MEDWIN PUBLISHERS
Committed to create value for Researchers

International Journal of Pharmacognosy and Chinese Medicine
ISSN: 2576-4772

Standardization & Safety Measures: Quality-Based Validation of Herbal Medicine

Sachin Kumar Jain*

IPS Academy College of Pharmacy, India

***Corresponding author**: Sachin Kumar Jain, Associate Professor, IPS Academy College of Pharmacy, India, Email: sachin225819@rediffmail.com

Editorial

Volume 3 Issue 4

Received Date: October 03, 2019

Published Date: October 14, 2019

DOI: 10.23880/ipcm-16000182

Editorial

Herbal medicines magnetize the curiosity of both patients and scientists, in all aspects of drug development from natural products and also for rationale of traditional medicine (TM). Numerous developing countries rely on TM because of their convenience and affordability, and scientists all over the world believe medicinal plants as a resource of new chemical entities and use them to isolate compounds such as Sennoside, quinine, strychnine, digoxin, morphine, taxol, atropine, and vinblastine [1]. Herbal medicines have a significant point in health care systems worldwide; their present appraisal and quality control are a major bottleneck. Many unfavorable events of herbal medicines can be attributed to the deprived quality of the raw materials or the completed products. Quality issues of herbal medicines can be classified into two categories, external and internal. External issues comprise toxic metals, pesticides residues, microbes, defilement, and misidentification of medicinal plants. The internal issues distressing the quality of herbal medicines are difficulty and non-uniformity of the ingredients. Throughout the use of modern investigative methods and pharmaceutical techniques, beforehand unsolved internal issues have become solvable [2]. The increasing search for restorative agents derived from plant species is justified by the appearance of diseases. Medicinal plants hand out as the most precious source for curing many diseases. Herbal medicines comprise herbal extracts, herbal drug preparations, and herbal drugs. Herbal drugs are natural parts of plants or whole plants [3]. Herbs comprise crude plant material such as leaves, flowers, fruit, seed, stems, wood, bark, roots, rhizomes, or other plant parts, which may be whole, fragmented, or powdered. Herbal preparations comprise comminuted or powdered materials or extracts, tinctures, and fatty oils of herbal materials, which may be produced by extraction, fractionation, purification, concentration, or other physical or biological processes [4].

Modern allopathic medicine has developed from olden medicine, and it is probable that many significant new remedies were discovered and commercialized following the leads provided by traditional acquaintance and experiences. The study of these traditions not only provides an imminent into how the field has urbanized but it is also a enthralling example of our capability to develop a multiplicity of cultural practices [5]. The administering of a pure chemical or a plant extract containing the same chemical unit is essentially different. The distinction is chiefly due to the complexity of a plant extracted that introduces numerous variables to conservative phytomedicinal research, which could probably contribute to chemical intricacy and bioactivity. On administration of plant material of *Artemisia annua* against the pure drug, for example, artemisinin, showed that the bioavailability from the leaves was 45 times more than that of the pure drug [6]. Therefore, the complexity of the plant extract might have contributed to the increased bioavailability and hence the bioactivity. An authentic interest on different traditional practices now exists amongst practitioners of modern medicine and a number of practitioners of traditional, aboriginal, or alternative systems are commencement to accept and use some of the modern technologies. Appropriate methodologies for the research and development, manufacturing, and superiority control of the formulations in traditional medicines and investigations of the curative potentials of plants used in those systems with sustain of scientific methods may help to use them with utmost potential efficiency [7].

Integrated Strategies for Development of Herbal Medicine

The intercontinental trade in herbal medicine has involved most of the pharmaceutical companies, including the multinationals. Waiting a few years ago, only few companies had attention in the advertising of herbal medicines. Presently, numerous large multinational companies are concerned in commercializing herbal drugs [8]. The world market for herbal medicine, as well as herbal products and raw materials, has been predictable to have a yearly growth rate up to 15%. Numerous integrated approaches in herbal research for endorsement and expansion of natural products

Opportunities and Challenges in Herbal Medicine

With the worldwide augment in the stipulate for medicinal plant or plant-derived medicines, there is a call for ensuring the superiority and safety of herbal drugs using numerous modern analytical techniques. Chemical constituents in herbal medicine may differ depending on harvest seasons, plant origins, drying processes, and further associated factors. Therefore, it seems to be essential to conclude mainly of the phytochemical constituents of herbal products in order to guarantee the consistency and repeatability of pharmacological and clinical research, to recognize their bioactivities and probable side effects so as to augment the quality of the herbal products [9]. Quality control of herbal medicines aims to guarantee their quality, safety, and efficiency. The lack of chemical markers remains a major difficulty for the quality control of herbal medicines. In several cases, we do not have enough chemical and pharmacological data of chemical markers. Additional, there are many technical challenges in the production of markers. For example, temperature, light, and solvents often cause deprivation and/or alteration of purified components; isomers and conformations may also cause changes in the markers. Though, an idea of accepting the complex principles of herbal medicine must be developed during marker profiling and related approaches so as to build up evidence-based practice of herbal medicine [10]. Evidence-based submissions for regulatory endorsement and interlinking of various pharmacopoeial and monographs would be cooperative for herbal manufacturers to the regulated markets across the world.

A general comparison of the pharmacopoeial principles reveals that there is a wide difference in plant-specific parameters and quality principles of different nations. With respect to Southeast Asia, India is amongst the most important countries with esteem to development of pharmacopoeial standards as well as amendment of accessible regulatory guidelines [11]. The chief challenges for the expansion and endorsement of traditional medicines include the chemo profiling, safety evaluations, quality control, and efficient regulatory guidelines for herbal medicines [12]. Wisdom and compassion-enhanced global association and leadership are needed to modify the modern paradigms and expand new strategies for the enhancement of traditional medicines and dietary supplements. Research during collaboration and assistance across the nation can assist to a huge amount in the endorsement and enlargement of the traditional medicines for the betterment health care globally [13]. Development and evaluation of medicinal plant derivative products are being controlled and implemented during various agencies in different countries. This provides sole advantages for researchers and pharmaceutical industries to augment drug discovery and development [14].

References

1. Tistaert C, Dejaegher B, Heyden YV (2011) Chromatographic separation techniques and data handling methods for herbal finger prints: a review. Anal Chim Act 690(2): 148-161.

2. Zhang J, Wider B, Shang H, Li X, Ernst E (2012) Quality of herbal medicines: challenges and solutions. Complement Ther Med 20(1-2): 100-106.

3. Mukherjee PK, Sahoo AK, Narayanan N, Kumar NS, Ponnusankar S (2009) Lead finding from medicinal plants with hepatoprotective potentials. Expert Opin Drug Discov 4(5): 545-576.

4. Shinde VM, Dhalwal K, Potdar M, Mahadik KR (2009) Application of quality control principles to herbal drug. Int J Phytomed 1(1): 4-8.

5. Booker A, Johnston D, Heinrich M (2012) Value chains of herbal medicinesdresearch needs and key challenges in the context of ethnopharmacology. J Ethnopharmacol 140(3): 624-633.

6. Weathers PJ, Arsenault PR, Covello PS, McMickle A, Teoh KH, et al. (2011) Artemisinin production in Artemisia annua: studies in planta and results of a novel delivery method for treating malaria and other neglected diseases. Phytochem Review 10(2): 173-183.

7. Mukherjee PK, Wahile A (2006) Perspectives of safety for natural health products. In: Sharma RK, Arora R, (Eds.), Herbal drugsda twenty first century

perspectives. Jaypee Brothers Medicinal Publishers, New Delhi.

8. Choi DW, Kim JH, Cho SY, Kim DH, Chang SY (2002) Regulation and quality control of herbal drugs in Korea. Toxicology 58: 581-286.

9. Liang YZ, Xie P, Chan K (2004) Quality control of herbal medicine. J Chromato B 812(1-2): 53-70.

10. Patwardhan B, Mashelkar RA (2009) Traditional medicine-inspired approaches to drug discovery: can Ayurveda show the way forward? Drug Discov Today 14(15-16): 804-811.

11. Mukherjee PK, Venkatesh P, Venkatesh M, Ponnusankar S, Khan MY (2010) Strategies for revitalization of traditional medicine. Chin Herb Med 2(1): 1-15.

12. Mukherjee PK (2003) Exploring botanicals in Indian system of medicine-regulatory perspectives. J Clin Res Reg Affairs 20(3): 249-264.

13. Mukherjee PK (2001) Evaluation of Indian traditional medicine. Drug Inf J 35(2): 631-640.

14. Mukherjee PK, Ponnusankar S, Venkatesh M (2010) Ethnomedicine in complementary therapeutics. In: Chattopadhyay D, (Ed.), Ethnomedicine: a source of complementary therapeutics, Research Signpost, Trivandrum, pp: 29-52.