

Ayurvedic Pharmacology and Therapeutic Uses of Medicinal Plants Dravyagunavignyan

Ayurveda is a traditional Indian system of medicine. It aims to preserve health and wellness by keeping the mind, body, and spirit in balance and preventing disease rather than treating it. To do so, it employs a holistic approach that combines diet, exercise, and lifestyle changes (1). Ayurvedic herbs and spices are also an important component of this approach. Theyâ€™re thought to protect your body from disease and offer a variety of health benefits, including improved digestion and mental health. Here are 12 Ayurvedic herbs and spices with science-backed health benefits. Share on Pinterest

1. Ashwagandha Ashwagandha (*Withania somnifera*) is a small woody plant native to India and North Africa. Its root and berries are used to produce a very popular Ayurvedic remedy (2). Itâ€™s considered an adaptogen, which means that itâ€™s believed to help your body manage stress more effectively. Research has shown that it reduces levels of cortisol, a hormone that your adrenal glands produce in response to stress (3 , 4). Thereâ€™s also evidence linking ashwagandha to lower levels of anxiety and improved sleep in people with stress and anxiety disorders (3 , 5 , 6). Moreover, research shows that ashwagandha may enhance muscle growth, memory, and male fertility, as well as lower blood sugar levels. However, larger studies are needed to confirm these benefits (4 , 7 , 8 , 9 , 10). Finally, thereâ€™s evidence that it may help reduce inflammation and boost your immune system, though more studies are needed (11, 12). summary Ashwagandha is an Ayurvedic spice that may help your body manage stress more effectively. It may also lower your blood sugar levels and improve sleep, memory, muscle growth, and male fertility.

2. Boswellia Boswellia, also known as Indian frankincense or olibanum, is made from the resin of the *Boswellia serrata* tree. Itâ€™s known for its easily recognizable spicy, woody aroma. Research suggests that it may be particularly effective at reducing inflammation by preventing the release of inflammation-causing compounds known as leukotrienes (13 , 14). In test-tube and animal studies, boswellia appears to be as effective as non-steroidal anti-inflammatory drugs (NSAIDs), yet with fewer side effects (15). Human studies link boswellia to reduced pain, improved mobility, and a greater range of movement in people with osteoarthritis and rheumatoid arthritis. It may also help prevent oral infections and fight gingivitis (16 , 17 , 18 , 19 , 20). Moreover, it may improve digestion in people with ulcerative colitis and Crohnâ€™s disease, as well as breathing in people with chronic asthma (21 , 22 , 23 , 24 , 25). summary Boswellia is an Ayurvedic spice with anti-inflammatory properties. It may reduce joint pain, enhance oral health, and improve digestion, as well as increase breathing capacity in people with chronic asthma.

3â€”5. Triphala Triphala is an Ayurvedic remedy consisting of the following three small medicinal fruits (26): amla (*Emblica officinalis*, or Indian gooseberry)

(*Emblica officinalis*, or Indian gooseberry) bibhitaki (*Terminalia bellirica*)

(*Terminalia bellirica*) haritaki (*Terminalia chebula*) Test-tube and animal studies show that triphala may reduce inflammation caused by arthritis, as well

P

as prevent or limit the growth of certain types of cancer (27 , 28 , 29 , 30 , 31). It may also function as a natural laxative, reducing constipation, abdominal pain, and flatulence while improving the frequency and consistency of bowel movements in people with gut disorders (32 , 33). In addition, a limited number of studies suggest that a mouthwash containing triphala may reduce plaque buildup, decrease gum inflammation, and prevent the growth of bacteria in the mouth (34 , 35). summary Triphala is an Ayurvedic remedy consisting of three Ayurvedic spices " amla, bibhitaki, and haritaki. It may help reduce joint inflammation, improve digestion, and promote oral health.

6. Brahmi Share on Pinterest Brahmi (*Bacopa monieri*) is a staple herb in Ayurvedic medicine. According to test-tube and animal studies, brahmi appears to have strong anti-inflammatory properties that are as effective as common NSAIDs (36 , 37 , 38 , 39). Studies also link it to improvements in learning rates, attention, memory, and information processing, as well as reduced symptoms of attention deficit hyperactivity disorder (ADHD), such as inattention, impulsivity, poor self-control, and restlessness (40 , 41 , 42 , 43). Some studies further suggest that brahmi may have adaptogenic properties, which means that it may help improve your body's ability to deal with stress and anxiety. However, more research is needed before strong conclusions can be made (44 , 45 , 46 , 47 , 48). summary Brahmi is an Ayurvedic herb believed to lower inflammation, improve brain function, and reduce symptoms of ADHD. It may also increase your body's ability to deal with stress, though more research is needed.

7. Cumin Cumin is a spice native to the Mediterranean and Southwest Asia. It's made from the seeds of the *Cuminum cyminum* plant, which are known for their distinctive earthy, nutty, and spicy flavor. Research shows that cumin may boost the activity of digestive enzymes and facilitate the release of bile from the liver, speeding digestion and easing the digestion of fats (49, 50). Studies have also linked this Ayurvedic spice to reduced symptoms of irritable bowel syndrome (IBS), such as abdominal pain and bloating (51). Plus, cumin may protect against type 2 diabetes by lowering blood sugar levels and improving insulin sensitivity. It may also protect against heart disease by increasing HDL (good) cholesterol while reducing triglycerides and LDL (bad) cholesterol (52 , 53 , 54 , 55 , 56). Cumin likewise appears to possess antimicrobial properties that may reduce the risk of certain foodborne infections. Still, more studies are needed to confirm this (57). Summary Cumin is an Ayurvedic spice commonly used to add flavor to meals. It may decrease symptoms of IBS, improve risk factors for type 2 diabetes and heart disease, and perhaps even offer some protection against foodborne infection.

8. Turmeric Turmeric, the spice that gives curry its characteristic yellow color, is another popular Ayurvedic remedy. Curcumin, its main active compound, has powerful antioxidant and anti-inflammatory properties. Test-tube research shows that it may be equally or even more effective than some anti-inflammatory drugs " without all of their side effects (58 , 59 , 60 , 61). Also, turmeric may help protect against heart disease, in part by improving blood flow as effectively as exercise or certain pharmaceutical drugs. One study further suggests that it may be as effective as Prozac, a drug commonly used to treat depression (62 , 63 , 64 , 65). Moreover, compounds in turmeric may help preserve brain function by increasing brain levels of brain-derived neurotrophic factor (BDNF). Low levels of BDNF have been linked to disorders like Alzheimer's and depression (66 , 67 , 68 , 69). That said, most studies have used very large amounts of curcumin, whereas turmeric comprises only around 3% of this compound. Thus, amounts larger than those found in turmeric are likely needed to attain these health benefits, and such large doses may cause stomach upset (70). summary Turmeric is the Ayurvedic spice that gives curry its yellow color. Curcumin, its main compound, may help reduce inflammation and improve heart and brain health. However, large amounts are likely needed to attain these benefits.

9. Licorice root Licorice root, which is native to Europe and Asia, comes from the Glycyrrhiza glabra plant and holds a central place in Ayurvedic medicine. Test-tube and human studies suggest that licorice root may help reduce inflammation and fight viruses and bacteria. It also appears to offer relief from a sore throat and promote oral health by protecting against dental cavities and Candida (71 , 72 , 73 , 74 , 75). This Ayurvedic spice may likewise help prevent or manage heartburn, bloating, nausea, belching, and stomach ulcers. When applied to the skin, it may reduce symptoms of skin rash, including redness, itching, and swelling (76 , 77 , 78 , 79). However, the only studies on this root are generally small, and more research is needed to confirm these benefits. summary Licorice root is an Ayurvedic spice that may help reduce inflammation and protect against various infections. It may also treat digestive problems and relieve skin irritations.

10. Gotu kola Share on Pinterest Gotu kola (Centella asiatica), or "the herb of longevity," is another popular Ayurvedic remedy. It's made from a tasteless, odorless plant with fan-shaped green leaves that grows in and around water. One small study suggests that gotu kola supplements may improve people's memory after they have had a stroke (80). Moreover, in one study, people with generalized anxiety disorder reported less stress, anxiety, and depression after replacing their antidepressants with gotu kola for 60 days (81). There is also some evidence that the herb may help prevent stretch marks, reduce varicose veins, help wounds heal faster, and diminish symptoms of eczema and psoriasis. However, more research is needed (82 , 83 , 84). Animal studies further suggest that this Ayurvedic herb

may relieve joint pain, but more studies are needed to confirm this effect (85). summary Gotu kola is an Ayurvedic herb that may help boost memory and reduce stress, anxiety, and depression, as well as improve a variety of skin conditions.

11. Bitter melon Bitter melon (*Momordica charantia*) is a tropical vine closely related to zucchini, squash, cucumber, and pumpkin. It's considered a staple in Asian cuisine and packed with nutrients and powerful antioxidants. Research suggests that bitter melon may help lower blood sugar levels and promote the secretion of insulin, the hormone responsible for keeping blood sugar levels stable (86 , 87 , 88 , 89). If you use insulin to manage your blood sugar levels, consult your healthcare before adding bitter melon to your daily routine to prevent your blood sugar levels from becoming dangerously low. Animal studies further suggest that it may lower triglyceride and LDL (bad) cholesterol levels, though human studies are needed to confirm this (90 , 91). summary Bitter melon is an Ayurvedic spice that may help lower blood sugar levels and boost insulin secretion. It may also reduce LDL (bad) cholesterol levels, though more research is needed before strong conclusions can be made.

12. Cardamom Cardamom (*Elettaria cardamomum*), which is sometimes referred to as the "queen of spices," has been part of Ayurvedic medicine since ancient times. Research suggests that cardamom powder may help reduce blood pressure in people with elevated levels. There's also evidence that inhaling cardamom essential oil may increase the uptake of oxygen into the lungs during exercise (92 , 93). Moreover, test-tube and animal research suggests that cardamom may help protect against *Helicobacter pylori* bacteria, which is a common cause of stomach ulcers, and may reduce the size of gastric ulcers by at least 50% or even eradicate them (94 , 95). Still, research in humans is needed before strong conclusions can be made. summary Cardamom is an Ayurvedic spice that may lower blood pressure, improve breathing, and potentially help stomach ulcers heal. However, more research is necessary.

Precautions Ayurvedic herbs and spices are generally considered safe when consumed in amounts typically used to prepare or flavor foods. Yet, most of the studies supporting their benefits typically used supplements offering doses far exceeding that. Supplementing with such large doses may not be suitable for children, women who are pregnant or breastfeeding, people with known medical conditions, or those taking medication. Therefore, it's necessary to consult your healthcare provider before adding any Ayurvedic supplements to your regimen. It's also worth noting that the content and quality of Ayurvedic products are not regulated. Some Ayurvedic preparations may mix Ayurvedic herbs and spices with minerals, metals, or gems, rendering them potentially harmful (96). For instance, a recent study found that 65% of Ayurvedic products studied contained lead, while 32-38% also included mercury and arsenic,

some of which had concentrations that were up to several thousand times higher than the safe daily limit (97). Another study reported that up to 40% of people who use Ayurvedic preparations had elevated levels of lead or mercury in their blood (98). Therefore, those interested in Ayurvedic preparations should only purchase them from reputable companies that ideally have their products tested by a third party. summary Ayurvedic herbs and spices are generally safe in small amounts. Supplements containing large doses of these herbs and spices, as well as Ayurvedic preparations that have mixed them with other minerals, metals, or gems may be harmful.

Reference

[Psych Meds Made Simple: How & Why They Do What They Do](#)

[Pharmacology in Veterinary Anesthesia and Analgesia](#)