



Editorial

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Herbal Pharmacopoeias– an overview of international and Indian representation

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Pharmacopoeia, literally means “drug-making”, technically is a book published by the authority of a government or a medical or pharmaceutical society containing directions for the identification of medicines, shortly a legal document containing standards for medicinal commodities. The word is derived from Ancient Greek word *pharmakopoiia* having three words in it - *pharmakon* meaning ‘a drug’, the verb-stem *poi* meaning 'make' and abstract noun ending *ia*; cumulatively meaning 'drug-mak-ing'. The Greek spellings φ (*f*), κ (*k*) and \omicron (*oi*) are respectively written as *ph*, *c*, and *oe* in early modern editions of Latin texts giving the spelling *pharmacopoeia*. Descriptions of each single drugs or preparations included in a Pharmacopoeia are called monographs. They are the only officially recognised book for reference on standards of quality specifications of a synthetic and natural pharmaceutical drug.

If we look back to history, Pharmacopoeias were designed for herbal medicines, some exemplary works are considered to be Edwin Smith Papyrus in Egypt and *De Materia Medica* originally written in Greek by Pedanius Dioscorides. *De Materia Medica* turned out to be one of the most influential herbal books in history and is considered to be predecessor to all modern pharmacopoeias as it remained in use until about CE 1600. Some other pharmacopoeia written by Persian physicians included *The Canon of Medicine* of Avicenna in 1025^[1], works by Ibn Zuhr (Avenzoar) of 12th century^[2] and Ibn Baytar of 14th century. The Shen-nung pen ts'ao ching (Divine Husbandman's Materia Medica) is the earliest known Chinese pharmacopoeia which describes 365 medicines derived from plants animals and minerals believed to be written by Chinese god Shennong.

All the substances of animal, plant and mineral constituted the old Materia medica, but such encyclopedic mass of knowledge necessitated subdivisions of the information into sections. Subsequently four departments of study – all dealing with drugs – but from different point of view were formulated; pharmaceutical chemistry to deal with theory and fundamentals of scientific chemistry of medicinal substances, pharmacy or pharmaceuticals for modes of treatment of chemicals and crude drugs for forms suitable administration, pharmacology or pharmacodynamics to deal with responses of organisms when subjected to treatment by drugs and pharmacognosy for scientific study of structural, physical, chemical and sensory characters of crude drugs of vegetable, animal and mineral origin, also includes their history, cultivation and collection, and the treatments they receive before the drug reaches to distributors from the producer.

The modern day pharmacopoeias are strictly for standards of medicines and every developed country has a pharmacopoeia for their medicaments of synthetic as well as natural origin. Some popular herbal pharmacopoeias of world are American Herbal Pharmacopoeia (AHP), British Herbal Pharmacopoeia (BHP), Korean Herbal Pharmacopoeia (KHP), etc. The AHP develops qualitative and therapeutic monographs on botanicals, including many of the Ayurvedic, Chinese, and Western herbs most frequently used in the United States. These monographs represent the most comprehensive and critically reviewed body of information on herbal medicines in the English language, and serve as a primary reference for academicians, health care providers, manufacturers, and regulators. Monographs of the BHP provide quality standards for 169 herbal raw materials. Subsequent work by the European Pharmacopoeia Commission (Council of Europe) has led to the introduction of many more herbal monographs in the European Pharmacopoeia. BHP is a very useful aid to quality assurance, particularly for herbs not featured in official pharmacopoeias. The third edition Korean Herbal Pharmacopoeia (KHP) contains total of 384 official monographs. The Indian Herbal Pharmacopoeia has 40 monographs published by Indian Drugs Manufacturers Association (IDMA) in collaboration with Regional Research Laboratory (RRL), Jammu.

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Index of pharmacopoeias published by World Health Association, Geneva has a comprehensive list of pharmacopoeias of different countries.^[3]

Most of the popular Indian Traditional systems of medicine has been developing pharmacopoeias for herbs used in it. Ayurvedic Pharmacopoeia of India (API) has monographs for 600 plant/animal/mineral derived drugs (Part I, Vol 1 to 8). Monographs for 152 compound Ayurvedic formulations are published in Ayurvedic Pharmacopoeia of India (Part II, Volume 1 to 3). Other than API, Siddha Pharmacopoeia of India (Volume 1 and 2), Homeopathic Pharmacopoeia of India (Volume 1 to 6) and Unani Pharmacopoeia of India (Volume 1 to 6) are the standards of books available for Indian herbs. The pioneering work Quality standards of Indian Medicinal plants by Indian Council of Medical Research (ICMR) is a non pharmacopoeial masterpiece for reference on standards of Indian herbs. Monographs on 449 plants (Volume 1 to 13) included in the book would help in improving monographs in API and other Pharmacopoeias of Indian origin.

The Pharmacopoeia Commission for Indian Medicine (PCIM) under ministry of AYUSH is fully functional now to improve Pharmacopoeias for Indian Herbs. Phytochemical variations in the composition of herbal drugs are a major setback for the development of consistent standards for herbal drugs. The implementation of hyphenated techniques like DNA barcoding and quantitative metabolomics is becoming increasingly important in ascertaining potency, purity, consistency and safety of Pharmacopoeial drugs of Ayurveda and other systems of traditional medicines worldwide.^[4] We will hope for a day where we have a pharmacopoeia with internationally acceptable standards for our herbs.

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Conflicts of interest

There are no conflicts of interest.

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