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Editorial Open Access

Medicinal Plants-Perspectives and Needs

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Editorial

Varieties of reasons have been cited for the need for studying medicinal plants. Most of the traditional knowledge about medicinal plants was in the form of oral knowledge that had been lost with persistent invasions and cultural adaptations. There was no uniform or standard procedure for maintaining the inventory of these plants and the knowledge about their medicinal properties. There is a prevalence of using plants and plant based products in various contemporary and traditional systems of medicines, without any written documentation or regulation. Therefore, it is essential that such uses of natural products be documented and studied for systematic regulation and wide-spread application. The leads for a significant number of modern synthetic drugs have originated from isolated plant ingredients, as the search for newer entities begins from either derivatising existing drugs or from traditional contemporary medicinal systems. Therefore, it is essential that research on phytochemistry of plants used extensively in traditional medicines is carried out. Many authors have emphasized the value of conducting broad ethnobotanical, ethnopharmacological, and clinical therapeutic research on medicinal plants. The giant studies made by analytical and synthetic chemistry, have immensely contributed to the development of the science or biomedicine that has achieved miracles in medical practice. Unfortunately, on the one hand it resulted in sky-rocketing medical cost putting it beyond the reach of the vast majority of the world's population and on the other has not been able to cure all the sickness in the World. Scientific (or standard) medicine generally serves only a minority (about 30 to 35 percent) of the total population in the developing countries. The rest of the population attends to its health needs through the traditional medicine, which is essentially based on the use of easily accessible low-cost medicinal plants. Several considerations make the use of medicinal plants desirable [1,2]. Among them are:

- Their low cost, while the new synthetic drugs are becoming increasingly inaccessible to the vast majority of people.
- Often they are the only resources available.
- Research has confirmed the presence of therapeutically active compounds such as alkaloids, glycosides, terpinoids, saponins and others, justifying a many good practices of folk medicine; and
- They have few, if at all, harmful side effects and hence their direct administration in traditional medicine offers little risk of causing iatrogenic (drug induced) disorders, unlike the modern synthetic drugs.

The capacity of chemists to modify a molecular structure is almost unlimited, but the capacity to create new structures with therapeutic properties has been found to be limited. Plants (and animals) offer thousands of new molecules. An intensive and extensive study of the naturally occurring molecules identified as 'therapeutically active' is desired urgently to come out with new therapeutic entities. The very large number of alkaloids and several other classes of chemical compounds discovered during the 1970s and 1980s found to be pharmacologically active, serve as models for new synthetic compounds [3,4].

A number of plant based drugs, such as vincristine, taxol, digoxin, quinine, reserpine, opioids, ephedrine, colchicine, rutin, coumarins, anthraquinones, etc., are still a part of standard therapy. Most of these do not have any synthetic substitutes. Several other plant products are used in formulations that are sold Over the Counter (OTC) in several countries. The role of plants in standard therapy will certainly be enhanced several fold in future, provided we make the move in the right direction. Phytochemicals are a major source of dyes, flavours, sweeteners, aromas, perfumes, insecticides, anti-parasitic drugs, and many other substances. Further research on plants will provide, apart from drugs, additional sources of these industrial raw materials [5,6].

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