

Review on Lemon Balm Herb and its Evaluation

Rutuja R. Khatode¹ and Pratiksha Deshmukh²

Bachelor of Pharmacy^{1,2}

Samarth Institute of Pharmacy, Belhe, Pune, Maharashtra, India

Abstract: *The development of drugs from medicinal herbs may be good to find novel therapeutic agents in the treatment of anxiety. Melissa officinalis L. (lemon balm) belongs to the Lamiaceae family and grows widely in the Mediterranean region, western Asia, southwestern Siberia, and northern Africa. Melissa officinalis L. has been used in traditional medicine to treat headaches, indigestion, colic, nervousness, cardiac failure and depression. In addition, it has been reported in several researches that lemon balm had many beneficial effects such as anti-inflammatory and ant nociceptive, Antioxidant. leaves contain several classes of constituents including polyphenolic compounds (rosmarinic acid, caffeic acid and protocatechuic acid), essential oils (geranial, neral, citronellal, geraniol, beta-pinene, alpha-pinene, beta-caryophyllene, germacrene D, and ocimene), monoterpenoid aldehydes, sesquiterpenes, flavonoids (luteolin) and tannins. The aims of this study were to evaluate the phytochemical screening of ethanolic extract of Melissa officinalis L. One study examined a chemically-validated essential oil derived from Melissa and found that Melissa inhibited binding of GABAA to receptor channel in the rat forebrain, but had no effect on or nicotinic acetylcholine receptors (Abuhamdah et al., 2008). They also found that Melissa elicited a significant dose-dependent reduction in both inhibitory and excitatory transmission.. The aromatic balm leaves are often used in beverages and as a seasoning in salads, dressings and sauces, as well as in cooked foods, e.g., in soups and stews. Some vernacular names are balm, common balm, blue balm, dropsy plant, honey plant, Herzkraut, citronelle, cytria, cedronella.*

Keywords: Melissa officinalis L, Lemon balm, Essential oils, Phenolic compounds, Headaches, Anti-inflammatory.

REFERENCES

- [1]. Dr. C. K. Kokate, Pharmacognosy, 50th Edition, Nirali Prakashan Publisher, 2014.
- [2]. Khandelwal. K. R, Practical Pharmacognosy, Nirali Prakashan Publishers.
- [3]. P. R. Pereira., R. Fachinetto., A. de Souza Prestes., L.R. Puntel, N.G. Santos da Silva., M.B. Heinzman, K.T. Boschetti., L.M. Athayde., E.M. Bürger., F.A. Morel., M.V. Morsch, and B.J. Teixeira Rocha. Antioxidant effects of different extracts from Melissa officinalis, Matricaria recutita and Cymbopogon citrates: Neurochem Res., Volume 34, 2009, pp. 973-83.
- [4]. K. Dastmalchi., J. H. Damien Dorman., M. Kosar, and R. Hiltunen. Chemical composition and in vitro antioxidant evaluation of a water-soluble Moldavian balm (Dracocephalum moldavica L.) extract: LWT- Food Science and Technology., Volume 40, 2007, pp. 239–248.
- [5]. M. Valko., D. Leibfritz., J. Moncol., D.T.M. Cronin., M. Mazur, and J. Telser. Free radicals and antioxidants in normal physiological functions and human disease: Int. J. Biochem. Cell Biol, Volume 39, Issue 1, 2007, pp. 44-84.
- [6]. S. Š. Herodež., M. Hadolin., M. Škerget, and Ž. Knez. Solvent extraction study of antioxidants from Balm (Melissa officinalis L.) leaves: Food Chem, Volume80, Issue2, 2003, pp. 275-282. Jilali, et.al, 2020
- [7]. B. Marongiu., S. Porcedda., A. Piras., A. Rosa., M. Deiana, and A. M. Dessi. Antioxidant activity of supercritical extract of Melissa officinalis subsp. officinalis and Melissa officinalis subsp. Inodora. Phytotherapy Res., Volume 18, 2004, pp. 789-792.
- [8]. T. J. Lin., C.Y. Chen., C.Y. Lee., W.C. Rolis Hou., L.F. Chen, J.D. Yang. Antioxidant, anti-proliferative and cyclooxygenase-2 inhibitory activities of ethanolic extracts from lemon balm (Melissa officinalis L.) leaves: LWT-Food Sci Techno, Volume49, Issue1, 2012, pp.1-7.
- [9]. H. E. Reynolds. Brain and mind: a challenge for WHO, The Lancet., 361, 2003, pp. 1924–1925.

- [10]. H.J. Woods, and L.J. Katz, G. Winger. Benzodiazepines: use, abuse, and consequences: *Pharmacol Rev*, Volume 44, 1992, pp. 151-347
- [11]. M. J. Kent., J.S. Mathew, and M.J. Gorman. Molecular targets in the treatment of anxiety: *Biol. Psychiatry.*, 52.10 (2002): 1008-1030.
- [12]. Ulbricht, Catherine; Brendler, Thomas; Gruenwald, Joerg; Kligler, Benjamin; Keifer, David; Abrams, Tracee Rae; Woods, Jen; Boon, Heather; Kirkwood, Catherine DeFranco (2005). "Lemon balm (*Melissa officinalis* L.): an evidence-based systematic review by the Natural Standard Research Collaboration". *Journal of Herbal Pharmacotherapy*. 5 (4): 71–114. doi:10.1080/J157v05n04_08. ISSN 1522-8940. PMID 16635970. S2CID 70676630.(subscription required)
- [13]. Axtell, B.L.; Fairman, R.M. (1992). "*Melissa officinalis*". *Minor Oil Crops*. Rome: Food and Agriculture Organization of the United Nations. ISBN 978-92-5-103128-5.
- [14]. Bown, Deni (1995). *Encyclopedia of Herbs & Their Uses*. London: Dorling Kindersley. ISBN 978-0-7894-0184-7.
- [15]. Chisholm, Hugh, ed. (1911). "Balm". *Encyclopædia Britannica*. Vol. 3 (11th ed.). Cambridge University Press.
- [16]. Culpepper, Nicholas (1814). *Culpeper's Complete Herbal*. London: Richard Evans. OCLC 1029959639.
- [17]. Dampney, Janet; Pomeroy, Elizabeth (1985). *All About Herbs*. New York: Exeter Books. ISBN 978-06710-7-536-1.
- [18]. Gerard, John (1876). Jackson, Benjamin Daydon (ed.). *A Catalogue of Plants Cultivated in the Garden of John Gerard, in the Years 1596–1599*. Cambridge: Cambridge University Press. OCLC 839850873.
- [19]. Grieve, Maude (1971). *A Modern Herbal*. Vol. 1. New York: Dover Publications Inc. ISBN 978-04862-2-798-6.
- [20]. Harrington, Natalie (2012). "Harmala Alkaloids as Bee Signaling Chemicals". *Journal of Student Research*. 1 (1): 23–32. doi:10.47611/jsr.v1i1.30. Archived from the original on February 17, 2018.
- [21]. Kennedy, D.O.; Scholey, Andrew B.; Tindsley, N.T.J.; Perry, E.K.; Wesnes, K.A. (2002). "Modulation of mood and cognitive performance following acute administration of *Melissa officinalis* (lemon balm)". *Pharmacology Biochemistry and Behavior*. 72 (4): 953–964. doi:10.1016/S0091-3057(02)00777-3. ISSN 0091-3057. PMID 12062586. S2CID 44542554.
- [22]. Setzer, William (2009). "Essential Oils and Anxiolytic Aromatherapy". *Natural Product Communications*. 4 (9): 1309. doi:10.1177/1934578X0900400928. ISSN 1555-9475. PMID 19831048. S2CID 38660119.
- [23]. Shekarchi, Maryam; Hajimehdipoor, Homa; Saeidnia, Soodabeh; Gohari, Ahmad Reza; Hamedani, Morteza Pirali (2012). "Comparative Study of Rosmarinic Acid Content in Some Plants of Labiatae Family". *Pharmacognosy Magazine*. 8 (29): 37–41. doi:10.4103/0973-1296.93316. ISSN 0973-1296. PMC 3307200. PMID 22438661.