
Importance of Curcumin and its Effects on Human Health: A Review Paper

¹Dr. Shailendra Kumar Shukla

¹Associate Professor, Department Of Chemistry, DBS College, Kanpur

Received: 20 Nov 2020, Accepted: 30 Nov 2020, Published with Peer Review on line: 31 Jan 2021

Abstract

Turmeric, a spice that has long been recognized for its medicinal properties, has received interest from both the medical/scientific world and from culinary enthusiasts, as it is the major source of the polyphenol curcumin.

Turmeric is native to Southeast Asia, but is popular all over the world. It is perhaps most popular in India, where it is one of the main spices in curry powders. Its flavor is warm and bitter, and it has a striking yellow color.

It aids in the management of oxidative and inflammatory conditions, metabolic syndrome, arthritis, anxiety, and hyperlipidaemia. It may also help in the management of exercise-induced inflammation and muscle soreness, thus enhancing recovery and performance in active people. Turmeric is native to Southeast Asia, but is popular all over the world. It is perhaps most popular in India, where it is one of the main spices in curry powders. Its flavor is warm and bitter, and it has a striking yellow color.

Keywords:- metabolic syndrome, arthritis, anxiety, hyperlipidaemia, inflammation.

Introduction

Natural plant products have been used throughout human history for various purposes. Having co-evolved with animal life, many of the plants from which these natural products are derived are billions of years old. Tens of thousands of these products are produced as secondary metabolites by higher plants as a natural defence mechanism against disease and infection. Many of these natural products have pharmacological or biological activity that can be exploited in pharmaceutical drug discovery and drug design. Medicines derived from plants have played a pivotal role in the health care of many cultures, both ancient and modern.

The Indian system of holistic medicine known as “Ayurveda” uses mainly plant-based drugs or formulations to treat various ailments, including cancer.

Turmeric is a plant that has a very long history of medicinal use, dating back nearly 4000 years. In Southeast Asia, turmeric is used not only as a principal spice but also as a component in religious ceremonies. Because of its brilliant yellow color, turmeric is also known as “Indian saffron.” Modern medicine has begun to recognize its importance, as indicated by the over 3000 publications dealing with turmeric that came out within the last 25 years. This review first discusses in vitro studies with turmeric, followed by animal studies, and finally studies carried out on humans; the safety and efficacy of turmeric are further addressed.[1,2] Turmeric’s treasure lies in curcumin’s benefits. Curcumin has antioxidants and anti-inflammatory properties- Some curcumin health benefits include: [3]

- **Arthritis Symptom Relief**

Curcumin has been shown to help with the painful symptoms of both osteoarthritis and rheumatoid arthritis. This is due in large part to its anti-inflammatory properties. Inflammation can manifest as redness, swelling, and warmth in the affected joints, joint pain, and joint stiffness. Several studies have shown curcumin to be effective for reducing these inflammation symptoms.

- **Eye Health**

Several studies have shown curcumin to be beneficial in managing inflammatory and degenerative eye disorders. While the study sizes have been relatively small, they indicate curcumin may be good for keeping eyes healthy and treating some eye diseases.

- **Kidney Health**

Research has shown curcumin may be beneficial for your kidneys. Specifically, curcumin may help in healing acute kidney injuries and increasing antioxidants.

- **Hay Fever Relief**

Hay fever or other seasonal allergy symptoms may be reduced by ingesting curcumin. This includes sneezing, itching, runny nose, and congestion.

- **Potential Cancer Treatment**

There's not enough evidence to prove that curcumin can prevent or treat cancer. However, there are several studies currently ongoing that are aimed at better understanding curcumin's potential in this area. Some research shows it may reduce the ability of cancer cells to multiply.

- **Curcumin may help delay aging and fight age-related chronic diseases**

If curcumin can really help prevent heart disease, cancer, and Alzheimer's, it may have benefits for longevity as well. This suggests that curcumin may have potential as an anti-aging supplement [4]

- **Arthritis patients respond well to curcumin supplements**

Arthritis is a common problem in Western countries. There are several different types of arthritis, most of which involve inflammation in the joints. Given that curcumin is a potent anti-inflammatory compound, it makes sense that it may help with arthritis. In fact, several studies show that there is an association. In a study in people with rheumatoid arthritis, curcumin was even more effective than an anti-inflammatory drug [5]

Health Risks

There are very few side effects or health risks known to be associated with curcumin. However, in a study that involved participants ingesting extremely high doses of curcumin, some reported diarrhea, headache, nausea, and yellow stool. [3]

Nutritional value

While doctors commonly recommend taking 500 milligrams twice daily with food, the dose that's right for you depends on your overall health. More isn't always better, so talk to your doctor. "It's safe to take up to 8 grams per day, but my recommendation would be somewhere on the lighter side: 500 to 1,000 milligrams a day for the general population," says Hopsecger.

For optimal absorption, try taking with heart-healthy fats like oils, avocado, nuts and seeds, she adds.

While the risk of side effects is low and drug interactions are unlikely, stop taking turmeric if you notice ill effects. Turmeric may cause bloating, and there is a theoretical concern that it may interact with blood-clotting medications. Also avoid it if you have gallbladder disease.

Always talk to your doctor before starting a dietary supplement, since they could potentially interact with other medications you're taking. Turmeric can help supplement your conventional care, but it's not a substitute for medicine. [6]

CONCLUSIONS

The beneficial effects of turmeric are traditionally achieved through dietary consumption, even at low levels, over long periods of time. A precise understanding of effective dose, safety, and mechanism of action is required for the rational use of turmeric in the treatment of human diseases. Further clinical studies are warranted if turmeric is to be employed in meeting human needs and improving human welfare. The activities of turmeric include antibacterial, antiviral, anti-inflammatory, antitumor, antioxidant, antiseptic, cardio protective, hepatoprotective, nephroprotective, radioprotective, and digestive activities. Phytochemical analysis of turmeric has revealed a large number of compounds, including curcumin, volatile oil, and curcuminoids, which have been found to have potent pharmacological properties.

REFERENCES:

1. <https://www.ncbi.nlm.nih.gov/books/NBK92752/>
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5664031/#:~:text=Research%20suggests%20that%20curcumin%20can,subsequent%20performance%20in%20active%20people>
3. <https://www.webmd.com/diet/health-benefits-curcumin>
4. <https://pubmed.ncbi.nlm.nih.gov/20205886/>
5. <https://pubmed.ncbi.nlm.nih.gov/22407780/>
6. <https://health.clevelandclinic.org/turmeric-health-benefits/>