Its "fans" claim that it relieves arthritis, lowers cholesterol and sugar and, in general, has healing properties. But is it so?

Every year people spend billions on vitamins and nutritional supplements. And one of the most popular is turmeric, an orange root that is used both in traditional medicine and in Eastern cuisine. Its "fans" claim that it relieves the pain and inflammation of arthritis, lowers cholesterol and blood sugar and, in general, has healing properties. But is it so?

Although many studies have pointed to turmeric as having antioxidant and anti-inflammatory properties, the studies that have been done have taken such different turmeric supplements (in terms of potency, dosage, etc.) that it is difficult to confirm any health claims.
Dr. Keith Singletary, professor emeritus of nutrition at the University of Illinois Urbana-Champaign, reviewed the evidence on turmeric. His point? "I think it's very promising," he says, but stresses that it's not "the panacea that marketing makes it out to be."

**Turmeric: The health benefits**

The health benefits attributed to turmeric come from natural compounds called curcuminoids.

"Curcumin, which is the main one, is thought to be largely responsible for turmeric's health benefits," says Singletary.

What can curcumin do? The best evidence focuses on two conditions: arthritis and metabolic syndrome.

**Arthritis**

Given turmeric's anti-inflammatory properties, it's no surprise that researchers have studied its use for arthritis. The supplement appears to reduce pain and stiffness caused by osteoarthritis, the most common form of this disease that causes joint pain.

"It's not a miracle drug, but it probably works just as well as ibuprofen or acetaminophen," says Dr. Janet L. Funk, professor of medicine and vice chair for research at the University of Arizona College of Medicine-Tucson Department of Medicine. Her lab studies plant-based nutritional supplements for inflammatory diseases.

**Metabolic syndrome**

It's not a disease, but a cluster of conditions like obesity, high blood pressure, high blood sugar, and high triglycerides that collectively increase the risk of diabetes, heart disease, and stroke. About 1 in 3 American adults has metabolic syndrome, according to the National Heart, Lung, and Blood Institute (NHLBI).

Studies have looked at turmeric's effects on blood sugar, triglyceride and insulin levels, as well as inflammation (which also plays a role in metabolic syndrome).

“Overall, there was a strong preponderance of evidence that it could help reduce all of these things. So it may have some benefit in people who are overweight and concerned about inflammation and diabetes,” says Funk.
But, there's one big caveat: "There's a lot of inconsistency in the studies," says Singletary. And therein lies the problem with evaluating turmeric.

**An imperfect science**

Researchers have tested different amounts of the supplement in different groups of people for different periods of time. And some studies added a compound like piperine, found in black pepper, to make turmeric more active in the body (to increase its "bioavailability," as the studies say).

For example, in a study on knee osteoarthritis, participants received 180 milligrams (mg) of curcumin for eight weeks. Another study used doses of 500 mg plus 5 mg of BioPerine extract (black pepper) three times a day for six weeks.

Because most of the studies lasted four months or less, researchers don't know what might happen with long-term use.

"The bottom line is that there are no definitive, well-designed studies at this stage," Funk says.

**The dangers of turmeric**

Turmeric is probably safe if you consume the spice or take only the recommended amount in supplements, says the US National Center for Complementary and Integrative Health. In larger amounts, it could cause side effects in the gastrointestinal system, such as nausea or diarrhea.

Piperine poses its own set of problems because it increases the bioavailability of curcumin by inactivating an enzyme in the liver that would otherwise break it down.

"This particular enzyme is very important in [breaking down] most of the drugs that people take," Funk says.

In theory, piperine can cause drugs to build up in the body, thereby increasing the risk for side effects.

"Generally speaking, if I were taking other medications, I would avoid any product that contains piperine," she says.

An even bigger concern is a rare but serious risk of liver damage from turmeric supplements, as well as the high levels of lead in these products. Several studies have found excessive amounts of lead in some turmeric supplements — especially those containing turmeric root. Exposure to lead, in large amounts, can have toxic effects on the body, including heart and kidney problems.
Should I take turmeric or not?

That's the point, says Singletary. Given the lack of clear evidence about the benefits and possible risks, it's safer to get turmeric through the diet, he says. You can add the spice to soups, stews, sauces and smoothies. Sprinkle with a pinch of black pepper or cook turmeric in oil to boost its bioavailability.

If you use turmeric supplements, it can be difficult to know which form is best or how much to take. The best advice is to ask your doctor, says Singletary. Start with a low dose to see how your body responds. And don't expect turmeric to solve all your problems. It's unlikely to happen, he adds.

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