

A review on *Acalypha indica* linn an important medicinal activity of herbal medicine

S. SENTHIL KUMAR ^{1,*}, P. KUMAR SINGH ¹ and C. KIRUBA RANI ²

¹ Manipur International University, Imphal, Manipur, India.

² Department of Biochemistry, Vellalar College for Women, Erode, Tamil Nadu, India.

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Abstract

Medicinal plants contain a variety of phytochemicals, secondary metabolites that contribute to their therapeutic effects. Medicinal plants are a traditional medicine systems, such as Ayurveda, Unani and Siddha, which are still widely practiced in many parts of the world. Different parts of the medicinal plant like leaves, roots, bark, seeds and fruits can be used for medicinal purposes. The Family Euphorbiaceae is one of the largest family of flowering plants comprising of plants with over 300 genera and 800 species. *Acalypha indica* important plant of this family, because these plants have different compounds alkaloids, phenols, flavonoids, tannins and glycosides showed with different activities in human being and animals.

Keywords: Medicinal Plant; Flavonoids; Euphorbiaceae; *Acalypha Indica*; Phytochemicals; Secondary Metabolites

1. Introduction

Even today, medicinal plants are not only indispensable in health care, but form the best hope of source for safe future medicines[1]. In spite of the fact that now we have at our command a number of modern drugs, it is still genuinely urgent to discover and develop new therapeutic agents. It has been estimated that the acceptable therapy is available only for one third of the known human ailments. Traditional plant medicines still enjoy significant position in the modern-day drug industries due to the minor side effects as well as the synergistic action of the combination of compounds[2,3].

The phytochemical-pharmacological research work has recently yielded effective solutions to certain diseases which synthetic drug industry has failed to afford. Modern search for bioactive molecules typically make use of sophisticated bioassays and bioassay-guided fractionation of medicinal plants used by traditional healers. This has led to the isolation of several new therapeutically important compounds. A good number of potent drugs and a large number of therapeutic leads and many new pharmacologically active constituents have been developed from herbal drugs due to the dedicated efforts of researchers[4].

There is a promising future of medicinal plants as there are about half million plants around the world, and most of them are not investigated yet for their medical activities and their hidden potential of medical activities could be decisive in the treatment of present and future studies[5]. In the development of human culture medicinal plants have played an essential role, for example religions and different ceremonies[6]. Among the variety of modern medicines, many of them are produced indirectly from medicinal plants, for example aspirin. Many food crops have medicinal effects, for example garlic. Studying medicinal plants helps to understand plant toxicity and protect human and animals from natural poisons. The medicinal effects of plants are due to secondary metabolite production of the plants. Keeping this in consideration there have been increased waves of interest in the field of research in natural product chemistry. This interest can be due to several factors, including therapeutic needs, the remarkable diversity of both chemical structure and biological activities of naturally occurring secondary metabolites, the utility of novel bioactive natural

* Corresponding author: S. SENTHIL KUMAR.

compounds as biochemical probes, the development of novel and sensitive techniques to detect biologically active natural products, improved techniques to isolate, purify, and structurally characterize these active constituents, and advances in solving the demand for supply of complex natural products[7]. The importance of traditional medicine has also created strategies, guidelines and standards for botanical medicines. For the cultivation, processing of medicinal plants and the manufacture of herbal medicines agro-industrial technologies need to be applied[8]. Medicinal plants are resources of new drugs and many of the modern medicines are produced indirectly from plants.

2. Medicinal activity of *Acalypha indica*

Acalypha indica has been widely used in Ayurvedic System of medicine for different disorders. It is a weed plant that occurs throughout the India, China and South Africa. It belongs to the family Euphorbiaceae. *Acalypha indica* has been used traditionally for treatment of many diseases such as infertility, anti venom, wound healing, antioxidant, anti inflammatory, diuretic effects, antimicrobial activity, antiulcer and anti cancer. It contains phyto constituents such as phenols, flavonoids, alkaloids, saponins, terpenoids, and tannins. These components are usually found in several parts of plants like root, leaf and shoot[9,10].

2.1. Leaves

Acalypha indica leaves traditional uses of scabies, skin problems, emetic, eye infections, diabetic, asthma, pneumonia, rheumatism, snake venom[11].

2.2. Seed

Acalypha indica seed is used as laxative, carminative, improves the appetite. Seed powder is used for the treatment of amoebiasis[12].

2.3. Whole plant

Acalypha indica herb is used to control vomiting. Entire plant used for treatment of arthritis and gout. The treatment of various ailments such as urinary tract, kidney problems, gastro intestinal tract, cardiovascular system, haemorrhage, rheumatism, gout and skin problems[13].

3. Conclusion

The diverse potential of *Acalypha indica*, concentrating on its phytochemical content, pharmacological activities, and ethno medicinal practices. The plant particularly its leaves, has been used for therapeutic purposes through anthelmintic, anti-inflammatory, anti-bacterial, anti-cancer, anti-diabetic, hepato protective, and wound healing activities. Despite the positive outcome of pharmacological studies, there are still challenges associated with the lack of a recommended human dosage and less clinical trials. Future research should isolate and purify active compounds, explore unstudied ethno medicinal uses, and focus on essential oil and volatile compounds to understand their therapeutic potential, especially through inhalation. Since *Acalypha indica* is readily available and not expensive, it is a good opportunity for the discovery of new natural drugs to replace existing treatments. There is a strong recommendation of further explore its under-researched therapeutic activities and clinical applications.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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