

A Review Article on Pharmacognostic Study of Polyherbal Plant

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Abstract: Pharmacognosy is defined as the scientific study of the structural physical, chemical and biological characters of crude drugs along with their history cultivation, collection, preparation for the market and preservation. *Portulaca oleracea* is a wild plant pest of orchards and gardens, but is also an edible vegetable rich in beneficial nutrients. *Sesame* (*Sesamum indicum* L.), of the *Pedaliaceae* family, is one of the first oil crops used in humans. Sesame seeds are rich in protein and lipids and have many health benefits. Jasmine essential oils are primarily used in the perfumery industry and have a very high commercial value due to its therapeutic properties. Fenugreek (*Trigonella foenum-graecum*) is a legume and it has been used as a spice throughout the world to enhance the sensory quality of foods. *Neem* (*Azadirachta indica*) is a member of the *Meliaceae* family and its role as health-promoting effect is attributed because it is rich source of antioxidant. *Tulsi*, also known as holy basil, is indigenous to the Indian continent and highly revered for its medicinal uses within the Ayurvedic and Siddha medical systems. Curry leaves were originally cultivated in India for its aromatic leaves and for ornament is normally used for natural flavoring in curries and sauces. *Henna* is a dye obtained from *Henna* leaves, *Lawsonia inermis* belonging to the family- *Lythraceae*. *Bhringraj* is also known as *Kesharaj* which means "Ruler of the hair". It is rich in proteins, vitamins and antioxidants which help protect the body against certain infections.

Keywords: Pharmacognosy, legume, spice, sauces

REFERENCES

- [1]. Stojanoski N. Development of health culture in Veles and its region from the past to the end of the 20th century. *Veles: Society of science and art.* 1999:13–34.
- [2]. Dineshkumar C. Pharmacognosy can help minimize accidental misuse of herbal medicine. *Curr Sci* 2007; 3:1356-1358.
- [3]. Zech-Matterne V., Tengberg M., Van Andringa W. *Sesamum indicum* L. (Sesame) in 2nd Century BC Pompeii, Southwest Italy, and a Review of Early Sesame Finds in Asia and Europe. *Veg. Hist. Archaeobotany.* 2015;24:673–681. doi: 10.1007/s00334-015-0521-3.
- [4]. Udedibie ABI, Opara CC. Responses of growing broilers and laying hens to the dietary inclusion of leaf meal from *alchorhiacordifolia*. *Anim. Feed Sci. Techno.* 1998; 71:157-164.
- [5]. Esonu BO, Opara MN, Okoli IC, Obikaonu HO, Udedibie C, Iheshiulor OOM. Physiological responses of laying birds to *Neem* (*Azadirachta indica*) leaf meal based diets, body weight, organ characteristics and hematology. *Online J Health Allied Sci.* 2006, 2(4). [http://www.ojhas.org/issue 18/2006-2-4.htm](http://www.ojhas.org/issue%2018/2006-2-4.htm) 2006.
- [6]. Das S.K., Vasudevan D.M.(2006). *Tulsi: The Indian holy power plant.* *Natural Product Radiance*, 5: 279-83.
- [7]. Prajapati N.D., Purohit S.S., Sharma A.K., Kumar T. (2003). *A Hand Book of Medicinal Plant*, 1st Ed. Agrobios, India, 367.
- [8]. Wojdyło A., Oszmiański J., Czemerys R. Antioxidant activity and phenolic compounds in 32 selected herbs. *Food Chem.* 2007;105:140–149. doi: 10.1016/j.foodchem.2007.04.038.
- [9]. Bhandari P. Curry leaf (*Murrayakoenigii*) or Cure leaf: Review of its curative properties. *J. Med. Nutr. Nutraceuticals.* 2012;2:92–97. doi: 10.4103/2278-019X.101295.
- [10]. Desai S.N., Patel D.K., Devkar R.V., Patel P.V., Ramachandran A.V. Hepatoprotective potential of polyphenol rich extract of *Murrayakoenigii* L.: An in vivo study. *Food Chem. Toxicol.* 2012;50:310–314. doi: 10.1016/j.fct.2011.10.063.

- [11]. Kumar S., Singh Y. & Singh M. (2005) Henna: Cultivation, improvement and Trade, Central Arid Zone Research Institute, Jodhpur, India.
- [12]. Singh A. & Singh D. K. (2001) Indian J Exp Biol., 39(3), 263-8
- [13]. Uddin N., Siddiqui B. S., Begum S., Bhatti H. A., Khan A., Parveen S. & Choudhary M. I. (2011) Phytochemistry Letters, 4(4), 454-458.
- [14]. Hsouna A. B., Trigui M., Culioli G., Blache Y. & Jaoua S. (2011) Food Chemistry, 125(1), 193-200.
- [15]. Chaudhary G. D., Poonia P., Kamboj P. & Kalia A. N. (2012) Int J Phytopharmacol, 3, 66-73.
- [16]. Jeyaseelan E.C., Jenothiny S., Pathmanathan M.K. & Jeyadevan J. P. (2012) Asian Pacific Journal of Tropical Biomedicine, 2(10), 798-802.
- [17]. Manandhar N.P. *Plants and People of Nepal*. Timber Press; Portland, OR, USA: 2002.
- [18]. Sherchan J., Poudel P., Sapkota B., Jan H.A., Bussmann R.W. *Ecliptaprostrata* (L.) L. Asteraceae. In: Kunwar R.M., Sher H., Bussmann R.W., editors. *Ethnobotany of the Himalayas*. Springer International Publishing; Cham, Switzerland: 2020. pp. 1–19
- [19]. Bakht J., Islam A., Ali H., Tayyab M., Shafi M. Antimicrobial Potentials of *Eclipta alba* by Disc Diffusion Method. *Afr. J. Biotechnol.* 2011;10:7658–7667. doi: 10.4314/ajb.v10i39.
- [20]. Jayathirtha M.G., Mishra S.H. Preliminary Immunomodulatory Activities of Methanol Extracts of *Eclipta alba* and *Centellaasiatica*. *Phytomedicine*. 2004;11:361–365. doi: 10.1078/0944711041495236.
- [21]. Datta K., Singh A.T., Mukherjee A., Bhat B., Ramesh B., Burman A.C. *Eclipta alba* Extract with Potential for Hair Growth Promoting Activity. *J. Ethnopharmacol.* 2009;124:450–456. doi: 10.1016/j.jep.2009.05.023.
- [22]. Babu CR. Herbaceous Flora of Dehradun, Publications and Information Directorate. Council of Scientific and Industrial Research, New Delhi, India. 1977
- [23]. Chowdhary CV, Meruva A, Kumar N, Elumalai RKA. A review on phytochemical and pharmacological profile of (Purslane) *Portulaca oleracea* Linn. *International Journal of Research in Ayurveda Pharmacy*. 2013; 4(1):34-37.
- [24]. Bown D. *Encyclopaedia of Herbs and Their Uses*. Reader's Digest Association, Canada, 1995, 182.
- [25]. Sharma RD, Raghuram TC, Rao NS. Effect of fenugreek seeds on blood glucose and serum lipid in type 1 diabetes. *Eur J clin nutr.* 1990;44:301-306
- [26]. Ajabnoor MA, Tilmisany AK. Effect of *Trigonella foenum-graecum* on blood glucose levels in normal and alloxan-diabetic mice. *J Ethnopharmacol.* 1998;22:45-49.
- [27]. Belguith-Hadriche O, Bouaziz M, Jamoussi K, El Feki A, Sayadi S et al. Lipid-lowering and antioxidant effects of an ethyl acetate extract of fenugreek seeds in high-cholesterol-fed rats. *J Agric Food Che.* 2010;58(4):2116-2122.
- [28]. Pandian RS, Anuradha CV, Viswanathan P. Gastroprotective effect of fenugreek seeds (*Trigonella foenum graecum*) on experimental gastric ulcer in rats. *J Ethnopharmacol.* 2002;81:393-397.
- [29]. Max B. This and That: The essential pharmacology of herbs and spices *Trends. Pharma Sci.* 1992; 13:15-20.
- [30]. Suresh P, Kavitha ChN, Babu SM, Reddy VP, Latha AK. Effect of ethanol extract of *Trigonella foenum graecum* (Fenugreek) seeds on Freund's adjuvant-induced arthritis in albino rats. *Inflamm.* 2012; 35(4):1314-1321
- [31]. Lee AS, Kim JS, Lee YJ, Kang DG, Lee HS. Anti-TNF-alpha activity of *Portulaca oleracea* in vascular endothelial cells. *Int J Mol Sci.* 2012;13(5):5628–44. doi: 10.3390/ijms13055628.
- [32]. Chan K, Islam M, Kamil M, Radhakrishnan R, Zakaria M, Habibullah M, et al. The analgesic and anti-inflammatory effects of *Portulaca oleracea* L. subsp. *sativa* (Haw.) *Celak J Ethnopharmacol.* 2000;73(3):445–51. doi: 10.1016/S0378-8741(00)00318-4.
- [33]. Askari VR, Rezaee SA, Abnous K, Iranshahi M, Boskabady MH. The influence of hydro-ethanolic extract of *Portulaca oleracea* L. on Th1/Th2 balance in isolated human lymphocytes. *J Ethnopharmacol.* 2016;194:1112–21. doi: 10.1016/j.jep.2016.10.082.

- [34]. Shakeri F, Boskabady MH. A review of the relaxant effect of various medicinal plants on tracheal smooth muscle, their possible mechanism (s) and potency. *J Ethnopharmacol.* 2015;175:528–48. doi: 10.1016/j.jep.2015.10.017.
- [35]. Saleem TS, Basha SD, Mahesh G, Rani PV. Analgesic, anti-pyretic and anti-inflammatory activity of dietary sesame oil in experimental animal models. *Pharmacologia*2011;2:172-7
- [36]. Nalli Y., Khajuria V., Gupta S., Arora P., Riyaz-Ul-Hassan S., Ahmed Z., Ali A. Four new carbazole alkaloids from *Murrayakoenigii* that display anti-inflammatory and anti-microbial activities. *Org. Biomol. Chem.* 2016;14:3322–3332. doi: 10.1039/C6OB00267F.
- [37]. . Joshi T., Jain T., Mahar R., Singh S.K., Srivastava P., Shukla S.K., Mishra D.K., Bhatta R.S., Banerjee D., Kanojiya S. Pyranocarbazoles from *Murrayakoenigii* (L.) Spreng. as antimicrobial agents. *Nat. Prod. Res.* 2018;32:430–434. doi: 10.1080/14786419.2017.1308363.
- [38]. Sharma S., Handu S., Dubey A., Sharma P., Mediratta P., Ahmed Q. Anti-anxiety and anti-depressant like effects of *Murrayakoenigii* in experimental models of anxiety and depression. *Anc. Sci. Life.* 2017;36:215–219.
- [39]. Dar A.A., Kancharla P.K., Chandra K., Sodhi Y.S., Arumugam N. Assessment of Variability in Lignan and Fatty Acid Content in the Germplasm of *Sesamum indicum* L. *J. Food Sci. Technol.* 2019;56:976–986. doi: 10.1007/s13197-018-03564-x
- [40]. Akhila H., SuharaBeevy S. Palynological Characterization of Species of Sesamum (Pedaliaceae) from Kerala: A Systematic Approach. *Plant Syst. Evol.* 2015;301:2179–2188. doi: 10.1007/s00606-015-1222-1.
- [41]. Gloaguen R.M., Couch A., Rowland D.L., Bennett J., Hochmuth G., Langham D.R., Brym Z.T. Root Life History of Non-Dehiscent Sesame (*Sesamum indicum* L.) Cultivars and the Relationship with Canopy Development. *Field Crops Res.* 2019;241:107560. doi: 10.1016/j.fcr.2019.107560.