

GENERAL INTRODUCTION

IMPORTANCE OF MEDICINAL PLANT

India is one of the eight important Vavilovian centers of origin of crop plant diversity. It is immensely rich in medicinal and aromatic plants occurring in diverse ecosystems. Like all other old cultures, India uses the plant medicines both for primary health care as also remedies. The traditional Indian Systems of Medicine consist of four sub-systems: Ayurveda, Unani, Siddha and Yoga & Naturopathy. In spite of phenomenal development of the synthetic drug industry and antibiotics, medicinal plants still constitute an important part of pharmacopoeias in both the developing as well as developed countries. There has been a world wide resurgence of interest in medicine developed from Plant origin in the recent years.

Globally, the early part of the 20th century brought an evolution of the pharmaceutical industry. With the progress in chemical techniques, crude drugs came to be replaced by pure chemical drugs and the developed countries witnessed a decline in popularity of medicinal plant therapy. However, during the recent past, the pendulum has swung again and there is a resurgence of interest in study and use of medicinal plants. Many traditional plant based remedies are back in use and find increasing applications as-source of direct therapeutic agents, as a raw material base for the elaboration of more complex semi-synthetic chemical compounds, as models for new synthetic compounds, and as taxonomic markers for the discovery of new compounds.

With this growth in global demand for medicinal plants and a large base of local demand for plant based traditional medicines, the pressure on the existing population of medicinal plants has increased tremendously during the last few decades. Historically, most of these plants grow in wild as a natural component of vegetation of a particular

region. However, the developed countries are showing rising interest in Indian herbal products in food supplements (Neutraceuticals), cosmetics and intermediates. Several ingredients in Indian plants are being investigated abroad and have found application in many allopathic drugs (Phytopharmaceuticals) manufactured for treatments on cancer, AIDS, blood pressure, heart diseases, diabetes, etc.

The medicinal plant based drugs have the added advantage of being simple, safe, effective and offering a broad spectrum of activity with an emphasis on the preventive action drugs. These phyto-medicine can be produce in the secondary metabolites of plant such as terpenoids, flavonoids, alkaloids amino acids, etc.

A medicinal plant shows medicinal properties due to constituents present in the plant. Now-a-days, scientists synthesize many compounds, taking the lead from the phyto constituents in the laboratory, which are used to cure many diseases. The thermo physical and crystallographic natures of medicinal plants also play a vital role in developing the desired product for our use in industries as well as medicinal fields also. The absolute structure of the phyto-constituents obtained from the X-ray study gives us many vital information regarding the substituents, orientation, 3D-configuration etc. By manipulating the structure and orientation of the phyto-constituents having medicinal properties, many important remedies for human diseases may be obtained.