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A STUDYING ABOUT THE HERBAL PLANTS AND WEEDS ITS BENEFITS AND HISTORY

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ABSTRACT

The purpose of this research is to examine the phytochemical composition of weed plants found in the wastelands of Gandevi Taluka, Navsari district, Gujarat, India. As a result of their aggressive growth, weed plants are typically regarded a nuisance wherever they are discovered. However, these plants contain a wide variety of chemical compounds that have the potential to be used in a wide range of fields, including medicine, agriculture, and industry. For the study, researchers gathered weed plant samples from all around Gandevi Taluka's abandoned lots and fields. The weed species were properly identified using a methodical approach to guarantee proper selection and documentation. The presence and content of numerous bioactive chemicals in these plants were then assessed using a comprehensive phytochemical investigation.

Keywords: - Herbal, Weeds, Medicine, Medical, Agriculture.

I. HERBAL MEDICINE

Introduction to Herbal Medicine

All the main medical systems use plants for therapeutic purposes, demonstrating the non-denominational nature of their value. Unani (Islamic) and Ayurvedic (Hindu) medicine, in contrast to the western medical tradition's Mesopotamian and Egyptian origins, developed in Western Asia and the Indian subcontinent, respectively. Animals other than humans also seem to have their own materia medica, albeit the details of how and when they were initially utilized are often lost to antiquity. Many ancient texts, such as the Egyptian Papyrus Ebers from about 1600 B.C. and the 660 cuneiform tablets from Ashurbanipal's library at Nineveh from around 650 B.C., currently in the British Museum, make reference to modern medications.

The editor of the Journal of Natural Products made a similar observation back in 1999, noting that as interest in herbal remedies increased, more publications describing rigorous scientific investigations were sought. The ongoing search for plants with pharmacological potential suggests that there are likely many kinds of plants in the plant world that have yet to have their therapeutic compounds uncovered. Experts in many branches of phytopharmacology are well suited to further these rapidly

developing fields of study.

History of herbal medicine

Since the beginning of time, humans and other creatures have depended on plants for their therapeutic properties. The term "dried roots" is where the English word "drug" originated from. Drug comes from the Old Dutch word "droogen." According to the globe Health Organization, approximately 80 percentage of people throughout the globe solely utilize natural medicines. Despite the fact that 40–50% of their medications are either direct extracts of plants or synthetic duplicates of plant elements, plants continue to be our most significant and most utilized medicine. This is true no matter where you are in the world, from the heights of Tibet to the parched grass fields of Africa to the thick rain forests of South America. By examining the plants that the indigenous inhabitants of the rainforest utilize as medicine, scientists in climate-controlled labs may choose which plants to examine. Only by studying the world's most backward cultures can the world's most modern medical technology hope to create new medications. That's how effective herbal remedies can be. Unlike other technology, advances in medicine do not render all prior information useless, outdated, or relegate it to the trash can (or at least the museum).

“Herbal medicine has been used in every culture throughout history, from the shamanic civilizations of Africa, Mexico, and Tibet to the highly regulated medical herbalists of today. Herbal medicine has been used to modify, diagnose, and treat spiritual, emotional, and physical ailments.” Hippocrates, the "father of medical literature," took an oath 2500 years ago in which he said, "I will give no deadly medicine to anyone." Hippocrates is famous for sayings like "Let food be your medicine and let medicine be your food," which refer to his exclusive use of natural remedies like food and herbs. "The inability of the body to digest its environment is the root cause of illness".

The truth of Herbal Medicine

Many people believe that herbal medicine has been used by humans since the beginning of time. Natural plant medicines are the first line of defense against illness. Herbal remedies are the basis for many contemporary pharmaceuticals. About a quarter of all pharmaceuticals are sourced from plants. Foxglove leaves are used to make digitalis, whereas poppy flowers are used to make morphine and codeine, cinchona bark is used to make quinine, and so on. Plant extracts are used to create some of them, while synthetic compounds that imitate plant chemicals are used to create others. Herbal medicine uses whole-plant extracts, whereas conventional medication only uses the most active component, which is separated from the plant and then synthesized in a lab. When administered properly and by competent persons, herbal medical items may be a viable alternative to conventional pharmaceuticals for non-life-threatening conditions.

Indian Traditional Medicine and Tribal Medicine

India has a wide variety of indigenous

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peoples, and many of them have preserved ancient knowledge of the plants' therapeutic properties. The tremendous intra-ethnic variety among Southeast Indians is reflected in their reverence for traditional knowledge systems and behaviors. About 8% of India's population identifies with one of the 537 indigenous and other ethnic communities. It seems that traditional knowledge systems, including the numerous medicinal plant uses, differ by demographic domain. The bio-economic effects of documenting these indigenous knowledge systems on therapeutic plants might be significant.

II. NATURAL PRODUCTS

Drugs from nature

Over a thousand plant-based medicines were used in Mesopotamia's sophisticated medical system, with records of their usage dating back to 2600 BC. Records of Egyptian medicine date back to roughly 2900 B.C.E., but the "Ebers Papyrus" from around 1550 B.C. is the most significant surviving document, since it includes more than 700 remedies, most of which are derived from plants.

The ancient Greeks and Romans deserve most of the credit for the Western world's appreciation of botanical medicines. Dioscorides, a Greek physician of the first century AD, Pliny the Elder, a Roman physician of the first century AD, and Galen, a Greek physician of the second century AD, published three of the most significant medical encyclopedias. In addition to preserving much of what had been learned by the ancient Greeks and Romans, the Arabs of the Dark Ages and Middle Ages also developed their own pharmacological expertise and introduced plants from Chinese and Indian traditional cures. All that time, only anecdotal evidence supported the use of therapeutic plants due to a lack of mechanistic knowledge of the pharmacological activities or active components of medicinal herbs. In the 18th century, Anton von Störck laid the groundwork for the modern, scientific study of medicinal plants by examining aconite and colchicum for their poisonous qualities, while William Withering investigated foxglove for the treatment of edema.

Drug Discovery from plants

“At the turn of the nineteenth century, a German apothecary's apprentice named Friedrich Sertürner extracted an analgesic and sleep-inducing component from opium and named it morphium (morphine) after the Greek god of dreams, Morpheus. After conducting studies on stray dogs and later on himself, he provided a detailed account of the compound's separation, crystallization, crystal structure, and pharmacological characteristics (Sertürner, 1817).”

“As a result, researchers began looking into other medicinal plants, and by the end of the 19th century, many other bioactive natural chemicals had been isolated from different plants. Quinine, caffeine, nicotine, codeine, atropine, colchicine, cocaine, and capsaicin were among the most common of these drugs.”

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The origins of modern pharmaceutical companies may be traced back to apothecaries, who were the first professionals to specialize in the cleaning of such substances. In 1826 (Kaiser, 2008), morphine and other alkaloids were first extracted by H.E. Merck. In order to enable manufacturing at greater quality and cheaper prices, attempts were made to synthesize natural goods chemically. The chemical synthesis of salicylic acid occurred in 1853–1844.

III. WEEDS

Definition of weeds

Plants or other forms of vegetation that prevent farmers and foresters from doing their jobs are known as weeds. Another definition of a weed is any plant that appears in an unintended location. A plant is considered a weed if its presence reduces the value of agricultural produce or spoils, even if it is useful in other settings, such as a garden or farm.

Benefits of weeds

Some weeds have beneficial effects, like stabilizing soils and adding organic matter, feeding and sheltering wildlife, attracting pollinators with nectar, improving an area's aesthetic value, serving as a genetic reservoir for improved crop varieties, producing useful products for human consumption and medicine, and even creating jobs.

Although weeds are often regarded undesirable due to the fact that they reduce agricultural output (such as food and fiber), many weeds have pharmacological and ethnomedicinal value (to use a word from Gerard Manley Hopkins' poem). What would the earth look like if all the water and natural places were dried up? Just abandon them.Leave them alone; the wild and the damp; the weeds and the forest have a long life ahead of them. The leaves and roots of certain weeds, including the dandelion, may be eaten or used medicinally. The Greater Burdock (Arctium lappais L.) is a widespread weed that is occasionally utilized in East Asian cooking and medicinal. Although these so-called "beneficial weeds" may have some positive impacts, such as discouraging crop-damaging insects from attacking, they more typically serve as breeding grounds for these pests and diseases. In highly farmed fields, plants like dandelions help break up hardpan so that crops may establish deeper root systems. Some cultivated flower species of today have been grown from weeds in agricultural areas; these plants are now cultivated for their ornamental blooms or leaves.

Despite being a crop weed, corncockle (Agrostemma githago L.) is now often grown as a garden plant. This once-common field weed was brought to North America from Europe along with wheat. White clover (Trifolium repens L.) may be useful as a source of feed, honey, and soil nitrogen, although it is often considered an invasive weed when it grows on lawns.Many gardeners can confirm that hand-weeding is not nearly as unpleasant of a task as it is sometimes made up to be. Its predictability

might be soothing to some.

It frees their thoughts up to plan out their next book or practice the witty comeback they should have made to a relative who has just shown irrational behavior. According to recent research, weeds make up a significant portion of traditional medicine chests. Many people believe that eating weedy greens has a curative effect18. Every plant on Earth has a purpose for humans, animals, and other plants, and this fact was recognized in ancient Indian literature.

The fact that people think certain plants are desirable while others are not reflects their own ignorance. The Agronomy department of the Indian Agricultural Research Institute (IGAU) in Raipur has undertaken studies showing that weeds really benefit farmers and businesses. Many weeds have been found to be useful in agriculture.

IV. CONCLUSION

Phytochemical and biological documentation of these weeds, showing their potential as useful bio-prospecting tools in the search for novel medicinal leads (Dual Topo-poisons I & II), is revealed in this study. Field surveys have shown that the Nilgiris are home to a diverse array of previously undiscovered weed flora. Phytochemical studies have shown that these weeds contain vast amounts of secondary metabolites that have yet to be identified. Biological screening and molecular docking studies confirmed that the isolated compounds were highly cytotoxic chemicals, with the possible apoptotic mechanism being due to their combined human topo-poisoning I and II activity. In the quest for new I and II dual human topo- poisons, the weed of choice may include a wealth of secondary metabolites that might make for great lead compounds. It is possible that isolated compounds might serve as lead molecules in the creation of drugs. Compounds II and IV, but not topo-poison I or topo-poison II, were demonstrated to have dual topo-poisoning activity. However, further in-depth studies of the plant and the found chemicals are needed to increase the plant's medicinal value by structurally altering functional groups. The isolated chemicals may serve as scaffolding for the creation of novel therapies. The current investigation may provide the groundwork for the creation of novel dual human topo I & II isomerase poisons, which are urgently needed in the area of research. The research shown that these weeds have medicinal potential due to the presence of several beneficial unique compounds; also, they may be employed economically and provide good cash supplies to farmers.

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