



MIRACLE OF INDIAN TURMERIC IN DYSMENORRHEA

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INTRODUCTION

Turmeric, commonly referred to as Indian saffron, is a spice renowned for its ability to enhance the color, flavor, and nutritional value of various culinary preparations. The object exhibits a profound hue of golden orange. Turmeric, a botanical species closely related to ginger, is obtained from the rhizome of an Asian plant indigenous to Asia. It has been employed as a culinary component for numerous centuries.

Furthermore, it has been employed in various other modalities of traditional medicine, including Ayurvedic medicine, within the cultural contexts of China and India. Curcumin, an inherent polyphenolic compound, serves as the bioactive constituent of turmeric. Curcumin exhibits anti-inflammatory and antioxidant properties, thereby attributing to the distinctive yellow hue of turmeric.

History

Turmeric has a long history of use in various domains, including gastronomy, cosmetics, and therapeutic medicine for treating different medical conditions. Turmeric is often described as having a flavor profile that combines warmth and bitterness. This unique flavor is primarily found in culinary uses like curry powders and certain types of mustard. Because of its vibrant yellow color, it is used as a coloring agent in the culinary industry for food items like cheese, butter, and related products. (Goel 2008). Turmeric and its curcuminoids have been widely utilized for medicinal purposes by individuals in different regions throughout history.

In Ayurvedic medicine, turmeric is frequently used to treat a variety of respiratory disorders, including Asthma is characterized by the constriction and inflammation of airways, potentially leading to the production of excessive mucus, Bronchial hyperreactivity refers to the heightened sensitivity of bronchial smooth muscle to non-specific constrictor stimuli, and allergies.

Turmeric is also employed for the treatment of liver disorders, anorexia, Rheumatic illnesses cause chronic, intermittent joint or connective tissue discomfort, diabetic wounds, cough, and Sinusitis which is inflammatory condition characterized by the swelling of the sinus tissue lining.



Background

Turmeric root (*Curcuma longa*) is a Zingiberaceae root herb in the *Curcuma* genus. The rhizomes and leaves of this plant

have been used in traditional Indian and Chinese medicine for its anti-inflammatory, antioxidant, and anti-cancer properties. Turmeric, a ginger relative, is grown commercially throughout Southeast Asia, mostly in India. The plant's underground rhizome is utilized in cooking and traditional medicine.

Turmeric root still using in Ayurveda which is traditional Indian medicine, and East Asian Medicine, also known as Chinese Medicine, encompasses traditional healing practices originating from China, Japan, and Korea, aimed at promoting health and facilitating the process of healing.

In traditional Indian medicine, it treated skin, upper respiratory, musculoskeletal, and digestive issues. Turmeric is utilized as a dietary supplement for the treatment of various ailments such as arthritis, digestive disorders, respiratory infections, allergies, liver disease, depression, and other conditions. The spice Curry powder requires turmeric. Curcuminoids—curcumin and related chemicals—drive turmeric's action.

Turmeric contains curcumin. Curcumin makes turmeric yellow. Turmeric supplements include curcuminoids from the dried rhizome of the turmeric plant. Turmeric paste also treats skin diseases.

Chemistry

The rhizome contains 7% volatile orange-yellow oil. Zingiberene makes up 25% of the oil, tumerone and artumerone 60%. This sample has low cineole, d-phellandrene, d-sabinene, and borneol levels. Curcumin, commonly known as diferuloylmethane, is the main yellow pigment.

Turmerin, turmeric antioxidant protein, BGS-Haridrin, and beta-turmerin exhibit antioxidant properties. Curcumin, unlike most antioxidants, has both beta-diketone and polyphenolic moieties, which increases its antioxidant activity. Curcumin reduces reactive oxygen species through modulating the Nrf2-keap1 pathway and binding to antioxidant-responsive DNA sequences. The extract comprises demethoxy-curcumin, bis-demethoxy-curcumin, and curcumin. Curcuminoids are physically similar to curcumin. Turmeric rhizomes can be cooked.

Health Benefits of Turmeric

The concentration of curcumin in turmeric is relatively low. Approximately 3% of its total weight comprises this substance. Curcumin exhibits poor bioavailability. Enhancing the bioavailability of curcumin is essential in order to fully benefit from its advantages.

Bioavailability refers to the rate of absorption of a substance by the body. Bioactive substances in turmeric provide therapeutic benefits.

- An organic anti-inflammatory substance is called curcumin occurring polyphenol compound, is turmeric's active ingredient.

- The use of turmeric can improve the body's antioxidant defenses.
- Brain-derived neurotrophic factor can be increased by turmeric.
- Risk of heart disease reduced with curcumin.
- It's possible that turmeric can help prevent cancer.
- Alzheimer's disease may benefit from curcumin treatment.
- Supplemental curcumin has positive effects on arthritis patients.
- Curcumin is beneficial in the treatment of depression.
- Curcumin has potential to slow down aging and combat age-related chronic illnesses.
- Curcumin helps to reduce menstrual pain.

Protein (g)	0.3g
Water/ Moisture	0.3g



Turmeric Therapy In Dysmenorrhea

Dysmenorrhea is a prevalent condition among women. The onset of menstrual pain is experienced by a significant majority of females during the period of adolescence. Typically, the onset of menarche occurs approximately four to five years subsequent to the initiation of the first menstrual cycle.

Pathophysiology of Dysmenorrhea.

The prostaglandin (PG) theory of dysmenorrhea is widely established. During menstruation, endometrial sloughing releases PGE2 and PGF2, causing inflammation, irregular uterine contractions, decreased blood flow, and ischemia. Menstruation releases prostaglandins from the uterus. Hormones constrict the uterus, expelling the lining. Prostaglandins mediate the inflammatory response, among other roles. This suggests that menstrual bleeding are inflammatory and that women with higher prostaglandin levels have worse cramps.

Another component associated to inflammation and menstruation discomfort is CRP. Medical researchers use the CRP biomarker to detect inflammation. One study found that women with high-sensitivity CRP had more PMS symptoms such stomach cramps and back pain. Turmeric's curcuminoids include curcumin, demethoxycurcumin, and bisdemethoxycurcumin. It is used as a condiment in many cuisines, and many Asian cultures have used it medicinally and recreationally for centuries.

The Effect of Turmeric on Dysmenorrhea

Turmeric possesses emmenagogue properties, which can enhance blood circulation in the uterus and pelvic region. Turmeric induces muscle relaxation, leading to uterine growth and subsequent initiation of bleeding. Turmeric, a vibrant orange root, is rich in vitamins and possesses anti-inflammatory properties. Regular consumption of turmeric found to inhibit the production of prostaglandin in the body, thereby reducing the intensity of menstrual pain. Turmeric can be incorporated into vegetable-based meals or used to prepare a turmeric latte using plant-based milk. Co-ingesting black pepper, which contains piperine, is believed to have advantageous effects. Piperine, a naturally derived compound, significantly enhances the bioavailability of curcumin by a remarkable 2,000%.

FDA recommends Daily dose of Turmeric.

- Typically, standardized curcuminoid dosages range from 200 mg/day to 6 g/day.
- Turmeric powder typically weighs approximately 3 grams, which is equivalent to one teaspoon.

The Nutrition values of Turmeric (3gm) are:

Nutrients	Turmeric (3gm)
Fiber	0.7g
Energy (K.Calorie)	9
Carbohydrates (g)	2g
Iron	1.7mg

Preparation Of Turmeric Tea

Step I

- Wash the turmeric root, scrub it well.

Step II

- Peel the turmeric root and slice it thinly in small piece about 3 gm weighed in kitchen scale.

Step III

Keep aside the following ingredients.

- - 2 teaspoons of lemon juice.
- - 2 teaspoons of honey
- - Pinch of Pepper
- - 200ml of water

Step IV

- Boil the water.

Step V

- Add the turmeric root to the water (3gm of turmeric for 200ml of water)

Step VI

- Add pinch of pepper

Step VII

- Boil it for 10 – 15 minutes until become 100ml of water.

Step VIII

- Strain the tea after boiling and serve.
- Add 2 teaspoons of lemon juice and 2 teaspoons of honey.

Step IX

- Drink hot at room temperature or warm as preferred.

CONCLUSION

Historically, the therapeutic advantages of turmeric have been derived from long-term, low-dose consumption. A comprehensive examination of turmeric's effectiveness, safety, and mode of action is necessary to determine its suitable application in the treatment of human diseases. Further clinical investigations are necessary to determine the potential benefits of using turmeric to meet human needs and improve human well-being.

REFERENCES

1. Agarwal, D., & Chaudhary, P. (2023). Effect of Turmeric-Boswellia-Sesame Formulation in Menstrual Cramp Pain Associated with Primary Dysmenorrhea—A Double-Blind, Randomized, Placebo-Controlled Study. *Journal of Clinical Medicine, 12*(12), 3968.
2. Akaberi, M., Sahebkar, A., & Emami, S. A. (2021). Turmeric and curcumin: from traditional to modern medicine. *Studies on Biomarkers and New Targets in Aging Research in Iran: Focus on Turmeric and Curcumin*, 15-39.
3. Dyawapur, A., Patil, N. G., & Metri, L. (2018). Effectiveness of cinnamon tea and turmeric water for reducing dysmenorrhoea among degree girls. *International Journal of Science and Healthcare Research, 3*(1), 88-92.
4. Khanna, N. M. (1999). Turmeric-Nature's precious gift. *Current science, 76*(10), 1351-1356.
5. Liu, C., Yan, Ma, Y., Zhang, Y., ... & Zhang, M. (2022). Oral administration of turmeric-derived exosome-like nanovesicles with anti-inflammatory and pro-resolving bioactions for murine colitis therapy. *Journal of Nanobiotechnology*,

- 20(1), 206.
6. Luthra, P M., Singh, R., & Chandra, R. (2001). Therapeutic uses of *Curcuma longa* (turmeric). *Indian Journal of Clinical Biochemistry*, 16, 153-160.
 7. Jamal, M., Ohorella, F., & Ahmad, A. (2022). The Effect Of Giving Tamarind Turmeric Herbal Medicine To Decrea Dysmenorrhea In Midwifery Students At Megarezky University. *JURNAL KEBIDANAN KESTRA (JKK)*, 5(1), 111-116.
 8. Rahman, S. F., Hardi, G. W., Maras, M. A. J., & Riva, Y. R. (2020). Influence of curcumin and ginger in primary dysmenorrhea: a review. *International Journal of Applied Engineering Research*, 15(7), 634-638.
 9. Fadin, M., Nicoletti, M. C., Pellizzato, M., Accardi, M., Baietti, M. G., & Fratter, A. (2020). Effectiveness of the integration of quercetin, turmeric, and N-acetylcysteine in reducing inflammation and pain associated with endometriosis. In-vitro and in-vivo studies. *Minerva Ginecologica*, 72(5), 285-291.
 10. Tabari, N. S., Kheirkhah, M., Mojab, F., & Salehi, M. (2020). An investigation of the effect of curcumin (turmeric) capsule on the severity and duration of dysmenorrhea in students of Iran University of Medical Sciences. *J Evol Med Dent Sci*, 9(46), 3444-3451.