

Miracles of the Golden Spice-Turmeric

Nida Tabassum Khan*

Department of Biotechnology, Balochistan University of Information Technology, Pakistan

Article Information

Received date: Feb 04, 2019

Accepted date: Feb 22, 2019

Published date: Feb 26, 2019

*Corresponding author

Nida Tabassum Khan, Department of Biotechnology, Faculty of Life Sciences and Informatics, Balochistan University of Information Technology Engineering and Management Sciences, Quetta, Pakistan, Tel: 03368164903; Email: nidatabassumkhan@yahoo.com

Distributed under Creative Commons CC-BY 4.0

Keywords Curcumin; Antioxidant; Anti-inflammatory; Serotonin; Antidiabetic; Irritable bowel syndrome

Introduction

Turmeric also known by the name of Golden spice or Indian saffron because of its yellow golden color and is native to Southeast Asia and Central [1]. While turmeric is a appetizing spice that is used in culinary but it has also conventionally been used in traditional ayurvedic medicine to cure inflammation, skin infections, wounds, gastric discomforts, liver problems etc [2,3,4]. The active constituent of turmeric is curcumin which exhibits therapeutic properties such as antimicrobial, antidiabetic, anti-inflammatory, pain reliever and healing agent [5,6]. Turmeric is available in either tablet, capsule, ground or powdered form in the market [7].

Nutritional value of Turmeric Powder

1 tablespoon of turmeric powder contains:

- 29 calories
- 2.1 g of fiber
- 0.91 g of protein
- 0.31 g of fat
- 0.3 g of sugar
- 6.31 g of carbohydrates
- 26 % manganese
- 3% Vitamin C
- 16 % iron
- 5 % potassium [8-12]

Therapeutic potentials of turmeric is given in Table 1.

Side Effects of Turmeric if Consumed in Excess

- Since it stimulates gastric secretions so overconsumption may result in distressing the stomach [34].
- Individuals who are already taking drugs for thinning of blood should avoid the use of turmeric [35].
- Pregnant women should avoid the use of turmeric in excess because it causes thinning of blood and stimulates uterine contraction [36].

Conclusion

Thus this golden spice boosts immune system health, aids in digestion, relieve pain etc. But due to its few side effects, turmeric use in recommended in some cases.

Table 1: Therapeutic potentials of turmeric.

S.no	Therapeutic potential	
1	Anti-inflammatory	Reduces inflammation associated with cardiac disorder, metabolic syndrome, cancer etc [13].
2	Antioxidant	Combats damage caused by free-radical, boost body's innate antioxidant and defensive ability [14,15].
3	Enhances body's immune system	Its antioxidant, anti-inflammatory and antimicrobial properties enhances body's immune system [16].
4	Relieve joint pain	Turmeric aids in relieving pain and its associated inflammation in conditions like with arthritis, soreness etc [17,18].
5	Turmeric promotes cardiac health	It improves endothelial function and reduce inflammation and free-radical damage [19,20].
6	Turmeric promotes healing of gut	Used for the treatment of colitis and irritable bowel syndrome [21].
7	Treatment of depression mood swings etc.	Turmeric has the potential to treat depression associated symptoms by retreating damaging brain variations, boost secretion of neurotransmitters like serotonin and dopamine that regulates mood, plays an important role in sustaining long-term cognitive function etc [22-25].
8	Treatment of neurodegenerative diseases	Turmeric is beneficial in the treatment of condition like Alzheimer's disease [26].
9	Improving liver function	Turmeric promotes liver health by stimulating liver secretions and mineral absorptions .In addition causing detoxification of toxins that damages the liver [27-29].
10	Promotes healthy digestion	Turmeric aids in the breakdown of food to accelerate digestion process. Besides it is used as a healing agent for stomach and prevents gut inflammation caused by elevated acidity or microbial infections. In addition helps in the treatment of irritable bowel syndrome [30-33].

References

1. Chattopadhyay I, Biswas K, Bandyopadhyay U, Banerjee RK. Turmeric and curcumin: Biological actions and medicinal applications. CURRENT SCIENCE-BANGALORE. 2004; 87: 44-53.
2. Kuttan R, Bhanumathy P, Nirmala K, George MC. Potential anticancer activity of turmeric (*Curcuma longa*). Cancer letters. 1985; 29: 197-202.
3. Govindarajan VS, Stahl WH. Turmeric-chemistry, technology and quality. Critical Reviews in Food Science & Nutrition. 1980; 12: 199-301.
4. Selvam R, Subramanian L, Gayathri R, Angayarkanni N. The anti-oxidant activity of turmeric (*Curcuma longa*). Journal of ethnopharmacology. 1995; 47: 59-67.
5. Duvoix A, Blasius R, Delhalle S, Schnekenburger M, Morceau F, Henry E, Diederich M. Chemopreventive and therapeutic effects of curcumin. Cancer letters. 2005; 223: 181-190.
6. Noorafshan A, Ashkani-Esfahani S. A review of therapeutic effects of curcumin. Current pharmaceutical design. 2013; 1: 2032-2046.
7. Luthra PM, Singh R, Chandra R. Therapeutic uses of *Curcuma longa* (turmeric). Indian Journal of Clinical Biochemistry. 2001; 16: 153-160.
8. Hirasa K, Takemasa M. Spice science and technology. CRC Press.1998.
9. Prathapan A, Likhman M, Arumughan C, Sundaresan A, Raghu KG. Effect of heat treatment on curcuminoid, colour value and total polyphenols of fresh turmeric rhizome. International journal of food science & technology. 2009; 44: 1438-1444.
10. Gantait A, Barman T, Mukherjee PK. Validated method for estimation of curcumin in turmeric powder. 2011.
11. Fragrance J. Major Constituents in leaf essential oils of *Curcuma longa* L. and *Curcuma aromatica* Salisb. Current Science. 2002; 83: 1312.
12. Li S, Yuan W, Deng G, Wang P, Yang P, Aggarwal BB. Chemical composition and product quality control of turmeric (*Curcuma longa* L.). Pharmaceutical Crops. 2011; 2.
13. Menon VP, Sudheer AR. Antioxidant and anti-inflammatory properties of curcumin. In The molecular targets and therapeutic uses of curcumin in health and disease. Springer, Boston, MA. 2007; 105-125.
14. Chipault JH, Mizuno GR, Hawkins JM, Lundberg WO. The antioxidant properties of natural spices a, b. Journal of Food Science. 1952; 17: 46-55.
15. Lim HS, Park SH, Ghafoor K, Hwang SY, Park J. Quality and antioxidant properties of bread containing turmeric (*Curcuma longa* L.) cultivated in South Korea. Food Chemistry. 2011; 124: 1577-1582.
16. Jagetia GC, Aggarwal BB. "Spicing up" of the immune system by curcumin. Journal of clinical immunology. 2007; 27: 19-35.
17. Daily JW, Yang M, Park S. Efficacy of turmeric extracts and curcumin for alleviating the symptoms of joint arthritis: a systematic review and meta-analysis of randomized clinical trials. Journal of medicinal food. 2016; 19: 717-729.
18. Arya RK, Jain V. Osteoarthritis of the knee joint: An overview. Journal, Indian Academy of Clinical Medicine. 2013; 14: 154-62.
19. Mamtani R. Ayurveda and yoga in cardiovascular diseases. Cardiology in review. 2005; 13: 155-162.
20. Di Silvestro RA, Joseph E, Zhao S, Bomser J. Diverse effects of a low dose supplement of lipidated curcumin in healthy middle aged people. Nutrition journal. 2012; 11: 79.
21. Prucksun C, Indrasukhsri B, Leethochawalit M, Hungspreugs K. Phase II clinical trial on effect of the long turmeric (*Curcuma longa* Linn.) on healing of peptic ulcer. Southeast Asian journal of tropical medicine and public health. 2001; 32: 208-215.
22. Lopresti AL, Maes M, Maker GL, Hood SD, Drummond PD. Curcumin for the treatment of major depression: a randomised, double-blind, placebo controlled study. Journal of affective disorders. 2014; 167: 368-375.

23. Bhutani MK, Bishnoi M, Kulkarni SK. Anti-depressant like effect of curcumin and its combination with piperine in unpredictable chronic stress-induced behavioral, biochemical and neurochemical changes. *Pharmacology Biochemistry and Behavior*. 2009; 92: 39-43.
24. Cox KH, Pipingas A, Scholey AB. Investigation of the effects of solid lipid curcumin on cognition and mood in a healthy older population. *Journal of psychopharmacology*. 2015; 29: 642-651.
25. Xu Y, Ku BS, Yao HY, Lin YH, Ma X, Zhang YH, Li XJ. The effects of curcumin on depressive-like behaviors in mice. *European journal of pharmacology*. 2005; 518: 40-46.
26. Mishra S, Palanivelu K. The effect of curcumin (turmeric) on Alzheimer's disease: An overview. *Annals of Indian Academy of Neurology*. 2008; 11: 13.
27. Vitaglione P, Morisco F, Caporaso N, Fogliano V. Dietary antioxidant compounds and liver health. *Critical reviews in food science and nutrition*. 2005; 44: 575-586.
28. Watson BF, Smith Lzz O. U.S. Patent No. 6,759,061. Washington, DC: U.S. Patent and Trademark Office. 2004.
29. Rivera-Espinoza Y, Muriel P. Pharmacological actions of curcumin in liver diseases or damage. *Liver International*. 2009; 29: 1457-1466.
30. PD L, AR C. Natural remedies for heart diseases.
31. Bengmark S, Mesa MD, Gil A. Plant-derived health-the effects of turmeric and curcuminoids. *Nutricion hospitalaria*. 2009; 24: 273-281.
32. Das L, Bhaumik E, Raychaudhuri U, Chakraborty R. Role of nutraceuticals in human health. *Journal of food science and technology*. 2012; 49: 173-183.
33. Guha A. Ayurvedic concept of food and nutrition. 2006.
34. Platel K, Srinivasan K. Digestive stimulant action of spices: a myth or reality? *Indian Journal of Medical Research*. 2004; 119: 167.
35. Meganathan P, Selvaduray KR, Nesaretnam K. Blood Thinning Effects and Phytonutrients.
36. Conover EA. Herbal agents and over-the-counter medications in pregnancy. *Best Practice & Research Clinical Endocrinology & Metabolism*. 2003; 17: 237-251.