The 15 Best Supplements to Boost Your Immune System Right Now

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An important note

No supplement will cure or prevent disease.

With the 2019 coronavirus COVID-19 pandemic, it's especially important to understand that no supplement, diet, or other lifestyle modification other than physical distancing, also known as social distancing, and proper hygiene practices can protect you from COVID-19.

Currently, no research supports the use of any supplement to protect against COVID-19 specifically.

Your immune system consists of a complex collection of cells, processes, and chemicals that constantly defends your body against invading pathogens, including viruses, toxins, and bacteria (1Trusted Source, 2Trusted Source).

Keeping your immune system healthy year-round is key to preventing infection and disease. Making healthy lifestyle choices by consuming nutritious foods and getting enough sleep and exercise are the most important ways to bolster your immune system.

In addition, research has shown that supplementing with certain vitamins, minerals, herbs, and other substances can improve immune response and potentially protect against illness.

However, note that some supplements can interact with prescription or over-the-counter medications you're taking. Some may not be appropriate for people with certain health conditions. Be sure to talk with your healthcare provider before starting any supplements.

Here are 15 supplements that are known for their immune-boosting potential.

1. Vitamin D

Vitamin D is a fat-soluble nutrient essential to the health and functioning of your immune system.

Vitamin D enhances the pathogen-fighting effects of monocytes and macrophages — white blood cells that are important parts of your immune defense — and decreases inflammation, which helps promote immune response (3Trusted Source).

Many people are deficient in this important vitamin, which may negatively affect immune function. In fact, low vitamin D levels are associated with an increased risk of upper respiratory tract infections, including influenza and allergic asthma (4Trusted Source).

Some studies show that supplementing with vitamin D may improve immune response. In fact, recent research suggests that taking this vitamin may protect against respiratory tract infections.

In a 2019 review of randomized control studies in 11,321 people, supplementing with vitamin D significantly decreased the risk of respiratory infections in people deficient in this vitamin and lowered infection risk in those with adequate vitamin D levels (5Trusted Source).

This suggests an overall protective effect.

Other studies note that vitamin D supplements may improve response to antiviral treatments in people with certain infections, including hepatitis C and HIV (6Trusted Source, 7Trusted Source, 8Trusted Source).

Depending on blood levels, anywhere between 1,000 and 4,000 IU of supplemental vitamin D per day is sufficient for most people, though those with more serious deficiencies often require much higher doses (4Trusted Source).

summary

Vitamin D is essential for immune function. Healthy levels of this vitamin may help lower your risk of respiratory infections.

2. Zinc

Zinc is a mineral that's commonly added to supplements and other healthcare products like lozenges that are meant to boost your immune system. This is because zinc is essential for immune system function.

Zinc is needed for immune cell development and communication and plays an important role in inflammatory response.

A deficiency in this nutrient significantly affects your immune system's ability to function properly, resulting in an increased risk of infection and disease, including pneumonia (9Trusted Source, 10Trusted Source).

Zinc deficiency affects around 2 billion people worldwide and is very common in older adults. In fact, up to 30% of older adults are considered deficient in this nutrient (11Trusted Source).

Numerous studies reveal that zinc supplements may protect against respiratory tract infections like the common cold (12Trusted Source, 13Trusted Source).

What's more, supplementing with zinc may be beneficial for those who are already sick.

In a 2019 study in 64 hospitalized children with acute lower respiratory tract infections (ALRIs), taking 30 mg of zinc per day decreased the total duration of infection and the duration of the hospital stay by an average of 2 days, compared with a placebo group (14Trusted Source).

Supplemental zinc may also help reduce the duration of the common cold (15Trusted Source).

Taking zinc long term is typically safe for healthy adults, as long as the daily dose is under the set upper limit of 40 mg of elemental zinc (9Trusted Source)Trusted Source.

Excessive doses may interfere with copper absorption, which could increase your infection risk.

summary

Supplementing with zinc may help protect against respiratory tract infections and reduce the duration of these infections.

3. Vitamin C

Vitamin C is perhaps the most popular supplement taken to protect against infection due to its important role in immune health.

This vitamin supports the function of various immune cells and enhances their ability to protect against infection. It's also necessary for cellular death, which helps keep your immune system healthy by clearing out old cells and replacing them with new ones (16Trusted Source, 17Trusted Source).

Vitamin C also functions as a powerful antioxidant, protecting against damage induced by oxidative stress, which occurs with the accumulation of reactive molecules known as free radicals.

Oxidative stress can negatively affect immune health and is linked to numerous diseases (18Trusted Source).

Supplementing with vitamin C has been shown to reduce the duration and severity of upper respiratory tract infections, including the common cold (19Trusted Source).

A large review of 29 studies in 11,306 people demonstrated that regularly supplementing with vitamin C at an average dose of 1–2 grams per day reduced the duration of colds by 8% in adults and 14% in children (20Trusted Source).

Interestingly, the review also demonstrated that regularly taking vitamin C supplements reduced common cold occurrence in individuals under high physical stress, including marathon runners and soldiers, by up to 50% (20Trusted Source, 21Trusted Source).

Additionally, high dose intravenous vitamin C treatment has been shown to significantly improve symptoms in people with severe infections, including sepsis and acute respiratory distress syndrome (ARDS) resulting from viral infections (22Trusted Source).

Still, other studies have suggested that the role of vitamin C in this setting is still under investigation (23, 24Trusted Source).

All in all, these results confirm that vitamin C supplements may significantly affect immune health, especially in those who don't get enough of the vitamin through their diet.

The upper limit for vitamin C is 2,000 mg. Supplemental daily doses typically range between 250 and 1,000 mg (25).

summary

Vitamin C is vital for immune health. Supplementing with this nutrient may reduce the duration and severity of upper respiratory tract infections, including the common cold.

4. Elderberry

Black elderberry (*Sambucus nigra*), which has long been used to treat infections, is being researched for its effects on immune health.

In test-tube studies, elderberry extract demonstrates potent antibacterial and antiviral potential against bacterial pathogens responsible for upper respiratory tract infections and strains of the influenza virus (26Trusted Source, 27),

What's more, it has been shown to enhance immune system response and may help shorten the duration and severity of colds, as well as reduce symptoms related to viral infections (28Trusted Source, 29Trusted Source).

A review of 4 randomized control studies in 180 people found that elderberry supplements significantly reduced upper respiratory symptoms caused by viral infections (30Trusted Source).

An older, 5-day study from 2004 demonstrated that people with the flu who supplemented with 1 tablespoon (15 mL) of elderberry syrup 4 times a day experienced symptom relief 4 days earlier than those who didn't take the syrup and were less reliant on medication (31).

However, this study is outdated and was sponsored by the elderberry syrup manufacturer, which may have skewed results (31).

Elderberry supplements are most often sold in liquid or capsule form.

Summary

Taking elderberry supplements may reduce upper respiratory symptoms caused by viral infections and help alleviate flu symptoms. However, more research is needed.

5. Medicinal mushrooms

Medicinal mushrooms have been used since ancient times to prevent and treat infection and disease. Many types of medicinal mushrooms have been studied for their immune-boosting potential.

Over 270 recognized species of medicinal mushrooms are known to have immune-enhancing properties (32Trusted Source).

Cordyceps, lion's mane, maitake, shitake, reishi, and turkey tail are all types that have been shown to benefit immune health (33Trusted Source).

Some research demonstrates that supplementing with specific types of medicinal mushrooms may enhance immune health in several ways, as well as reduce symptoms of certain conditions, including asthma and lung infections.

For example, a study in mice with tuberculosis, a serious bacterial disease, found that treatment with cordyceps significantly reduced bacterial load in the lungs, enhanced immune response, and reduced inflammation, compared with a placebo group (34Trusted Source).

In a randomized, 8-week study in 79 adults, supplementing with 1.7 grams of cordyceps mycelium culture extract led to a significant 38% increase in the activity of natural killer (NK) cells, a type of white blood cell that protects against infection (35Trusted Source).

Turkey tail is another medicinal mushroom that has powerful effects on immune health. Research in humans indicates that turkey tail may enhance immune response, especially in people with certain types of cancer (36Trusted Source, 37Trusted Source).

Many other medicinal mushrooms have been studied for their beneficial effects on immune health as well. Medicinal mushroom products can be found in the form of tinctures, teas, and supplements (38Trusted Source, 39Trusted Source, 40Trusted Source, 41Trusted Source).

summary

Many types of medicinal mushrooms, including cordyceps and turkey tail, may offer immune-enhancing and antibacterial effects.

6–15. Other supplements with immune-boosting potential

Aside from the items listed above, many supplements may help improve immune response:

Astragalus. Astragalus is an herb commonly used in Traditional Chinese medicine (TCM). Animal research suggests that its extract may significantly improve immune-related responses (42Trusted Source).

Selenium. Selenium is a mineral that's essential for immune health. Animal research demonstrates that selenium supplements may enhance antiviral defense against influenza strains, including H1N1 (43Trusted Source, 44Trusted Source, 45Trusted Source).

Garlic. Garlic has powerful anti-inflammatory and antiviral properties. It has been shown to enhance immune health by stimulating protective white blood cells like NK cells and macrophages. However, human research is limited (46Trusted Source, 47Trusted Source).

Andrographis. This herb contains andrographolide, a terpenoid compound found to have antiviral effects against respiratory-disease-causing viruses, including enterovirus D68 and influenza A (48Trusted Source, 49Trusted Source, 50Trusted Source).

Licorice. Licorice contains many substances, including glycyrrhizin, that may help protect against viral infections. According to test-tube research, glycyrrhizin exhibits antiviral activity against severe acute respiratory-syndrome-related coronavirus (SARS-CoV) (51Trusted Source).

***Pelargonium sidoides*.** Some human research supports the use of this plant's extract for alleviating symptoms of acute viral respiratory infections, including the common cold and bronchitis. Still, results are mixed, and more research is needed (52Trusted Source).

B complex vitamins. B vitamins, including B12 and B6, are important for healthy immune response. Yet, many adults are deficient in them, which may negatively affect immune health (53Trusted Source, 54Trusted Source).

Curcumin. Curcumin is the main active compound in turmeric. It has powerful anti-inflammatory properties, and animal studies indicate that it may help improve immune function (55Trusted Source).

Echinacea. Echinacea is a genus of plants in the daisy family. Certain species have been shown to improve immune health and may have antiviral effects against several respiratory viruses, including respiratory syncytial virus and rhinoviruses (56Trusted Source).

Propolis. Propolis is a resin-like material produced by honeybees for use as a sealant in hives. Though it has impressive immune-enhancing effects and may have antiviral properties as well, more human research is needed (57Trusted Source).

According to results from scientific research, the supplements listed above may offer immune-boosting properties.

However, keep in mind that many of these supplements' potential effects on immune health have not been thoroughly tested in humans, highlighting the need for future studies.

Summary

Astragalus, garlic, curcumin, and echinacea are just some of the supplements that may offer immune-boosting properties. Still, they have not been thoroughly tested in humans, and more research is needed.

The bottom line

Many supplements on the market may help improve immune health. Zinc, elderberry, and vitamins C and D are just some of the substances that have been researched for their immune-enhancing potential.

However, although these supplements may offer a small benefit for immune health, they should not and cannot be used as a replacement for a healthy lifestyle.

Maintaining a balanced diet, getting enough sleep, engaging in regular physical activity, and not smoking are some of the most important ways to help keep your immune system healthy and reduce your chances of infection and disease.

If you decide that you want to try a supplement, speak with your healthcare provider first, as some supplements may interact with certain medications or are inappropriate for some people.

Moreover, remember that there's no scientific evidence to suggest that any of them can protect against COVID-19 — even though some of them may have antiviral properties.