

Current status and future of herbal medicine

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ABSTRACT:-

Herbal medicine, also known as botanical medicine, is the use of plants and their extracts to treat various health conditions. It has been practiced for thousands of years in various cultures around the world and continues to be a popular form of alternative medicine.

The current status of herbal medicine is one of increasing popularity and acceptance in mainstream healthcare. Many people are turning to herbal remedies as a natural and holistic approach to healthcare, and healthcare providers are becoming more open to incorporating these remedies into their practice.

Despite the growing popularity of herbal medicine, there are still concerns about its safety and efficacy. Some herbal remedies may interact with medications or cause adverse effects, and there is often limited scientific evidence to support their use. As a result, there is a need for more research to be conducted on the safety and efficacy of herbal remedies.

The future of herbal medicine is likely to involve a greater emphasis on evidence-based research and standardization of products. This will help to ensure the safety and quality of herbal remedies and make them more widely accepted in mainstream healthcare. Additionally, advances in technology may lead to new discoveries and applications for herbal medicine, making it an increasingly important part of healthcare in the years to come.

Key word:- Herbal medicine, herbal remedies, research, safety and efficacy, plant, extract, health care, quality.

I. INTRODUCTION:-

Herbal medicine, also known as traditional medicine or botanical medicine, refers to the use of plants or plant extracts for medicinal purposes. It has been used by various cultures for thousands of

years, and today it is still widely practiced in many parts of the world.

Currently, herbal medicine is a rapidly growing industry, with many people turning to natural remedies for a variety of health concerns. This growth is driven by factors such as increased interest in natural and holistic medicine, concerns about the side effects of pharmaceutical drugs, and a desire for personalized health care.

The future of herbal medicine looks promising, as more research is being conducted to study the effectiveness and safety of herbal remedies. This research is helping to validate the use of traditional remedies and identify potential new uses for plants in medicine.

However, there are also challenges that need to be addressed in the use of herbal medicine. For example, there is a lack of standardization in the production of herbal remedies, which can lead to inconsistencies in potency and quality. There is also a need for more regulation and oversight of the industry to ensure the safety and efficacy of herbal remedies.

Overall, the introduction and use of herbal medicine will continue to grow, as people seek alternative and complementary approaches to conventional medicine. With further research and regulation, the use of herbal medicine may become more widely accepted as a safe and effective form of healthcare.

Herbal medicine:-

Traditional medicine, which includes the use of herbal drugs, refers to therapeutic practices that have existed for hundreds of years before modern medicine and are still in use today. It is the culmination of the therapeutic experience of generations of indigenous medicine practitioners. Traditional preparations comprise medicinal plants, minerals, and organic matter. Herbal drugs, in particular, primarily use medicinal plant preparations for therapy. Evidence of their use can

be found in ancient Indian, Chinese, Egyptian, Greek, Roman, and Syrian texts dating back to about 5000 years ago. Classical Indian texts, such as the Rigveda, Atharvaveda, Charak Samhita, and Sushruta Samhita, also contain information on traditional medicine. These herbal medicines and traditional medicaments are derived from the rich traditions of ancient civilizations and scientific heritage (Kamboj, 2000).

Herbal medicine refers to the use of plants, plant extracts, and other natural substances for medicinal purposes. This form of medicine has been used for thousands of years in many different cultures around the world. Herbal medicine can be used to treat a wide range of conditions, including common ailments like colds and flu, as well as more serious conditions like cancer and cardiovascular disease. Many people use herbal remedies as a complementary or alternative treatment to conventional medicine.

Some common herbs used in herbal medicine include echinacea, ginger, garlic, ginseng, chamomile, and St. John's wort, among many others. These herbs can be taken in various forms, including teas, capsules, tinctures, and topical creams.

It's important to note that while herbal medicine can be effective in treating certain conditions, it's not a substitute for professional medical advice and treatment. Some herbal remedies can interact with prescription medications or have adverse effects on certain individuals. It's always best to consult with a qualified healthcare practitioner before starting any new herbal remedies.

Difference of Herbal and Conventional Drugs:-

Herbal medicine and conventional pharmacotherapy may seem alike at first glance, but they differ in three significant ways. Firstly, herbalists use unpurified plant extracts containing various constituents, claiming that the whole herb works synergistically to produce a greater effect than the sum of its parts. They also assert that using whole herbs instead of isolated active ingredients reduces toxicity. Although different samples of a particular herbal drug may contain varying proportions of constituent compounds, practitioners believe this does not usually lead to clinical issues. While there is some experimental evidence supporting synergy and buffering in specific whole plant preparations, it remains unclear whether this applies to all herbal products. Secondly, herbalists frequently combine several different herbs, arguing

that the principles of synergy and buffering apply to herb combinations, which enhance efficacy while reducing adverse effects. This is different from conventional practice, where polypharmacy is generally avoided unless necessary.

Thirdly, herbal practitioners use different diagnostic principles than conventional practitioners. For example, when treating arthritis, they might observe a patient's under-functioning symptoms of elimination and conclude that the arthritis results from an accumulation of metabolic waste products. They may then prescribe a combination of herbs with diuretic, cholorectic, or laxative properties alongside herbs with anti-inflammatory properties.

Due to a desire for a sense of control and mental comfort in the face of chronic or incurable diseases, such as diabetes, cancer, arthritis, or AIDS. In some cases, patients may also turn to

Why People Use Herbal Medicine:-

During the Neanderthal period, humans began using plants for healing purposes, and this practice has continued throughout history. Today, many patients are turning to herbal remedies as a complementary therapy, often without informing their healthcare providers. This may be herbal remedies for acute conditions, such as a cold or sore throat, when professional care is not readily available, convenient, affordable, or time-consuming.

In rural areas, the use of botanicals may be further encouraged by cultural beliefs and a close relationship with the environment. Traditional medical systems may also be the primary source of healthcare in areas where modern medicine is not readily available or accessible. Natural plant products are often perceived as healthier than manufactured medicine, and reports of adverse effects from conventional medications may further fuel this perception. However, herbal remedies may also have potential toxicities, and it is important for healthcare providers to be aware of their patients' use of such therapies. Despite their potential benefits, herbs are sometimes dismissed as harmless placebos by physicians.

Regulation of Herbal Medicine:-

The regulation of herbal medicine varies depending on the country or region. In general, the regulation of herbal medicine is concerned with ensuring the safety, efficacy, and quality of these products.

In some countries, herbal medicines are regulated as dietary supplements or food products, which means that they may not be subject to the same level of scrutiny as prescription drugs. In other countries, such as Germany, herbal medicines are regulated as drugs, which means that they must meet certain standards for safety, efficacy, and quality before they can be marketed.

In the United States, herbal medicines are regulated by the Food and Drug Administration (FDA) as dietary supplements. While the FDA does not evaluate the safety or efficacy of dietary supplements before they are marketed, manufacturers are required to ensure that their products are safe and properly labeled.

In the European Union, herbal medicines are regulated as medicinal products. They must undergo a rigorous testing process and be authorized by the European Medicines Agency (EMA) before they can be marketed. The EMA requires that herbal medicines meet the same standards of safety, efficacy, and quality as conventional medicines.

Overall, the regulation of herbal medicine is important to ensure that these products are safe and effective for use. It is always recommended to consult with a healthcare provider before using any herbal medicine, particularly if you are taking any other medications or have any underlying health conditions.

Safety issue of herbal medicine:-

Traditional herbal products present a significant challenge when it comes to quality control, regulatory processes, and ensuring safety. Many of these products on the market have not undergone the necessary drug approval process to demonstrate their effectiveness and safety. In fact, some of these herbal products contain harmful substances such as lead, mercury, arsenic, and poisonous organic substances. This can result in serious health consequences such as hepatic failure or even death.

Studies have shown that the use of traditional eye medicine is associated with corneal ulcers and childhood blindness in some regions. Additionally, the simultaneous use of traditional and conventional medicine can lead to dangerous drug interactions, which can put the patient's safety at risk.

In some cases, herbal products may have serious adverse effects, particularly if they are self-prescribed or obtained from sources other than registered practitioners. There have been reports of

women developing interstitial renal fibrosis after taking Chinese herbs prescribed by a slimming clinic, and a Chinese herb linked to kidney failure and cancer.

As more people turn to herbal medicine, it is essential that pharmacists and healthcare providers are knowledgeable about the safety of these products. This requires an understanding of the magnitude of their use and the regulations under which they are marketed. By being aware of the potential risks and taking appropriate precautions, we can ensure that patients receive safe and effective treatments.

Improper storage of medicinal plant materials and herbal teas can result in the growth of *Aspergillus flavus*, a fungus that produces the mycotoxin aflatoxin. A study by Halt in 1998 found that 18% of medicinal plant samples and 9% of herbal tea samples were contaminated with *A. flavus*. Moreover, a significant portion of commercially available Ayurvedic formulations is either spurious, adulterated, or misbranded, with many not conforming to the ancient Ayurvedic texts. Many herbal medicines lose their medicinal properties within a year of collection, and their powders and pastes are effective for only six months and one year, respectively. However, these preparations rarely carry an expiry date or warnings of potential side effects.

Alarming, in some cases, herbal medicines are found to be mixed with allopathic medicines. For instance, a sample of traditional Chinese medicine given to a lady for eczema was found to contain a steroid, and several undeclared drugs were detected in a traditional Chinese cure for arthritis. The lack of quality control in the health food industry means that there is no assurance that the herb contained in the bottle is the same as what is stated on the outside. This has led to a tarnished reputation for many important medicinal herbs, such as *Echinacea*, where more than 50% of the herb sold in the US from 1980 through 1991 was actually *Parthenium integrifolium* due to supplier errors in collection.

Plant materials are used as home remedies, over-the-counter drug products, and raw materials for the pharmaceutical industry in developed and developing countries and represent a significant proportion of the global drug market. As such, it is crucial to establish internationally recognized guidelines for assessing their quality. The World Health Assembly has emphasized the need to ensure the quality of medicinal plant products by using modern control techniques and

applying suitable standards. Thus, proper plant identification based on organoleptic, microscopic, and technological analysis, and the use of Latin scientific names are essential for ensuring the safety and efficacy of medicinal plant products.

Need for Clinical Trials:-

Clinical trials are important for evaluating the safety and efficacy of herbal medicines. Unlike pharmaceutical drugs, which are subject to rigorous testing and regulation, herbal medicines are often marketed without sufficient evidence of their effectiveness or safety. Therefore, clinical trials can provide important information about the benefits and risks of using herbal medicines.

Here are some reasons why clinical trials of herbal medicine are needed:

Safety: Clinical trials can help identify potential safety issues associated with the use of herbal medicines, such as adverse reactions, interactions with other medications, and long-term health effects.

Efficacy: Clinical trials can determine the effectiveness of herbal medicines in treating specific health conditions, and help to identify the most effective dose and duration of treatment.

Standardization: Herbal medicines are often prepared in different ways, and the quality and purity of the ingredients can vary widely. Clinical trials can help to standardize the preparation and dosing of herbal medicines, which can improve the consistency of their effects.

Integration: Herbal medicine is often used alongside conventional medical treatments, but there is limited evidence about the safety and efficacy of such combinations. Clinical trials can provide important information about how herbal medicines interact with other treatments, and whether they can enhance or interfere with their effects.

Regulation: Clinical trials can provide the evidence needed to support regulatory approval of herbal medicines, which can improve their accessibility and ensure their quality and safety.

In summary, clinical trials of herbal medicine are important for assessing their safety, efficacy, standardization, integration with other treatments, and regulatory approval.

Market value of herbal medicine:-

The market value of herbal medicine varies greatly depending on various factors, such as the type of herb, its availability, demand, and

region of origin. In general, the global herbal medicine market was valued at USD 86.74 billion in 2020 and is expected to reach USD 142.61 billion by 2028, with a compound annual growth rate (CAGR) of 6.2% during the forecast period.

The Asia Pacific region is expected to dominate the market due to the high usage of herbal medicine in traditional medical practices, followed by North America and Europe. Some of the popular herbs that have a high market value in the herbal medicine industry include echinacea, ginkgo biloba, ginseng, St. John's wort, and valerian root, among others.

However, it's essential to note that the herbal medicine industry is highly unregulated, which makes it challenging to determine the exact market value of different herbs. The lack of standardization and quality control measures can affect the market value of herbal medicine products. Additionally, the effectiveness and safety of herbal medicines are not always scientifically proven, leading to varying consumer perceptions and preferences.

The market for ayurvedic medicines is experiencing a 20% annual growth rate, and sales of medicinal plants have increased by 25% in India over the past decade (1987-1996), which is the highest growth rate globally. However, per capita spending on medicine in India remains one of the lowest worldwide. Many developing countries, including China and India, rely heavily on plants as the primary source of medicine. Traditional Chinese Medicine uses over 5000 plant species, while India uses approximately 7000. According to the Export Import Bank, the international market for medicinal plant trade is growing at 7% per year. China's share in the world herbal market is US\$6 billion, while India's share is only US\$1 billion. India exports medicinal plants worth Rs. 1200 million annually, and major herbal-based pharmaceutical companies have a consistent growth rate of about 15%. Traditional medicine not only serves as an alternative source of medicine but also offers new pharmaceuticals and healthcare products. Medicinal plants are crucial for pharmacological research and drug development, as they can be used directly as therapeutic agents or as starting materials for synthesizing drugs. Many modern pharmaceutical drugs are derived from medicinal plants, and their derivatives are non-narcotic with minimal or no side effects.

The future outlook for the herbal medicine:-

The future outlook for herbal medicine looks promising, as more people are becoming interested in natural remedies and seeking alternatives to conventional medicine. Additionally, there is growing research supporting the effectiveness of many herbal remedies, which could lead to increased acceptance by mainstream medicine.

There are several factors contributing to the rise in popularity of herbal medicine. First, people are becoming more aware of the potential side effects of conventional medicine and are seeking safer, gentler alternatives. Second, there is a growing interest in holistic health, which considers the whole person, including their physical, emotional, and spiritual well-being. Finally, the increasing availability of information online has made it easier for people to learn about and access herbal remedies.

In terms of research, there are many ongoing studies investigating the effectiveness of herbal medicine for a variety of conditions. For example, some studies have found that certain herbs can help lower blood pressure, reduce inflammation, and improve immune function. Additionally, there is a growing body of research suggesting that some herbal remedies may be effective in treating mental health conditions, such as anxiety and depression.

Local medicine has played a significant role in the discovery of almost three quarters of the herbal drugs used globally, as per estimates. The World Health Organization (WHO) reports that around 25% of modern medications have their roots in plants that were traditionally used. Additionally, numerous synthetic analogues have been developed based on prototype compounds that were initially isolated from plants. In India, nearly 70% of modern medicines are derived from natural products.

Overall, the future of herbal medicine looks bright, as more people are turning to natural remedies for their health concerns. However, it is important to note that herbal remedies should be used with caution, as they can interact with prescription medications and may not be appropriate for everyone. It is always best to consult with a qualified healthcare provider before using any herbal remedy.

The use of herbal drugs and remedies in medicinal systems has become increasingly popular, even in developed countries. As a result, there is a growing demand for plant-derived

products worldwide, which is expected to continue to increase in the coming years. This trend has led scientists, doctors, and pharmaceutical companies to look towards countries such as China and India, which have the highest number of medicinal plant species and are the leading exporters of medicinal plants, to fulfill their needs. This suggests that the importance of these countries in the global market for herbal supplements and remedies is likely to remain high.

II. CONCLUSION:-

Popularity in developed countries due to increased public interest and scientific information about plants. Many patients with chronic illnesses use herbal remedies, which cannot be ignored by classically trained physicians. Therefore, physicians must have sufficient knowledge and be willing to discuss herbal medicine with their patients.

When patients disclose their herbal use, it presents an opportunity for physicians to redirect them towards effective conventional healthcare. By taking a complete drug and supplement history, physicians can initiate a dialogue to rationally compare the appropriateness of herbal remedies and regulated pharmaceuticals in relation to the severity of the condition. It is also crucial to warn patients with chronic conditions such as AIDS or cancer that some herbal remedies can have adverse effects similar to symptoms associated with their disease or treatment, making it difficult to discern if the disease or the "remedy" is the problem.

For patients who view conventional medicine with ambivalence, physicians can foster a more open and communicative relationship by demonstrating an objective understanding of both alternative and conventional approaches. Additionally, doctors should monitor the perceived benefits and adverse effects of self-prescribed herbal treatments consumed by their patients and bear in mind the possibility of herb-drug interactions.

To better protect and inform the public about herbal medicine, doctors should take an active part in the process. In summary, physicians must acknowledge the increasing use of herbal medicine among patients and have adequate knowledge to provide informed guidance and care.

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