

**CURRENT SCENARIO OF PHARMACEUTICAL AND HERBAL MEDICINES****Suvarna S. Dhanave, Nishigandha R. Mane, Pallavi D. Shitole, A. V. Pore, S. K. Bais**  
**Fabtech College of Pharmacy, Sangola****Corresponding author Mail ID: suvarnadhanave06@gmail.com****ABSTRACT:**

*Pharmacy practice has been around in India for a long time, albeit it went by several names and had a varied structure. Since the Pharmacy Act of 1948 was put into effect, the practice has been controlled. The Pharmacy Act of 1940 was amended in 1984 to require chemists to assist with registered practitioners' prescriptions. This requirement was further strengthened the following year when the Drugs and Cosmetics Rules of 1945 were amended to update Rule 65. With the WHO publication of "The Role of the Pharmacist in the Health Care System" in 1990, a strong foundation for improving the environment for the expansion of pharmacy practice in India was established. The number of patients pursuing complementary and alternative medicine is rapidly increasing. The combination of generations of indigenous medical practitioners' therapeutic experiences spanning over hundreds of years results in herbal medicines.*

**Keyword:** *Indian Herbal Plant, Present Status, Prospect, Regulations.*

**INTRODUCTION**

The pharmaceutical industry focuses on the discovery, development and monitoring of new drugs. The pharmaceutical industry is a medical industry that discovers, develops, manufactures, and sells drugs used as medicines for patients to take (or self-administer) to treat and prevent diseases or reduce symptoms. Pharmaceutical companies may market branded or pharmaceuticals drugs. They are subject to various laws and regulations that govern drugs, patents, testing, safety, effectiveness, and marketing of drugs.

The pharmaceutical industry is the branch of medicine that discovers, develops, manufactures and distributes drugs for self-treatment or patient management to treat or prevent disease or its symptoms. Pharmaceutical companies may sell medical devices and prescription drugs under brand or generic names. There are many laws and regulations that govern patented medicines, testing, safety, effectiveness of clinical trials, and marketing of drugs.<sup>1</sup>

**Herbal Drugs:**

According to the current definition of the WHO, traditional medicine (including herbal medicine) refers to medical practices that existed hundreds of years before healing was developed and used today. Traditional medicine, which is often used in conjunction with herbs for therapeutic purposes only, is considered herbal medicine. It is known that its first uses in Indian, Chinese, Egyptian, Greek, Roman and Syriac writings occurred approximately 5,000 years ago.

For primary healthcare, between 75 and 80 percent of the world's population still turns to herbal medicine, particularly in underdeveloped nations.<sup>2</sup>

In 1992, the National Institutes of Health established the Office of Clinical Medicine to respond to growing awareness of the use of herbal and other nonpharmacological treatments. When the WHO urged poor nations to employ traditional plant medicine to address requirements not supplied by contemporary systems, herbal medicine gained popularity throughout the world.

## Herbal Medicines:

It is also called or botanical medicine. The use of seeds, nuts, roots, bark, flowers and plant extracts for medicinal purposes is the basis of herbalism, a traditional folk medicine.

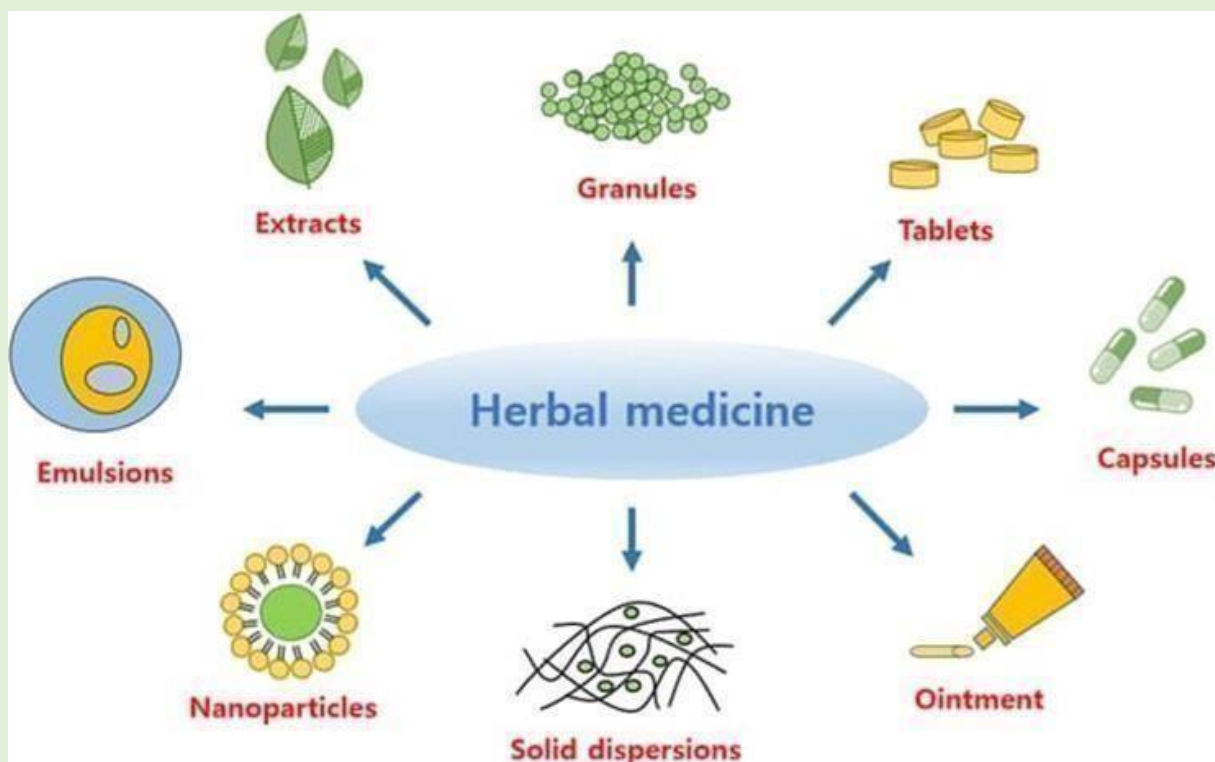


Fig. No 1.: Different Forms of Herbal Medicines

Plant-based products make up a sizable portion of the global medicinal market, and herbs are crucial to many medical procedures. Humans have utilized plants and plant-derived medicines to cure and manage a wide range of illnesses throughout recorded history. Plant-based products make up a sizable portion of the global medicinal market, and herbs are crucial to many medical procedures. Humans have utilized plants and plant-derived medicines to cure and manage a wide range of illnesses throughout recorded history.<sup>4</sup>

## Different Techniques Used in Herbal medicine and Pharmaceuticals:

### Herbal Technology:

In herbal technology "Herbs" refers to plants or herbal remedies. Medications are defined as substances that contain food, medicine, immunizations, etc. Consequently, substances derived from plants have beneficial, medicinal, or preventative outcomes. Herbalism is the broad term for the practice of herbal medicine. Natural chemistry, phytochemistry, herbal medicine, botany, plant science, pharmacology, agricultural science, Unani medicine, Ayurveda and biotechnology of plant medicine are all included in the discipline of Ayurveda. A person who works with therapeutic plants especially herbs is known as a herbalist.<sup>5</sup>

### The significance of herbal preparations:

Throughout human history, herbal preparations have played a fundamental role in healthcare. The use of nature's abundance as medicine precedes the development of contemporary medications. Lately, A growing inclination towards natural alternatives and worries about the adverse effects of synthetic drugs have led to a renewed interest in herbal medicines. As time-weary pharmacists and physicians recorded healing knowledge, herbs became one of the oldest written sources in ancient Egypt, China, India and Europe. One of the firstbooks published in China and Europe was Herbal Medicines.<sup>6</sup>

**Pharmaceutical Technology:**

The design, development, manufacturing, research, and quality control of pharmaceuticals are all included in the field of pharmaceutical technology. Providing patients with safe and efficient pharmaceuticals is the ultimate objective of any pharmaceutical company. Quality risk management, which systematically addresses any threats to product quality, serves as a strong framework to accomplish this goal<sup>7</sup>. To effectively use chemists' skills to upgrade and improve the healthcare system, the suggestions made by the National Human Rights Commission (NHRC) and other committees must be duly implemented. The requirements of modern society must be reflected in the pharmacy course curriculum.

Therefore, it is imperative that Universities and the Pharmacy Council (PCI) act promptly to rationally reorganize the course curriculum in alignment with contemporary requirements. The expense of living will keep going up. Establishing and improving our country's healthcare system and providing improved access to medical care can both be greatly aided by having a robust pharmacy practice.

**Difference of herbal and pharmaceutical drug:**

Despite their similarities conventional pharmacology and herbal treatment in three significant ways:

**Utilization of Whole Plants:**

Unpurified plant extracts with a variety of components are typically used by herbalists. These are said to combine synergistically to increase the overall effect of the herb rather than the sum of the effects of its parts. Additionally, it is asserted that using whole herbs rather than single active compounds (also known as "buffering") reduces toxicity. Doctors say that although two samples of certain herbs may contain different levels of the drug, this does not usually cause medical problems.

**Combining Herbs:**

Several distinct herbs are frequently used in combination. Experts assert that plant combinations can benefit from the synergy and buffering principles. Combining herbs can increase their effectiveness and reduce side effects. In contrast, polypharmacy is often avoided in practice.

**Diagnosis:**

Conventional medicine and medical doctors use different medications. For example, in the case of arthritis, they may recall "symptom relief according to the patient" and identify "metabolic waste products" as in arthritis. According to Vickers and Zollman (1999), in addition to herbs with anti-inflammatory properties, herbal combinations that are diuretic, choleric or laxative may also be recommended.<sup>8</sup>

**Present status:****Pharmaceuticals:**

The practice of pharmacy in India has a long history under different names. A product of the Colin Act, it became a model after the introduction of the Pharmacy Act in 1948. R. N. Chopra Committee prepared by the then British Government. Off course medicine is good. Since then, pharmacy education and practice have been regulated by the Pharmacy law. The practice of pharmacy in its true form has been well received in India since 1984 with the amendment of Section 42 of the Pharmacy Act, 1981. A "Registered Pharmacist" can prepare, compound or dispense medication under prescription.

Under section 42 of the Pharmacy Act 1948, a medical doctor: - Dispensing by an unregistered person. - (1) No person who is not a "registered pharmacist" shall prepare, prepare, mix or dispense any medicine prescribed by a medical practitioner on or after the date specified by the Government in the State Gazette.

In India, pharmacy practice has a long history under a different name. The Pharmacy Act was promulgated in 1948, based on the report of the Colin. The R. N. Chopra Committee set up by the British government to ensure the quality of medicines. This gave the industry a regulated shape. Since that time, the Pharmacy Act has governed pharmacy education and the profession. In actuality, the Pharmacy Act's Section 42 was amended in 1981, giving pharmacy practice statutory recognition throughout India starting in 1984. According to

Section 42 of the Pharmacy Act 1948, no person who is not a “registered pharmacist” may manufacture, prepare, mix or dispense any medicine under a doctor’s prescription.<sup>10</sup>

The role of pharmacists has been strengthened by amending Article 65 of the Medicines and Cosmetics Law; here in the word “qualified person” is replaced by the word “professional selling registered medicines” which provides for “conditions of license”- [Forms 20, 20A, 20B, 20F, 20G, 21 and 21B] shall comply with the terms and conditions set out below.”- [Licensed Medicines manufactured or manufactured by a person, Registered Pharmacist or direct supervision of Registered Pharmacist.] The supply, otherwise than by way wholesale dealing of any drug supplied on the prescription of a registered medical practitioner shall be affected only by or under the personal supervision of a registered pharmacist.

The publication of the Role of Pharmacists in Health Care by the WHO in 1990 created a conducive environment for pharmaceutical development in India. The conventional role that chemists currently play in our country must thus be changed to a clinical one, apart that the industrialized world has come to accept. In order to capitalize on chemists' potential to boost the efficacy of the current healthcare system, concerned authorities must implement regulations. The status of pharmacists is further strengthened by the use of the term “registered pharmacist” by a “Qualified person” in Article 65 of the Medicines and Cosmetics Act, which states that “license conditions – In addition to the above provisions, the following provisions are included”. [Articles 20, 20A, 20B, 20F, 20G, 21 and 21B] shall apply to licences: If every medicine must be prepared by a registered pharmacist or manufactured by a license holder, these provisions shall also be complied with. The licensed device must be prepared by or developed under the direct supervision of the registered pharmacist. Only a registered Pharmacist or a person directly under the supervision of one may supply any medication on a registered medical practitioner's prescription, unless it is done through wholesale dealing.<sup>11</sup>

#### **Herbal Medicine:**

A peculiar development has occurred in plant medicine during the past few decades. Rather than being eradicated by pharmaceutical chemistry and medical knowledge, it has returned. Herbal remedies and herbal medicines were accepted, while the brash and emotional appeals of herbal medicine were rejected. Medicinal plants have benefited from objective research through medical research. Additionally, research has shown that herbal medicine has some excellent qualities. Many herbal remedies were astonishingly effective despite being empirically developed through trial and error. According to a recent study, 60% to 80% of antibacterial and antiviral properties are derived from natural ingredients, and 39% of the 520 drugs approved between 1983 and 1984 were derived from natural medicine, natural content and natural products.

Herbal medicine is widely used worldwide and is not limited to developing nations; according to Murray and Pizzorno (2000), 70% of French and German doctors regularly prescribe herbal medicine. Additionally, there is an exponential increase in the number of patients seeking treatment through herbal methods.<sup>12</sup> The market for herbal products is regulated by the US Food and Drug Administration (FDA) regulations on the marketing of herbal medicines. According to available data the EU medicinal plants market was estimated to be worth \$6 billion in 1991 (it may now exceed \$20 billion). Germany had \$3 billion, France \$1.6 billion, and Italy \$600 million. The US herbal medicine industry was valued at \$4 billion in 1996; by this point, it had doubled. Plant mold produces the penicillin, which took the role of mercury in the treatment of syphilis and ended numerous 2- 2002 devastating epidemics. Belladonna continues to supply the ingredient needed in antiseptics used to treat gastrointestinal illnesses and in preparations.<sup>13</sup>

**Table No.1 List of herbal plants used in the treatment of Chronic and Acute disease**

Sr. No.	Common Name	Botanical Name	Part Used	Family	Uses
1	Aloe	Aloe vera	Leaf pulp extract	Aloaceae	Lexative.
2	Adulsa	Justicia adhatoda L.	Leaves,flower	Acanthaceae	Antitussive.
3	Rui	Calotropis gigantea L.	Leaves, Root	Asclepiadaceae	Analgesic
4	Bahera	Terminaliabelerica	Fruits	Combretaceae	Antipyretic
5	Amla	Emblicaofficinalis	Fruits	Euphorbiaceae	Carminative
6	Shatavari	Asparagus Adscendes	TuberousRoot	Liliaceae	Demulsant, Nutritive Tonic
7	Cinchona	Cinchona officinalis	Bark, seed	Rubiaceae	Antipyretic.
8	Guduchi	Tinospora cardifolia	Plant	Menispermaceae	Antitussive.
9	Neem	Azadirachtaindica	Leaves	Euphorbiaceae	Antipyretic.
10	Garlic	Allium Sativum	Bulb	Alliaceae	Anticoagulant

**Future prospect:****Pharmaceuticals:**

We will always be vulnerable to illness as long as we live. Certain diseases may be eradicated, but other ones will inevitably emerge. We will always look for new medications to treat or prevent diseases because they are a part of life. In addition to treating elderly patients whose bodies become more prone to disease and injury, medications are necessary to save the lives of injured victims of accidents or natural catastrophes. Thus, the pharmaceutical sector plays a crucial role in our daily life.<sup>14</sup>

**Herbal Drugs:**

Over 70% of people in India take herbal medications for their health. For several of these medications, there is an abundance of experience-based data. Numerous institutes and universities in India are also conducting research on herbal remedies and medicinal plants. Numerous Institutes do scientific and clinical research on the possible health advantages of herbal medications using a "reverse pharmacological" approach. Numerous instances of achievement exist in this direction. These Indian medical plants and herbal remedies are also abundant in healthy substances, such as antioxidants and ingredients for functional diets. In the near future, newer strategies that combine proven traditional health concepts with collaborative research and current technologies will pay off well in terms of increasing health, particularly among individuals.<sup>15</sup>

**Regulations:****Pharmaceuticals:**

One of the most important jobs in the pharmaceutical industry is regulatory affairs. The lifespan of healthcare products is the primary focus of regulatory affairs, which also provides tactical, strategic and operational guidance on how to work within the law to create safe and effective healthcare products globally. Regulatory Affairs responsibility is to support and carry out a plan that ensures the drug development teams combined efforts in order for the drug to be approved by international regulatory bodies. A popular job choice for graduate students with a degree in science is regulatory affairs. Regulatory affairs work requires multitasking.

Those who appreciate working in team, interacting with people, and learning more about the pharmaceutical industry would be good fit for this position.<sup>16</sup>

### **Herbal Drugs:**

Medicinal products such as herbs, plants derived from different plant species that people collect and eat for health purposes, are permitted. The National Institute of Medical Herbalist, located in Exeter, UK, is the primary organisation responsible for registering and overseeing Western herbal practitioners. The registration is only open to graduates of authorised courses, and a rigorous code of ethics kept up. To promote better unity among herbalists, the European Herbal Practitioner Association was established. It is an umbrella organisation with approximately 1000 members. It does not, however, currently have any published codes of ethics or formal standards for membership screening (Vickers and Zollman, 1999). Germany already has special licencing processes in place for herbal medicines, and more than 300 regulatory evaluations of medicinal herbs have been established publications, and over 200 herbs have been approved for use as ingredients in phytomedicines in France. Australia created a comprehensive strategy for the herbal sector that includes a range of non-Western herbs (De Smet, 1995).

A large number of herbal products are produced outside of this regulated range; it is estimated that over 80% of herbal goods are made without a licence of sales of herbs. Legal requirements in the European Union mandate that herbal goods must be approved for sale if they are manufactured industrially and meet the criteria for therapeutic items due to their appearance, functionality, or both. Regretfully, drawing a crisp border is challenging. The market for herbal products is regulated by the US Food and Drug Administration (FDA) regulations on the marketing of herbal medicines (Gottlieb, 2000). (Brevoort, 1998).

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These are the most widely used ISO standards, which are relevant to all segments of the pharmaceutical industry: Quality Management System, ISO 9001 Standard. System for Environmental Management, ISO 14001, ISO 27701 Standard: Information Management System for Privacy.<sup>18</sup>

### **CONCLUSION:**

Over 70% of people in India take herbal medications for their health. For several of these medications, there is a wealth of experience-based data. Additionally, there are numerous Institutes/Indian universities are conducting our study on medicinal plants and natural remedies. Numerous Institutes do scientific and clinical research on the possible health advantages of herbal medications using a “reverse pharmacological” approach. The design, development, manufacturing, research, and quality control of pharmaceuticals are all included in the field of pharmaceutical technology. It providing patients with safe and efficient pharmaceuticals is the ultimate objective of any pharmaceutical company. The Pharmacy Act of 1948 established a regulated framework for the long-standing pharmacy practice that has existed in India under several names. Since then, as a result of developments throughout the world, national policies have rapidly altered. The Indian pharmaceutical market is expected to be worth approximately US\$ 130 billion by the end of 2030.suggesting that the business has a bright future. There is a general fear that future increases in the cost of health care and medication prices are possible.

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