study found that consuming garlic and onion can enhance the bioavailability of iron and zinc from grains.[35] Overall, garlic is a beneficial spice for overall heart and immune health.

Ginger

Zingiber officinale

Photo: https://www.drweil.com/diet-nutrition/cooking-cookware/cooking-with-spices-ginger/

Part of the Zingiberaceae family, ginger is related to turmeric and cardamom. It is native to southern Asia, and its rhizome has been used in culinary and medicinal applications for millenia.[36] The root can be used fresh, boiled into a tea to or cooked into food for its pungent spiciness. Ginger is commonly used to spice Asian and Indian dishes such as stir fries and soups, and in sweet desserts like gingersnap cookies. It contains fiber, vitamin B6, folate, vitamin C, copper, magnesium, and potassium. It is commonly used to support digestion, and It works as an antiemetic to treat nausea, vomiting, and motion sickness. It does this by acting as a serotonin antagonist in the GI tract[37], which is the same targeted action performed by prescriptions given for this purpose. It has been shown to be effective at reducing nausea during pregnancy,[38] in post-operative cases,[39] during chemotherapy,[40] and may be useful for preventing and treating motion sickness.[41] In women suffering from dysmenorrhea, ginger was shown to be as effective as mefenamic acid and ibuprofen for pain management and other related symptoms.[42] By inhibiting COX-2 pathways,[43] the anti-inflammatory and pain relieving effect of ginger may be useful in other health conditions as well. Research indicates that ginger supplementation can relieve osteoarthritis pain by reducing serum inflammatory cytokines TNF-α and IL-1β.[44] Ginger has also been shown to have antimicrobial properties.[15] One study in rats showed that ginger may be able to reduce negative impacts on the liver due to overconsumption of alcohol.[45] Ginger is a beneficial spice for the digestive system and reducing inflammation.

Cinnamon

Cinnamomic verum

Photo: https://draxe.com/health-benefits-cinnamon/

Cinnamon belongs to the Lauraceae family and is related to laurel and avocado. The medicinal and culinary spice comes from the bark of cinnamon trees, which are native to Sri Lanka and southern India. In Ayurvedic medicine, many parts of the tree, including leaves, flowers, and roots, are used for various culinary or healing purpose.[46] Due to its natural hint of sweetness, the bark is commonly ground up and added to a variety of sweet dishes and pastries, but it can also be used in savory foods as a warming spice. There are two common cinnamon species, Ceylon or "true cinnamon", and cassia, which is the most common type found in markets. There are slight differences between these two types as far as texture and flavor, but an essential difference is in that cassia contains a blood thinning and hepatotoxic compound called coumarin, which is what Coumadin (Warfarin) is made from. Ceylon cinnamon has very low levels of coumarin in it, making it a better option for therapeutic uses.[46] Some beneficial nutrients of cinnamon include calcium, iron, manganese, and fiber, as

well as bioactive compounds like cinnamaldehyde and eugenol. Cinnamon is known for its ability to support blood sugar. Studies show that cinnamon intakes significantly reduce hemoglobin A1c and blood pressure[47] as well as fasting blood glucose levels[48] in people with type 2 diabetes. Another study found that in addition to reducing blood glucose levels, cinnamon also exhibits cardioprotective effects by reducing triglyceride levels, LDL cholesterol, and total cholesterol in people with type 2 diabetes.[49] Research shows that cinnamon contains anti-inflammatory properties, specifically by inhibiting COX-2 pathways.[50] Other research suggests that true cinnamon may be antimicrobial, antiparasitic, and antioxidant, although more human clinical research is necessary.[46]

Coriander

Coriandrum sativum

Photo: https://foodal.com/knowledge/herbs-spices/coriander/

Coriander is a spice made from the seeds of the coriander plant, whereas the aerial leaf of the plant is known as cilantro. It belongs in the Apiaceae family, which also includes cumin, parsley, dill, and caraway. It is native to the Mediterranean and Middle Eastern regions and it's use as a culinary spice and medicine can be dated back to 5000BC.[51] Coriander is often found in curry and in many other traditional Indian dishes, while cilantro is commonly a part of salsas, salads, and dressings, and is often added towards the end of cooking to preserve its flavor. Coriander has a high phytonutrient content, including geraniol, limonene, camphor, and linalool, as well as flavonoids such as quercetin, kaempferol, epigenin.[51] These nutrients underly many beneficial effects of coriander, including antimicrobial, antioxidant, anticancer, hypolipidemic, and hypotensive.[52] Other nutrients found in coriander include vitamin B5, vitamin B6, fiber, iron, magnesium, calcium, copper, and manganese. Referred to as an "anti-diabetic" plant, coriander shows antihyperglycemic effects in animal model studies.[53,54] Research shows that it works as an anti-inflammatory agent by reducing levels of inflammatory cytokines.[55] Due in part to its anti-inflammatory properties, coriander extract has been shown to reduce the duration and severity of migraines.[56] Coriander and cilantro are both useful for a variety of health benefits.

Spice Blends

Taco Seasoning	Curry Powder
1 Tbsp ground Cumin	1 Tbsp ground coriander
1 tsp Garlic powder	1 Tbsp turmeric powder
1 tsp Onion powder	2 tsp ground Cumin
¾ tsp dried Thyme	1½ tsp ground ginger
1 tsp Chili powder	1 tsp Smoked Paprika
1 tsp California chili powder	1 tsp red pepper
½ tsp cayenne	1 tsp black pepper
½ tsp dried Oregano	1 tsp ground cardamom
1 tsp ground coriander	½ tsp ground clove
1 tsp Salt	
½ tsp black pepper	

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