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A Review on Medicinal and Pharmacological Actions of Turmeric

Mrunal Mahajan, Sana Maniyar, Santosh Ghule

Research Student, Samarth College of Pharmacy, Belhe, Pune India

Abstract: The Indian subcontinent is home to vast cultivation of the spice turmeric (Curcuma longa Linn). The turmeric plant has been used in traditional medicine as a treatment for a number of illnesses, such as diabetes, hepatic disorders, and cough. The pharmacological effects of turmeric and its derivatives have been the subject of substantial research over the last few decades. Turmeric's primary chemical constituent, curcumin, has been shown to have a variety of beneficial physiological effects, including those for treating cancer, diabetes, hepatoprotection, expectoration, and inflammation. This review provides an updated look at turmeric's pharmacological properties, its extracts, and potential medical uses, along with an assessment of their safety.

Keywords: Turmeric; Haridra; Curcuma Longa Linn; Medicinal Plant; Dravyaguna.

REFERENCES

- [1] Vasavda Krup1, Hedge Prakash L2 and Harini A3, Pharmacological Activities of Turmeric (Curcuma longa linn): A Review, Krup et al., J HomeopAyurv Med 2013, 2:4 http://dx.doi.org/10.4172/2167-1206.1000133.
- [2] Bhatt NA, Singh A, Sharma R. Pharmacological activities of Curcuma longa: A review. Eur. J. Mol. Clin. Med. 2021 Jun 22; 8:2021.
- [3] Jain SK. Ethnobotany and research on medicinal plants in India. InCiba Foundation Symposium 185 - Ethnobotany and the Search for New Drugs: Ethnobotany and the Search for New Drugs: Ciba Foundation Symposium 185 2007 Sep 28 (ISSN 2515-8260 Volume 08, Issue 04, 2021pp. 153-168). Chichester, UK: John Wiley & Sons, Ltd.
- [4] Singh MP, Malla SB, Rajbhandari SB, Manandhar A. Medicinal plants of Nepal—retrospects and prospects. Economic Botany. 1979 Apr; 33:185-98.
- [5] Fuloria S, Mehta J, Chandel A, Sekar M, Rani NN, Begum MY, Subramaniyan V, Chidambaram K, Thangavelu L, Nordin R, Wu YS. A comprehensive review on the therapeutic potential of Curcuma longa Linn. in relation to its major active constituent curcumin. Frontiers in Pharmacology. 2022;13.
- [6] Chadalavada V, Budala S. Study on anthelmintic activity of curcuma caesia. Journal of Pharmaceutical Research. 2017;7(07).
- [7] Nisar MF, Khadim M, Rafiq M, Chen J, Yang Y, Wan CC. Pharmacological properties and health benefits of eugenol: A comprehensive review. Oxidative Medicine and Cellular Longevity. 2021 Aug 3;2021.
- [8] Debjit Bhowmik C, Kumar KS, Chandira M, Jayakar B. Turmeric: a herbal and traditional medicine. Archives of applied science research. 2009;1(2):86-108.
- [9] Shah BN. Textbook of pharmacognosy and phytochemistry. Elsevier India; 2009.
- [10] Krup V, Prakash LH, Harini A. Pharmacological activities of turmeric (Curcuma longa Linn): a review. J HomeopAyurv Med. 2013;2(133):2167-1206.
- [11] Baghel SS, Baghel RS, Sharma K, Sikarwar I. Pharmacological activities of Curcuma caesia. International Journal of Green Pharmacy (IJGP). 2013;7(1).
- [12] Ak T, Gülçin I. Antioxidant and radical scavenging properties of curcumin. Chemico-biological interactions. 2008 Jul 10;174(1):27-37.
- [13] El-Saadony MT, Yang T, Korma SA, Sitohy M, El-Mageed A, Taia A, Selim S, Al Jaouni SK, Salem HM, Mahmmod Y, Soliman SM. Impacts of turmeric and its principal bioactive curcumin on human health: Pharmaceutical, medicinal, and food applications: A comprehensive review. Frontiers in Nutrition. 2023;9.

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- [14] Sharma HK, Chhangte L, Dolui AK. Traditional medicinal plants in Mizoram, India. Fitoterapia. 2001 Feb 1;72(2):146-61.
- [15] Bhattacharjee S, Banerjee N, Chatterjee S, Santra T, Chatterjee S, Chatterjee A, Biswas P, De S, Mukherjee S. Role of turmeric in management of different non-communicable diseases. World Journal of Pharmacy and Pharmaceutical Sciences. 2017 May 20;6(7):1767-78.
- [16] Sharma C. Effect of Curcumin on Level of PGE 2 in Chronic Periodontitis (Doctoral dissertation, Rajiv Gandhi University of Health Sciences (India).
- [17] Desta MW, Gebremicheal BK. Recent Advancement of Microbial Production of Curcuminoids and Its Industrial Applications: A Review.
- [18] Ravindran J, Subbaraju GV, Ramani MV, Sung B, Aggarwal BB. Bisdemethylcurcumin and structurally related hispolon analogues of curcumin exhibit enhanced prooxidant, anti-proliferative and anti-inflammatory activities in vitro. Biochemical pharmacology. 2010 Jun 1;79(11):1658-66.
- [19] Ciavarella C, Motta I, Valente S, Pasquinelli G. Pharmacological (or synthetic) and nutritional agonists of PPAR-γ as candidates for cytokine storm modulation in COVID-19 disease. Molecules. 2020 Jan;25(9):2076.
- [20] Chainani-Wu N. Safety and anti-inflammatory activity of curcumin: a component of tumeric (Curcuma longa). The Journal of Alternative & Complementary Medicine. 2003 Feb 1;9(1):161-8.
- [21] Aggarwal BB, Yuan W, Li S, Gupta SC. Curcumin free turmeric exhibits anti inflammatory and anticancer activities: Identification of novel components of turmeric. Molecular nutrition & food research. 2013 Sep;57(9):1529-42.
- [22] Priya FF, Islam MS. Phyllanthus emblicaLinn. (Amla)—a natural gift to humans: an overview. J. Dis. Med. Plants. 2019; 5:1-9.
- [23] Kalpana C, Sudheer AR, Rajasekharan KN, Menon VP. Comparative effects of curcumin and its synthetic analogue on tissue lipid peroxidation and antioxidant status during nicotine-induced toxicity. Singapore medical journal. 2007 Feb 1;48(2):124.
- [24] Jenkins GJ, D'Souza FR, Suzen SH, Eltahir ZS, James SA, Parry JM, Griffiths PA, Baxter JN. Deoxycholic acid at neutral and acid pH, is genotoxic to oesophageal cells through the induction of ROS: the potential role of antioxidants in Barrett's oesophagus. Carcinogenesis. 2007 Jan 1;28(1):136-42
- [25] Rahman K. Studies on free radicals, antioxidants, and co-factors. Clinical interventions in aging. 2007 Jan 1;2(2):219-36.
- [26] Collin H. Herbs, spices and cardiovascular disease. InHandbook of herbs and spices 2006 Jan 1 (pp. 126-137). Woodhead Publishing.
- [27] Newman RA, Lansky EP, Block ML. Pomegranate: The most medicinal fruit. Basic Health Publications, Inc.; 2007.
- [28] Bhatt NA, Singh A, Sharma R. Pharmacological activities of Curcuma longa: A review. Eur. J. Mol. Clin. Med. 2021 Jun 22; 8:2021.
- [29] Labban L. Medicinal and pharmacological properties of Turmeric (Curcuma longa): A review. Int J Pharm Biomed Sci. 2014;5(1):17-23.
- [30] Sultana A, Rahman KU, Padmaja AR, Rahman SU. Boswellia serrata Roxb. a traditional herb with versatile pharmacological activity: a review. International Journal of Pharmaceutical Sciences and Research. 2013 Jun 1;4(6):2106.
- [31] Dohare P, Garg P, Sharma U, Jagannathan NR, Ray M. Neuroprotective efficacy and therapeutic window of curcuma oil: in rat embolic stroke model. BMC complementary and alternative medicine. 2008 Dec; 8:1-20.
- [32] Jin HJ, Xie XL, Ye JM, Li CG. TanshinoneIIA and cryptotanshinone protect against hypoxia-induced mitochondrial apoptosis in H9c2 cells. PLoS One. 2013 Jan 14;8(1):e51720.
- [33] Doke RR, Lakhdive KV. Restorative potential of curcumin in Parkinson's disease. Inventi Journals. https://doi. org/10.1201/9780203508596-79.
- [34] Yang F, Lim GP, Begum AN, Ubeda OJ, Simmons MR, Ambegaokar SS, Chen PP, Kayed R, Glabe CG, Frautschy SA, Cole GM. Curcumin inhibits formation of amyloid β oligomers and fibrils, binds plaques, and reduces amyloid in vivo. Journal of Biological Chemistry. 2005 Feb 18;280(7):5892-901

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- [35] Ravi SK, Narasingappa RB, Vincent B. Neuro-nutrients as anti-alzheimer's disease agents: A critical review. Critical reviews in food science and nutrition. 2019 Oct 11;59(18):2999-3018.
- [36] Al Mamun A, Sufian MA, Uddin MS, Sumsuzzman DM, Jeandet P, Islam MS, Zhang HJ, Kong AN, Sarwar MS. Exploring the role of senescence inducers and senotherapeutics as targets for anticancer natural products. European Journal of Pharmacology. 2022 May 2:174991.
- [37] Choi YH, Yan GH, Chai OH, Song CH. Inhibitory effects of curcumin on passive cutaneous anaphylactoid response and compound 48/80-induced mast cell activation. Anatomy & cell biology. 2010 Mar 1;43(1):36-43.
- [38] Baghel SS, Baghel RS, Sharma K, Sikarwar I. Pharmacological activities of Curcuma caesia. International Journal of Green Pharmacy (IJGP). 2013;7(1).
- [39] Yadav D, Yadav SK, Khar RK, Mujeeb M, Akhtar M. Turmeric (Curcuma longa L.): A promising spice for phytochemical and pharmacological activities. International Journal of Green Pharmacy (IJGP). 2013;7(2).

