



Trends in Pharmacognosy: The Modern Science of Naturopathy

Sonny Larsson*

Department of Medicinal Chemistry, Uppsala University, Uppsala, Sweden

DESCRIPTION

Pharmacognosy is the study of medicines or herbal medicines made from natural sources such as plants, microorganisms and animals. This includes analysis of their biological, chemical, biochemical and physical properties. Because herbal medicines occur naturally and are not synthesized, they are considered more acceptable to the human body. Approximately 25% of prescription drugs in the United States are believed to contain active ingredients of natural origin. In developing countries, it is estimated that about 80% of the population depends on traditional medicines made from plants and herbs.

Plants and organisms are used in a variety of ways to produce traditional and alternative medicines. A plant's beneficial agents are found everywhere in its physical structure, such as the petals and stems of flowers. Natural products may be inactive in their normal physical form and may require chemical reaction or modification to render them active. Sometimes the active ingredient is extracted directly from the plant, but sometimes the active ingredient can be synthesized by creating a compound that acts similarly to the plant extract.

Originally in the 19th and early 20th centuries, "physical medicine" was used to define the branch of medicine or commodity science dealing with pharmaceuticals in their raw or unprocessed form. Herbs are dry, unprocessed materials of plant, animal, or mineral origin that are used in medicine. The study of these materials under the name of herbal medicine was first developed in German-speaking Europe, although in other linguistic areas the older term *materia medica*, from the works of Galen and Dioscorides, is often used.

At the beginning of the 20th century, the subject developed primarily in the field of botany, with particular emphasis on the description and identification of drugs, both bulk and powder. This field of pharmacognosy is particularly relevant to herbal products (widely used as dietary supplements in the United States and natural health products in Canada), quality control

purposes, pharmacopoeial protocols, and related health regulatory frameworks. is still basic in At the same time, developments in other research areas have greatly expanded this topic. The advent of the 21st century has brought a renaissance to pharmacognosy, extending the traditional botanical approach to the molecular and metabolomics level.

Humans have been making medicines from plants and other living things for centuries. As such, herbal medicine is widely considered to be the oldest pharmaceutical brand. There is evidence of making medicines in the Sumerian clays of Nagpur dating back 5,000 years, and about a dozen ancient medicinal recipes have been found containing herbal ingredients such as poppy and mandrake, a Mediterranean plant of the Solanaceae family.

The manufacture of medicines from plants is also mentioned in many ancient texts. Information about humans making medicines from garlic, mustard, cabbage, parsley, and mint has been discovered for centuries. No country or country controls the production of medicines using plants and organisms. Practices were held all over the world. Materials depend on what is readily available to those around you. The extraction of alkaloids from poppies and other plants contributed to the beginning of modern medicine in the 19th century. Since that time, other active ingredients have been extracted from other plants to create the current medicines.

Reverse pharmacology, along with reverse pharmacology, plays an important role in modern pharmacognosy. They focus on finding natural substance targets through virtual or real screens and identifying natural resources containing active molecules. Techniques used include high-throughput screening (HTS), virtual screening, and knowledge bases on the use of traditional crops. Classical herbalism uses plants to discover new bioactive compounds, whereas reverse herbalism uses natural metabolites to discover potentially new therapeutic properties of natural substances. Integrating pharmacognosy and reverse pharmacology into the research process can provide effective and rapid tools for drug discovery.

Correspondence to: Sonny Larsson, Department of Medicinal Chemistry, Uppsala University, Uppsala, Sweden, E-mail: Larsson_sonny@kew.se

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