Chapter 15
Ethnobotany:
The Traditional Medical Science for Alleviating Human Ailments and Suffering

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ABSTRACT

Traditional medicines and natural products from ethnomedicinal plants have great significance in recent time. Various forms of medicines like Ayurveda, traditional Chinese medicine, kampo, Unani, have been plasticising in recent days due to their effectiveness against various human ailments and also have blossomed into the regulated systems of traditional medicine. This chapter reviews the relationship of plants and humans, along with their cultural relationship and role of the traditional medicines, by exploring the methodologies and various concepts for the discovery of various drugs. Further, this will also illustrate traditional medicines that have their incomparable advantages over the modern allopathic medicines.

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INTRODUCTION

Plants and the products made from have been utilized for medicinal purposes since ancient times (Samuelsson, 2004). These medicinal products have taken the form of drugs used in various herbal formulations (Samuelsson, 2004). Different plants have been used to treat a variety of disorders and ailments, and specific parts of various plants can be used to treat specific ailments. Many of these early remedies were passed down through oral history.

In recent years, it was observed that the utilization of plants and plant-based herbal products as medicines has involved the isolation of the active components from the plants in different forms, just like the isolation of morphine from the opium plant (Kinghorn, 2001; Samuelsson, 2004). The discovery of medicinal plants further led to the isolation of various drugs, including quinine, digitoxin, codeine, etc., and some are still in the development phase today (Butler, 2004; Samuelsson, 2004). Moreover, the techniques of drug discovery have recently been applied to the standardization of drugs and to elucidate analytical marker compounds. The process of obtaining medicines and plant-based herbal formulations typically started with traditional botanists, ecologists, ethnobotanists, and ethnopharmacologists. The ecologist collects basic data from the study area to provide information about how animals and plants interact with the environment. This also includes gathering information on the various aspects of the plants, such as the medicinal aspects, food and fodder-related values, and traditional remedies associated with the plants and people in the environment.

The next task is photochemistry wherein the phytochemist prepares the plant extract to test it for biological screening in pharmacologically related assays and to characterize the isolated compounds through bioassay-based fractionation. The practice of pharmacognosy was first implemented about 200 years ago (Samuelsson, 2004), when the herbal-based products analysis progressed through the formulation of crude drugs by isolating the active compounds. In a broad spectrum, pharmacognosy deals with natural products obtained from various sources, such as plants, fungi, bacteria, etc. Pharmacognosy also involves the study of dietary supplements of botany and herbal medicinal remedies (Cardellina, 2002), as well as the search for new compounds that lead to the development of new drugs.

The development of ethnobotany in recent years has challenged the prevailing trend in various academic studies in disciplinary specialization. Ethnobotany reflects congruence with the efforts of humans for determining the place of human beings in the world. Further, ethnobotany cooperates with other interdisciplinary fields, such as environmental ethics, cultural ecology, environmental history, ecological economics, conservation biology, and ecology. Ethnobotany includes the study of life forms traditionally, but is no longer considered for the study of lichens, algae, and fungi. The study of traditional science could lead to a fulfilling and fascinating career within different institutions and organizations. There is ample space for people and communities who can enjoy both statistical and analytical methods, as well as for those who might be interested in the utilization of multiple-method approaches of ethnobotany. Although some ethnobotanical surveys can also be conducted in archaeological, botanical, a computer laboratory, or in a herbarium, it is working collaboratively with the traditional people, forest communities, and with those who spend enough time with the traditional healers and old communities that is essential in ethnobotanical research.