



HEALING HERBS: THE POWER OF MEDICINAL PLANTS IN PROMOTING HEALTH AND WELL-BEING

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INTRODUCTION:

Medicinal plants have been fundamental to human health for thousands of years, serving as a primary source of therapeutic agents and forming the bedrock of traditional healing systems across the globe (Ahmad and Mehmood, 2017). From ancient civilizations such as the Egyptians, Greeks, and Chinese to Indigenous communities in Africa, the Americas, and Asia, plants have been recognized for their medicinal properties and used to treat a variety of ailments. These plants, often imbued with remarkable bioactive compounds, have provided solutions to common diseases, infections, and even life-threatening conditions, becoming an indispensable part of healthcare systems worldwide. The widespread use of medicinal plants is not merely a relic of the past but a vibrant and evolving field that continues to shape both traditional and modern medicine (Ashraf *et al.*, 2023). Throughout recorded history, humans have relied on nature for food, shelter, and healing. Herbal therapy is among the oldest and most traditional forms of treatment, illustrating how deeply rooted our connection to nature is. There has been a discernible increase in interest in and appreciation for herbal remedies in recent years as people search for alternative and holistic approaches to health and wellness. Plants and plant extracts are used in herbal medicine, also known as botanical medicine or phytotherapy, to treat a range of ailments and improve overall health. In cultures all over the world, including Traditional Chinese Medicine (TCM), Ayurveda in India, and Native American healing traditions in the modern era, the use of herbal remedies has been practiced for thousands of years. However, as pharmaceutical drugs and advances in Western medicine gained popularity, the use of herbal remedies gradually declined. But the drawbacks and side effects of some conventional drugs have rekindled interest in herbal therapy as a softer and safer substitute. There are a number of reasons why herbal medicine is becoming more popular. First off, a greater understanding of the risks connected to synthetic medications has prompted many people to look for natural and plant-based substitutes. Due

to their natural origins and complex blend of components that may work in concert, herbal treatments are frequently thought to have fewer side effects. Herbal medicine has a long-standing cultural and historical connection in many nations. By passing down information from one generation to the next, many indigenous communities have managed to preserve their traditional medical practices. As more people seek to embrace holistic wellbeing and rediscover their ancestry, herbal medicine is becoming more popular as a therapeutic option. Furthermore, recent advances in science have shed light on the pharmacological properties of certain medicinal plants. Research has shown that certain herbs are useful in treating. Herbal medicines rely on sustainable resources and have less of an impact on the environment than pharmaceutical drugs, which can involve sophisticated chemical procedures and produce waste. Herbal medicine is now widely used, thanks in large part to the internet and social media. Online resources make it simple to obtain information, enabling users to learn more about various herbs and how they might be used. The knowledge is also made more approachable and available by the sharing of experiences with herbal medicines by social media influencers, bloggers, and wellness proponents. The plants use these bioactive substances for a number of purposes, including defense against predators, pollinator attraction, and environmental stress adaptation. Many of these substances have significant therapeutic benefit for humans (Pu *et al.*, 2007). At present scenario, traditional medicinal plants are being given serious attention by mainstream medical science or healthcare treatment system. Huge number of populations of the under developed or developing countries are continuously using traditional medicines as a primary source of healing agents from several diseases. To treat various health ailments, these native medicinal plants are extensively used as the potent source of alternative medicines. In the primary healthcare system medicinal plants are the core component for human beings that depend upon the availability, acceptability, compatibility and affordability (Ghosh *et al.*, 2019).

ROLE OF MEDICINAL PLANTS IN SUSTAINABLE HUMAN HEALTH:

Medicinal plants have been used as a source of drugs by mankind for several thousand years. In fact, ancient man was totally dependent on plants for his needs of treatment, prevention and other form of medicaments, thus, utilizing plants as drugs for millennia. Throughout the development of human culture, the use of medicinal plants has had magical-religious significance and different points of view regarding the concepts of health and disease which

existed within each culture. For the past 3000 years, a large number of plants are used in health care practices, such as in Traditional Medicine in China, India and Africa, most of which contains therapeutic values which has been ascertained as such by Western standards. Furthermore, several other plants have been employed for centuries by several cultures which are less likely to be proven by western standards. The role of medicinal plants in human health is clearly enormous. Out of the 252 drugs considered as basic and essential by the World Health Organisation (WHO), 11% are exclusively of plant origin and a significant number are synthetic drugs obtained from natural precursors. Some of these drugs obtained from plants include digoxin from *Digitalis* spp., quinine and quinidine from *Cinchona* spp., vincristine and vinblastine from *Catharanthus roseus*, atropine from *Atropa belladonna* and morphine and codeine from *Papaver omniferum*. It is estimated that 60% of anti-tumour and anti-infectious drugs already on the market or under clinical trial are of natural origin. These plants offer compounds for new drugs, biomimetic synthesis development and the discovery of new therapeutic properties not yet attributed to known compounds. In most cases, the crude extract of medicinal plants may be used as medicaments.

ASPECTS ON ETHNOMEDICINE, TRADITIONAL MEDICINE, AND ALTERNATIVE MEDICINE:

In order to manage health and to prevent, diagnose, improve, or treat physical and mental illnesses, traditional medicine is the culmination of all knowledge, skills, and practices based on indigenous theories, beliefs, and experiences from various cultures. Alternative or supplemental medicine is the term used to describe traditional medicine that has been practiced by people who are not part of its native culture. According to WHO data, ethno-medicine is more well-known in developing nations. For instance, traditional herbs account for 30% to 50% of all medical intake in China. In Ghana, Mali, Nigeria, and Zambia, around 60% of children with malaria receive first-line treatment from herbal medicine; in San Francisco, approximately 70% of HIV/AIDS patients receive traditional medicine (Sharma, 2011). Some remarkable medicinal drugs, which have been developed from the ethno-medicinal plants, such as Vinblastin and Vincristine from *Catharanthus roseus* L. G. Don, are used for treating acute lymphoma and acute leukemia, Aspirin from *Salix purpurea* L. (to cure inflammation, pain, and thrombosis), Quinine from *Cinchona officinalis* L. and

Artether from *Artemisia annua* L. (for treating malaria), whereas Taxol from *Taxus baccata* L. is used for treating uterine carcinoma.

Table 1: Some important Indian traditional medicinal plants for human diseases treatment

Common name	Botanical name	Phytochemicals compound	Ethnomedicinal Uses
Holy basil	<i>Ocimum sanctum</i>	Phenolics, flavonoids, phenyl propanoids, terpenoids, fatty acid, ursolic acid, apigenin	It is used for nausea, cold and flu, fever, indigestion, stress, anxiety, earache, bronchitis, malaria, diabetes
Neem	<i>Azadirachta indica</i>	Azadirachtin, nimbin, azharon, nimbidol	This plant parts are used for the treatment of rheumatism, asthma, fever, worm infestations, bacterial infection, tuberculosis
Mint	<i>Mentha piperita</i>	Essential Oils (menthol, menthone, pulegone, Menthofuran), azulenes	It is used in indigestion, diarrhea, hyperacidity, anemia, morning sickness, bad breath and gum problem
Ginger	<i>Zingiber officinale</i>	Phenolic compounds, flavonoids, steroids, triterpenoids, glycosides	This plant is used to treat stomach upset, nausea, vomiting, nose bleeds, rheumatism, coughs
Black pepper	<i>Piper nigrum</i>	piperine, piperatine, piperidine	It prevents asthma, arthritis, bronchitis, used in infection that causes diarrhea, headache, stuffy nose, sinus infection, weight loss

Lemon Grass	<i>Cymbopogon citratus</i>	citral, citronellal, cymbogonol, α -terpineol, citronellic acid, α -camphorene, geranial	Used to treat digestive problems, cramping pains, coughs, fever, to reduce swelling, improve blood circulation
Aloe vera	<i>Aloe barbadensis</i>	Flavonoids, alkaloids, aloin, carbohydrate, tannin	Treatment of pimples, acne and mouth ulcers, laxative, wash for piles, burns
Asthma Weed	<i>Euphorbia hirta</i>	Euphorbon and euphosterol	It is used to cure asthma, calculus, cough, eruptions, headache, hypertension
Cinnamon	<i>Cinnamomum zeylanicum</i>	Cinnzeylanin, cinnzeylanol cinnamic acid, phenolic acids	It is useful in upset stomach, gastrointestinal problems, diarrhea, morning sickness
Bay Leaves	<i>Laurus nobilis</i>	Alkolids, flavonoids, tannins, limonien	It has been used to treat indigestion, bronchitis, influenza
Ashwagandha	<i>Withania somnifera</i>	Flavonoids, phenolics, alkaloids	It is useful in curing the bronchial asthma, chronic fever, dysentery, arthritis, emetic syndrome
Artemisia	<i>Artemisia vulgaris</i>	Coumarins, sesquiterpene, lactones, volatile oils, insulin	It is used as an immunity booster, itching, burns, colic, diarrhea, constipation
Lagundi	<i>Vitex negundo</i>	Flavonoids, carbohydrates, proteins, amino acids	It is used to treat oozing from ear, obesity, diabetes, muscular pain, skin disease
Clove	<i>Syzygium aromaticum</i>	Alkaloids, glycoside, steroids, carbohydrates	It reduces plaque on the teeth, excessive sweating of the palms

THE FUTURE OF MEDICINAL PLANTS IN HEALTHCARE:

Thanks to further study and technological advancements, the use of medicinal plants in healthcare appears to have a bright future. Medicinal plants are set to become even more important in contemporary medicine as the emphasis on holistic health, sustainable treatments, and the potential of natural remedies grows. The integration of medicinal plants with contemporary biomedical research, the possibility for clinical applications and commercialization, and new developments in plant-based medicine are all covered in this section. The future of medicinal plants in healthcare is being shaped by a number of new trends as interest in plant-based therapies grows. The increasing utilization of phytochemicals compounds found naturally in plants for medicinal purposes is one of the most noteworthy trends. Research into plant-based compounds, such as alkaloids, flavonoids, and terpenoids, has opened up new possibilities for drug development, particularly for diseases that have limited treatment options. The discovery of new bioactive compounds in plants continues to drive innovation in the development of natural therapeutics. The development of plant-based nanotechnology, which uses medicinal plants to make nanoparticles for drug delivery systems, is another trend. These nanoparticles, which are frequently made from plant materials or derived from plant chemicals, have demonstrated promise in enhancing the stability, bioavailability, and targeted administration of pharmaceuticals (Wong and Yu, 2020). For instance, plant-derived nanoparticles may be employed in cancer treatment to minimize side effects and improve medicine delivery to tumor locations.

CONCLUSION:

It may be concluded that these medicinal plants have been utilized as a significant pharmacological, therapeutic, nutritional, and medicinal source for a variety of illnesses; these are also briefly discussed in the current review study. The review study makes it abundantly evident that traditional Indian medicinal plants are far more valuable for treating various illnesses or combating other serious, life-threatening conditions. Medicinal plants are still an essential source

of bioactive compounds with a wide range of therapeutic applications. Extensive varieties of phytochemicals are act as strong protectors from different diseases or it may serve as strong immune boosters. These traditional medicinal plants study helps in understanding the biological activities for future human welfare and healthcare development.

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