

A Review Study of Importance of Herbal Medicine

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ABSTRACT: Natural active compounds found in medicinal plants can treat illness or discomfort. It is common knowledge that most developing nations employ that people in underdeveloped nations rely on traditional medicines, primarily herbal plant remedies, for their main medical treatment. The anti-oxidant, antibacterial, and antipyretic effects of the phytochemicals present might be the basis for a plant's therapeutic properties. Herbs have historically been utilised for treating a variety of issues by the general people and/or traditional medicine practitioners globally since they are thought to be non-toxic.

Plants have medicinal properties. Many Investigations are in process to provide experimental evidence, which confirms worldwide for traditional plant remedies

KEYWORDS: Medicinal plants, toxicity, antioxidant, Nephroprotective activity

I INTRODUCTION

Natural active compounds found in medicinal plants can treat illness or discomfort. It is common knowledge that most developing nations employ that people in underdeveloped nations rely on traditional medicines, primarily herbal plant remedies, for their main medical treatment. The anti-oxidant, antibacterial, and antipyretic effects of the phytochemicals present might be the basis for a plant's therapeutic properties. Herbs have historically been utilised for treating a variety of issues by the general people and/or traditional medicine practitioners globally since they are thought to be non-toxic. Although there have been several instances of toxicity linked to the use of herbs, neither the general public nor traditional medicine professional organisations have acknowledged the possible toxicity of herbs. The manufacture of drugs using medicinal plants as their primary raw materials is becoming more and more common [1,2]

India may be the country that produces the most therapeutic plants. Herbal medicines have been used in some capacity by indigenous medical systems including Ayurveda, Siddha, and Unani for thousands of years. There are approximately 3.6 lakh kinds of medicinal plants on earth, of which 1.4 lakh species are found in India. According to a recent survey, around 70000 plants are employed in traditional medical systems. ³ Plants were the primary source of medicine utilized by ancient people all across the planet. All civilizations' use of herbals originally decreased as modern western medicine became more prevalent, and it was thought that the best drugs to treat illness and cure disease were synthetic chemicals.

People are once again acknowledging the therapeutic value of herbs as a result of the drive for a better lifestyle. Natural goods are now readily accessible even in the west, and herbal is once more gaining

popularity in a society that is getting healthier and more ecologically concerned. Herbal treatments can be effective without many of the unfavorable side effects of contemporary medications.

Humanity has always relied significantly on plants for both nourishment and the treatment of sickness. Natural products have historically made significant contributions to the advancement of modern medicine, and they currently have a significant impact on the creation of new drugs. In the seventeenth century, digitalis glycosides were used to treat circulatory diseases, and willow bark was frequently used to treat discomfort and fever-like illnesses. These examples are from research on the history of modern medicine. Since the beginning of time, researchers have been looking for new therapeutic leads in natural resources. As a consequence, many significant discoveries have been made, including antibiotics, anticancer drugs, anti-inflammatory substances, and analgesics.

Because it makes a considerable contribution to human existence and development, biodiversity is crucial to the wellbeing of the entire world's population. A multidimensional strategy integrating botanical, phytochemical, biological, and molecular approaches is required for the development of drugs from natural sources.

Because of this the creation of medications based on medicinal plants is still an important topic that has not yet been extensively researched where a thorough search can surely give major findings for a variety of pharmacological targets.

For improved treatment and care, a return to conventional medical systems has been noted. Future generations will favor receiving care through conventional medical systems. The reason for this is because, despite well-established facts about the effectiveness of contemporary medicine, several drawbacks have limited its potential for the future. Researchers are looking for alternative medical systems, particularly ancient and traditional medicine, as a result of the drawbacks of contemporary treatment.⁴

II Aim and Objectives

Our present study aims at the scientific validation of Medicinal properties of herbal plant so that new herbal drug will come in the market.

III Materials and methods

1. References of Medicinal plants have been collected from the classical books of Ayurveda
2. All the data is compiled, analyzed and discussed through in depth for *Medicinal Plants for its Medicinal properties*.
3. Ayurvedic and modern approach have been compiled in this review

1.Traditional Medicine

Traditional medicine refers to practices for maintaining and regaining health that were in use prior to the development of modern medicine. These health care philosophies, as the name suggests, are indigenous to each nation and have been passed down the generations. Meeting the demands of the local communities throughout many centuries is necessary for a traditional system. Since the Vedic era and the beginning of human civilization, the traditional medical system has been practiced in India. Despite various changes throughout the course of its lengthy history, it continues to be the primary source of medical assistance for a sizeable portion of the population of the country. Many Asian nations, including

China, India, Japan, and Pakistan, continue to value traditional medicine. The first known health items are medicinal plants.⁵

II. Ayurveda- An Indian system of medicine

In India, ayurveda is thought to have been practised for at least 5000 years. “The foundation of Ayurveda is the idea that everything in the cosmos is made up of five fundamental substances: space, air, energy, liquid, and solid. The limited forms of pitta (energy and liquid) and kapha occur in the human body (liquid and solid)”. The three pillars of life—vata, pitta, and kapha—are together referred to as tridosha. A disease known as pathology will result from an imbalance between these.⁶

However, the earliest copies of the text remove this frame and attribute the writing to King Divodsa directly. Ayurveda has been modified for Western use through well-understood modernization and globalisation procedures.

III. Unani systems of medicine:

All disorders affecting the body's systems and organs are treated by the unani system of medicine. It has been discovered that the therapies for chronic illnesses and diseases of the skin, liver, musculoskeletal and reproductive systems, immunological, and lifestyle problems are very successful and well tolerated. Cosmoceutics, Nutraceuticals, Aromatics, and related treatments play a significant role in Unani System of Medicine therapy.

In both health and sickness, unani doctors place a high priority on a person's food and digestive health. When treating patients based on their temperament, certain food plans are advised. This system's origins may be traced back to the era of the famous Greek philosopher Hippocrates. The "Father of Natural History," Aristotle Golem, made significant contributions to it. This system is based on two theories: the Pythagorean notion of four proximal characteristics and the Hippocratic theory of four humours. The goal of the Unani medical system is to address the disease's cause, not only its symptoms. In addition to checking the patient's pulse, urine, and faeces for this reason, a detailed history is also taken. The imbalance between the humours is thought to constitute the sick condition, and therapy is administered as a result.⁶

IV. Homoeopathic system of medicine

The German physician and chemist Samuel Hahnemann created homoeopathy in the eighteenth century, making it more recent than other conventional medical systems. He suggested that a disease's root cause itself may be utilised to treat it. He proposed the similarity law, which states that "like heals like." He demonstrated that cinchona may cause malaria symptoms using this technique. All of these observations were collected by him and published in "The Organon of Medicine."

In the homoeopathic approach, the course of therapy is not predetermined; instead, the medicine of choice is determined by the patient's clinical state and symptoms. Based on the ideas of proving and prover, this. If the physical, mental, and emotional changes of a healthy individual known as prover are particularly taken into account, symptoms caused by various dosages of drug extracts are documented in prover. These symptoms are therefore constituted of a patient with a comparable set of symptoms, and as a result, the same kind of extract is administered as treatment. Arnica, Belladonna, Chamomile, Colchicum, Hyocyamus, Ipecacuanha, Lycopodium, Opium, Ergot, Nux-vomica, and other medicinal herbs are among those utilised in homoeopathy.⁶

V. Siddha system of medicine

The word "Siddha" refers to accomplishment, and "Siddhars" were holy figures who developed their medical expertise via the practise of Bhakti and Yoga. This pre-vedic system, which is associated with Dravidian culture, is primarily medicinal in character. Similar to Ayurveda, this school holds that the five fundamental elements of earth, water, sky, fire, and air make up all physical objects in the cosmos. Pulse reading, body colour, voice analysis, urine analysis, digestive system health, and tongue inspection are used to determine the disease's causal components.⁶

VI. Naturopathy and Yoga

Naturopathy is not just a form of medicine but also a way of life that is governed by natural principles. Particular focus is placed on dietary practises, way of life, usage of purifying remedies, hydrotherapy, mud packs, baths, massage, etc.

Yoga is each a technological know-how and an artwork for main a physically, psychologically, ethically, and spiritually balanced life. Its slow development from the animal degree to the average, and in the end to divinity. The 8 pillars of yoga consist of austerity, bodily postures, respiratory exercises, restrict of the feel organs, contemplation, meditation, and samadhi.⁶

VII. Herbal medicine today

Modern herbal therapy has only recently developed and commercialised old techniques. Many patients went to herbal medicine because they were unsatisfied with conventional treatment options like surgery or drugs. Due in large part to the perception that they are safe since they are natural, herbal medicines are still widely used today.

Pharmacologists discover, isolate, extract, and synthesise particular components rather than the entire plant in order to obtain the active principles. In addition to the active chemicals, plants also include a variety of additional compounds that are crucial for supporting a certain herb's therapeutic characteristics. These compounds include minerals, vitamins, volatile oils, glycosides, alkaloids, and bioflavonoids. Additionally, these components offer a crucial natural defence. It often takes a far bigger amount of a complete plant, with all of its components, to reach a dangerous level; isolated or synthetic active chemicals can become poisonous in very small quantities. But herbs are also medications, and they have potent effects. You shouldn't take them lightly.

Scientists from Europe and the Orient have confirmed the effectiveness of several therapeutic herbs. Science is now able to pinpoint some of the unique characteristics and interactions of botanical ingredients as a result of contemporary technologies. With the use of this scientific evidence, we can now explain why some herbs work well for treating particular ailments. The majority of the recent research, nevertheless, that supports the efficacy of herbal therapy has been conducted. Most of the time, the of the United States does not acknowledge or accept results from other countries. The FDA is in charge of licencing all new pharmaceuticals (or other substances for which therapeutic characteristics are claimed) for use in the United States. Before acknowledging a plant's efficacy as medication, doctors and government organisations want to see American scientific research. However, pharma corporations have so far refrained from investing a lot of money or resources in botanical research, despite the fact that significant research is being done in other nations. As a result, herbal medicine in this nation does not hold the same significance or degree of acceptability as it has in other countries. The use of herbal

medicine dates back thousands of years. According to estimates, 80% of the world's population gets their main medical treatment from traditional herbal medicine. Herbal medicines have gained popularity as an alternative/complementary medicine and nutritional supplement in recent years. All throughout the world, a large range of herbal medications are easily accessible on the market.⁷

VIII. Approach to drug discovery from plants

The hunt for novel physiologically active principles in higher plants can be approached from a variety of angles. One need just explore for novel chemical compositions and hope to locate a biologist prepared to put each compound through any accessible pharmacological testing.

Another strategy is to just gather any plant that is easily accessible, make an extract. This broad-screening, random collection method is a plausible strategy that should ultimately result in valuable medications, but it is dependent on the availability of sufficient discoveries and suitable predictable bioassay equipment.⁴

IX. Advantage of herbal medicines

When compared to pharmaceutical medications, utilising herbal treatments has a variety of benefits. Several examples are as follows:

I. Reduced risk of side effects: Compared to pharmaceutical, natural drugs are frequently nicely widespread via way of means of sufferers and feature fewer undesirable facet consequences. Generally speaking, herbs have much less detrimental consequences than traditional treatment, making them probably more secure to take over term.

II. Effectives with chronic conditions: Long-term health issues that don't improve with conventional therapy often react better to herbal remedies. The use of herbs and complementary therapies to treat arthritis is one instance. A well-known prescription medication for treating arthritis called Vioxx was withdrawn owing to an elevated risk of cardiovascular issues. On the other hand, alternative remedies for arthritis have little adverse effects. These therapies involve dietary adjustments such introducing simple herbs, avoiding foods from the nightshade family, and consuming less white sugar.

III. Lower cost: The affordability of natural remedy is any other benefit. Herbs are some distance much less steeply-priced than pharmaceutical drugs. The charge of prescription medicines is considerably expanded through research, testing, and marketing. Compared to medicines, herbs are usually extra affordable.

IV. Widespread availability: The accessibility of natural treatments is any other any other benefit. Herbs may be bought over-the-counter. Some sincere herbs, like chamomile and peppermint, can be grown inside. Herbs can be the only remedy to be had to maximum humans in a few remoted regions of the world.^{4,7}

X. Comparison of Herbal and Conventional Medicine

Conventional drugs have a drawback; many of them might have negative side effects and merely address the symptoms rather than the underlying cause of the problem. Additionally, a lot of common medications are built on single substances to which bacteria develop resistance over time. On the other hand, herbal treatments are made up of complex substances that are challenging for bacteria to digest and utilise for colonisation. The advantages of using natural therapies are their safety and lack of adverse

effects. They are also successful in both addressing the symptoms of the illness and its underlying causes. Herbal remedies can also strengthen immunity, the body's defences, and its inherent capacity to fend off the invasion of foreign diseases, in addition to these significant benefits.

Numerous plants, including goldenseal and garlic, naturally contain antibacterial and antiviral properties. Ginger lowers the risk of heart disease and blood clots, licorice calms the throat, and herbal drinks help you unwind. There are other herbs that can treat neurological, gastrointestinal, respiratory, and sexual issues. Natural herbal medicines are frequently effective at reducing the negative effects of severe therapies like chemotherapy. In conclusion, using natural medicines has several benefits. They provide a secure and organic alternative to traditional medication and are frequently more efficient.⁸

XI. Worldwide herbal trade

Throughout history, people have used plants and plant products to treat and prevent illnesses, with varied degrees of effectiveness. Ancient records have suggested earlier usage of medicinal herbs, and written records on them stretch back at least 5000 years to the Sumerians. Herbal goods are becoming more and more popular on the global market as a result of the adverse effects of synthetic products. Despite widespread use of herbal medicine and the presence of several medicinal plants, India's market share in the world is not up to par. The market for herbal medications is expanding steadily, and their use is on the rise. In comparison to the pharmaceutical business, which had a growth rate of 15%, the Indian herbal medicine sector had an annual turnover of roughly Rs. 2,300 crore. In recent years, India has exported a sizable amount of herbs and medicinal plants. India produces over 1,25,000 tonnes of castor seeds annually

XII. Relationship between man and herbs

Since the beginning of time, medicinal plants have played a significant role in the treatment of human ailments. Today, traditional medicines are still used by one-fourth of the world's population. Even now, 80% of the population still relies on natural medicines and plants, despite the arrival of antibiotics in the 1940s. The market for traditional medicines is thought to be expanding at a pace of 7 to 15% yearly. In India, medicinal plants are worth about 5000 crores of rupees, and it is estimated that the country exports 550 crores worth of herbal medicines. Despite the abundance and diversity of our country's botanical resources, however, this is not a particularly impressive export performance given the size of the global herbal market, which is estimated to be worth US 60 billion. Integration of ancient and modern knowledge is also essential. Modern biological and chemical definitions and methods are used to describe how the pharmaceuticals and products of the business operate, and this alone will provide a unique herbal drug that is therapeutically active and accessible for use in global health care.⁹

The state government of Kerala and the federal government are helping the ayurvedic medication producers build up a Rs. 62.5 crore firm to establish a world-class QC lab and R&D facility for the benefit of industry with all the current equipment for enhanced drug standardisation, quality, and efficacy. This will also help you create your own quality certification methods that are on par with other international standards.¹⁰

XIII. Herbal medicine for market potential

Currently, there are more than \$60 billion in yearly sales of herbal medications in the world. With an average yearly growth rate of 6.4%, the sale of herbal medications is anticipated to increase. The market

for herbal medicines has expanded significantly on a global scale as a result of the contributions of various important elements. Some of them include consumers' preference for natural therapies, growing worry about unfavourable side effects of modern medications, and the notion that herbal medicines are side effect-free because millions of people around the world have used them for thousands of years. Other factors include the huge interest in alternative medicines. People's inclination for preventative medicine owing to the ageing of the population; the idea that herbal remedies may be useful in treating some ailments when conventional treatments and medications have failed to be successful; inclination to self-medicate; improvement in herbal medicine quality, effectiveness and safety data; and high expense of synthetic drugs.

In 1991, it became predicted that the European natural medication marketplace became worth \$6 billion, of which \$three billion got here from Germany, \$1.6 billion from France, and \$zero.6 billion from Italy, with the remaining \$zero.eight billion coming from different countries. In 1996, the marketplace for natural drug treatments became predicted to be worth \$10 billion in European countries, \$four million withinside the United States, \$1 billion in India, and \$five billion in different countries. In 1997, the fee of the European marketplace by myself became over \$ 7.zero billion. Nearly 1/2 of of the European marketplace, worth \$three.five billion, is in Germany. France comes in second place with \$1.8 billion, followed by Italy with \$700 million.

The use of herbal treatments is pervasive and growing rapidly in the United States, but doctors should be well-versed in them, ask about how they are used, discuss any negative effects, and keep an eye out for any potential herb-drug interactions. In order to safeguard individuals against unfavourable consequences on their health and money, regulatory laws are also required.¹¹

XIV. Crude extract more potent than isolated chemical

Plant combinations with crude extracts are preferable to pure, separated compounds. A plant's biologically active substances interact with one another to generate a bigger impact than any one component could on its own. Herbs' complex chemical composition can be more effective than the one, highly refined molecule that pharmaceutical firms like. The reason why entire herbs can be more effective than isolated, purified components is due to chemical interactions. In other words, the whole is more effective than the parts alone. When two or more things combine in such a way that the result is multiplicative rather than additive, synergism occurs. The relationship's combined effects can be so potent that the outcome can be an entire order of magnitude bigger than the sum of the individual effects. According to the finding, using one or more isolated chemical components in refined forms may not result in the same therapeutic results and negative effects as using the plant material's many synergistic or antagonistic effects in its raw, natural condition. Inevitably, the advantage would be diminished or lost if the bioactive substances were synthesised. Nevertheless, it is hoped that herbal extracts would slow the development of disease resistance, while bioactive principles will expand our toolbox of therapeutic agents. (Fig.1.1).

Based on traditional pharmacology, molecular biology, and clinical research, there are at least the following four processes that contribute to synergistic effects:

- 1) Synergic multitarget impact: Natural compounds have an agonistic and synergistic action on multiple targets, not just one.

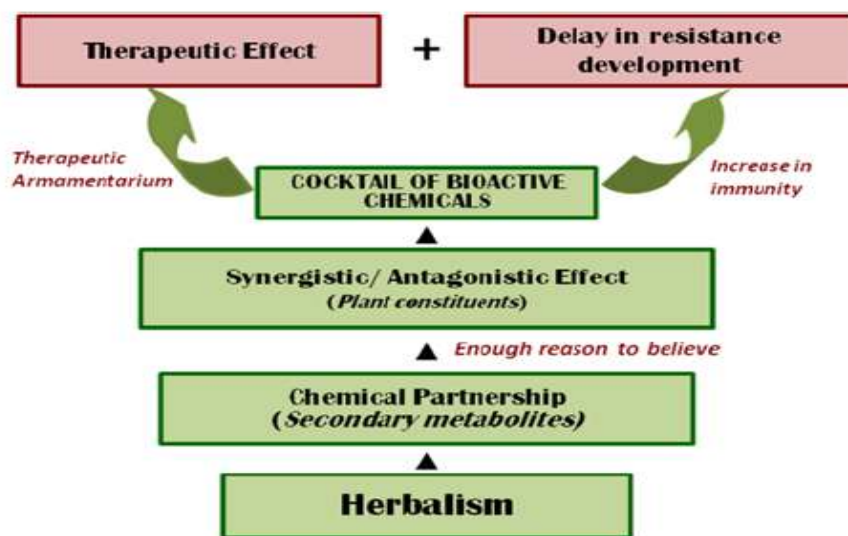


Figure 1.1: Crude extract more potent than isolated chemical

- 2) Effect on pharmacokinetics and physicochemistry: Natural ingredients increase solubility and/or reabsorption rate, which increases bioavailability.
- 3) By interfering with bacteria's defence mechanisms against antibiotics, natural products combat antibiotic resistance.
- 4) Elimination and neutralisation effect, whereby a natural product by itself, after treatment, inside a drug preparation, or in conjunction with a synthetic drug preparation eliminates or neutralises undesirable effects, improving the overall impact.¹²

Nephrotoxicity, one of the maximum not unusual place kidney problems, happens while the frame is uncovered to a toxin or medication. In current years, the healing toolbox has visible an boom withinside the quantity of sturdy healing medicines, which include NSAIDs, chemotherapeutic agents, and aminoglycoside antibiotics. These medicines have the ability to damage the kidney, main to nephritic syndrome, persistent interstitial nephritis, and abrupt renal failure. Chemical exposure, consisting of that to which include also can motive nephrotoxicity. The sole essential remedy is regularly an early detection of the situation and preventing any risky medicines. The compounds that have protective effect against nephrotoxicity are known as nephroprotective agents. Due to the existence of several complex chemical compounds, medicinal plants offer healing qualities. Various plants have been recommended in early texts to treat renal diseases. Co-administration of several medicinal plants with nephroprotective action and other nephrotoxic substances may lessen their toxicity. The phrase "renal failure" primarily refers to the kidney's failure to perform its excretory function, which causes nitrogenous metabolic waste products to remain in the blood. Along with this, there is endocrine dysfunction and an inability to regulate fluid and electrolyte balance. Acute and chronic renal failure are the two basic classifications of renal failure.¹²⁻¹⁸.

For ages, practitioners of Ayurveda and other traditional medicinal systems throughout the world have argued that extracts from plants may be utilised to treat various liver problems. However, the majority of claims are anecdotal, and very few have undergone sufficient medical or scientific scrutiny. There are few effective plants that treat liver problems, with the exception of using the proper vaccination for

hepatitis caused by viral infection. Therefore, it is not surprising that there has been a lot of interest in researching the many traditional plant medicines used around the world for this kind of treatment. In addition, in recent years, research has been done to provide experimental evidence. Recent advancements in the research of this plant have led to the isolation of around 170 distinct phytoconstituents, which have nephroprotective properties, from plants belonging to about 55 families. Traditional medicine has utilised herbs for ages to preserve the liver and treat liver dysfunctions. In ancient literature, herbal treatment is also mentioned in connection with conditions, illnesses, etc., for which only palliative care is offered in contemporary medicine.

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