

COLLECTION OF MEDICINAL PLANTS IN TRADITIONAL AND MODERN PERSPECTIVE

Vinay M. Raole*¹ and Vaidehi V. Raole²

¹Department of Botany, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India

²Department of Sharir Kriya, Parul Institute of Ayurveda, Parul University, Limda, Waghodia Vadodara

Email: vinaysar@rediffmail.com; vraole3@gmail.com

Received-04.04.2020, Revised-25.04.2020

Abstract: In the recent past surveys of medicinal plants and plant products all over the globe is increased. Use of medicinal plants and its products is going on since the beginning of human civilization. Traditional knowledge is very important for sustainability of natural wealth including medicinal plants. Medicinal plants form the major natural resources base of the Indian indigenous health care tradition. Conservation of these plants can be learnt from specific local knowledge and transmission of facts, skills and strategies, concern for well-being of future generations. Due to global popularity of Ayurveda there is enhanced demand of herbal drugs which is exerting enormous pressure on natural assets. Healing plants form the major natural resources base of the Indian indigenous health care system. In the medicinal plants, the secondary metabolites or active principle are made available through biosynthetic pathway and proper harvesting techniques. The science behind ancient Ayurvedic harvesting techniques was narrated in various earlier treaties and commentaries. To achieve good therapeutic result it is mandatory to collect the drug plants in a modern collection procedure and is also proven by modern scientific methods. In Ayurvedic literature, drug collection has been mentioned according to different parts of the plant in respective seasons and basis of therapeutic uses. According to modern botanical and pharmaceutical science, drugs possess highest prospects during its collection period. The soil condition, climatic factors, temperature, rain fall, duration of light exposure, altitude, collection from wild area, and methods of collection, processing and storage have impact on the secondary metabolites of the plant ultimately which affect the therapeutic efficiency of the drug. General guidelines for drug plants, plant parts as per botanical field collection, safety issues and recommendations for collection practices, and future scope of procedure has been given.

Keywords: Ayurvedic, Medicinal plants, Modern, Traditional

REFERENCES

Anonymous (1948-1976). *Pharmacognosy of Ayurvedic drugs*. Trivandrum Vol. 1 and 2.

Anonymous (1948-1976). *Wealth of India*, New Delhi.

Anonymous (2005). *How to Collect Plants*. Royal Botanic Gardens, Sydney.

Ashtanga Hrudya of Vagbhata (2018). Choukhmbha Surbharati Prakashana.

Balasubramanian, A.V. (2000). The relevance of a vibrant tradition. In: *Indian Health Traditions*, pp. 6-8. The Hindu, October, Chennai, India.

Bannerman, R.H.O., Burton, J. and Chen, W.C. (1983). *Traditional Medicine and Health Care Coverage: A Reader for Health Administrators and Practitioners*. Geneva: World Health Organization.

Bennett, R.N. and Wallsgrove, R.M. (1994). Secondary metabolites in plant defence mechanisms. *New Phytol.* 127:617-33.

Bhavaprakash Nighantu Commentary by Dr. Krushnachand Chuneekar, Oriental Publishers and Distributors, Varanasi.

Charaka, Samhita (1981). PV Sharma Translator, Chaukhamba Orientalia, Varanasi, India.

Chopra, A. and Doiphode, V.V. (2002). Ayurvedic medicine: core concept, therapeutic principles, and current relevance. *Med Clin North Am.* 86:75-89.

Fabricant, D.S. and Farnsworth, N.R. (2001). The Value of Plants Used in Traditional Medicine for Drug Discovery. *Envir. Health Perspectives*, 109, 1. 69-75.

Forest Survey of India (FSI). (1999). State of Forest Report 1999. Forest Survey of India (Ministry of Environment and Forests), Dehra Dun, India.

Hankey, A. (2001). Ayurvedic physiology and etiology: Ayurvedo Amritanaam. The doshas and their functioning in terms of contemporary biology and physical chemistry. *J Altern Complement Med.* 7:567-574.

Karnick, C.R. (1977). Effects of phases of moon on the growth and active principles of *Acorus calamus* (Bach.) Nagarjun journal.

Kaufman, P.B., Cseke, L.J., Warber, S., Duke, J.A. and Brielmann, H.L. (1999). *Natural Products from Plants*. CRC Press, Boca Raton, FL.

Madhava, Nidanam (1993). Shri Kanta Murthy translator, Chaukhamba Orientalia, Varanasi, India, *Bhava Prakash* 1998, Shri Kanta Murthy translator, Chaukhamba Orientalia, Varanasi, India.

Majumdar, A.K. (1989). Ayurveda and modern medicine *Anc. Sci. Life* 8(3): 117-190.

Mukherjee, P.K., Bahadur, S. and Harwansh, R.K. (2013). Development of traditional medicines: Globalizing local knowledge or localizing global technologies. *Pharma*, 45(9).

*Corresponding Author

- Parasuraman, S., Thing, G.S. and Dhanaraj, S.A.** (2014). Polyherbal formulation: concept of Ayurveda. *Pharmacogn Rev.*;8(16):73-80. Rajnighantu with Dravyagunaprakashika hindi vyakhya by Indradev Tripathi, Choukhamba krushnadas academy, Varanasi.
- Rao, S.R. and Ravishankar, G.A.** (2002). Plant cell cultures: chemical factories of secondary metabolites. *Biotechnol Adv* 20:101-53; PMID:14538059; DOI:10.1016/S0734-9750(02)00007-1.
- Ravishankar, G.A. and Rao, S.R.** (2000). Biotechnological production of phytopharmaceuticals. *J Biochem Mol Biol Biophys* 4:73-102.
- Ravishankar, G.A. and Venkataraman, L.V.** (1990). Food applications of plant cell cultures. *Curr Sci* 57:381-3.
- Reid, W.V.** 1993. World Resources Institute, Instituto Nacional de Biodiversidad (Costa Rica), Rainforest Alliance, African Centre for Technology Studies. *Biodiversity Prospecting: Using Genetic Resources for Sustainable Development*. New York: World Resources Institute.
- Sabnis, M.** (2006). *Chemistry and Pharmacology of Ayurvedic Medicinal Plants*. Varanasi, India: Chaukhamba Amarabharati Prakashan; Sastri H, ed. *Ashtanga Hridayam*. Varanasi, India: Chaukhamba Orientalia; 2002.
- Shankar, D.** (1999). Bioresources and biotechnology policy issues: the case of medicinal plants. In: *Bioresources and Biotechnology: Policy Concerns for the Asian Region* (Ed. Sahai, S.), pp. 45-51. Gene Campaign, New Delhi, India.
- Shankar, D., Ved, D.K. and Geetha, U.G.** (2000). A green pharmacy. In: *Indian Health Traditions*, pp. 14-17. The Hindu, October, Chennai, India
- Sharangdhara Samhita**, Dipika Hindi Vyakhya, by Brahmananda Tripathi, Choukhamba Surbharati prakashana, Vasranasi.
- Sharngadhara, Samhita** (1984). Shri Kanta Murthy Translator, Chaukhamba Orientalia, Varanasi, India.
- Sinha, A.K.** (1984). Philosophical presuppositions of Ayurveda and Modern medicine. *Anc. Sci. Life* 3(3): 123-128.
- Sivarajan, V.V. and Balalchandran, I.** (1999). *Ayurvedic drugs and their plant sources*. Oxford & IBH publishing comp. New Delhi.
- Sushruta, Samhita** (1991). KL Bhisagratna Translator, Chaukhamba Orientalia, Varanasi, India, *Ashtanga Hridaya* 1991 Shri Kanta Murthy Translator, Chaukhamba Orientalia, Varanasi, India.
- Toledo, B.A., Galetto, L. and Colantonio, S.** (2009). Ethnobotanical knowledge in rural communities of Cordoba (Argentina): the importance of cultural and biogeographical factors. *J. Ethnobiol. Ethnomed.* 5:40.
- Tuteja, N. and Sopory, S.K.** (2008). Chemical signaling under abiotic stress environment in plants. *Plant Signal Behav*; 3:525-36.
- Wink, M. and Schimmer, O.** (1999). Modes of action of defensive secondary metabolites. In MWink, ed, *Functions of Plant Secondary Metabolites and Their Exploitation in Biotechnology*. CRC Press, Boca Raton, FL, pp 17-112.