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STUDY OF ANTIBACTERIAL AND ANTIFUNGAL PROPERTIES OF SOME MEDICINAL PLANT OF DISTRICT KABIRDHAM C.G.

Radhe Lal Sahu*

M. Phil. Scholar (Botany) Dr. C. V. Raman University, Kargi Road Kota, Bilaspur (C.G.).

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***Corresponding Author**
Radhe Lal Sahu
M. Phil. Scholar (Botany)
Dr. C. V. Raman
University, Kargi Road
Kota, Bilaspur (C.G.).

ABSTRACT

Traditional medicinal practice has been known for centuries in many parts of the world for the treatment of various human ailments. The use of antibiotics has revolutionized the treatment of various bacterial infections. Medicinal plants are relied upon by 80% of the world's population, and in India the use of plants as therapeutic agents remains an important component of the traditional medicinal system. A number of plants have been documented for their antibiotic and antifungal properties. It was investigated that 20 plant in Kabirdham district of Chhattisgarh showed potential antibacterial and antifungal activity against human pathogens. Further phytochemical analysis of these plants will be helpful for elucidation of lead molecules.

KEYWORDS: Antibacterial, antifungal, medicinal plant, Karbirdham.

INTRODUCTION

Herbal medicine is readily available in our diverse vegetation, cheap and above all carries the potential for introducing new templates into modern medicine (Akinyemi et al., (2005)). In many parts of the world, including Ghana, herbal medicine practitioners are still consulted as a first choice in the treatment of ailments, due to the fact that traditional medicine blends readily with the socio-cultural life of the people, and the fact that orthodox medicine are more expensive to procure and some orthodox pharmaceutical preparations are many times faked (Amuse et al., (2011)). There is a vast array of medicinal plants used singly or in combination with other medicinal plants that confer synergistic effect in the treatments of various ailments.

India is a rich meadow of medicinal plants and its wealth of medicinal and aromatic plants is well known world over. The variety and sheer number of plants with therapeutic properties is quite astonishing. India's rich heritage of plants is because of its wide diversity in soil and

climatic conditions.

Thus it has one of the oldest, richest and diverse folk tradition associated with the use of medicinal plants in healthcare system to promote, safeguard and relieve pain, heal wounds and refresh mind, muscles and nerves (Rajasekharan and Gneshan, 2002). Demand for medicinal plants is increasing in both developing and developed countries due to growing recognition of natural products, being non–narcotic, having no side effects, easily available at affordable prices and some time the only source of healthcare available to poor. Research efforts thus could be directed for a number of diseases for which suitable drugs are not available in modern system of medicine and where herbal drugs have a possibility of offering new drugs. (Anon, 1988, Rastogi & Mehrotra, 1990).

Antifungal

Fungi are eukaryotic Protista, they grow on dead and decaying organic matter, but under favorable condition such as after inhalation or by subcutaneous inoculation following an injury, they can become pathogenic in a normal individual.

Antibacterial

The science dealing with the study of the prevention and treatment of diseases caused by micro- organisms is known as medical microbiology.

Study area

Kabirdham district is one of the 27 administrative districts of Chhattisgarh. Ethnobotany field work was conducted in Kabirdham district. Data and uses were record in the field tribal people. Ethno- medicinal studies were conducted in the Kabirdham in Chhattisgarh state.

METHODOLOGY

Personal visits were made to the area selected for the study in the three month. It may be last when traditional cultures collapse with advent of modernization almost all species are commonly available in the area but many people are not aware about their importance some species are facing threats due to various reasons and require immediate attention for conservation folk remedies consisting of simple method of treatment developed by trial and error over a long period hold an important place in almost all societies. Medicinal plant data were collected on the basic of the study area. Present study having through knowledge of plant field visits were made along with medicine man to identify species in the field and to

know the local name. Some very common plants well known trees were not collected for voucher specimens only information provided by the tribal people for these spices was recorded Plant samples were collected with the aid of herbalists in rural areas in the Kabirdham. The following plant parts were collected: roots, leaves, and stem of entire plant.

RESULT AND DISCUSSION

The beneficial medicinal effects of plant materials typically result from the secondary products present in the plant although, it is usually not attributed to a single compound but a combination of the metabolites. The medicinal actions of plants are unique to a particular plant species or group, consistent with the concept that the combination of secondary products in a particular plant is taxonomically distinct (Parekh et al., 2006). The screening of plants usually involves several approach; ethno botanical approach is one of the common methods that are employed in choosing the plant for pharmacological study. Plant essential oils and extracts have been used for many thousands of years, in food preservation, pharmaceuticals, alternative medicine and natural therapies. The antibacterial and antifungal activity of many 20 plant found that description, scientific classifications, Traditional constitution and chemical properties (Zaika, 1998).

Table 1: List of plants and their parts used in the experiment.

S/N	**Scientific name**	**Common name**	**Plant part**	**Family**	**Properties**
1.	*Achyranthes aspera*	chaff-flower	leaves, whole plant	Amaranthaceae	*Achyranthes aspera* contiene triterpenoides saponinas que poseen acido oleanolico comola aglicona.
2.	*Cassia tora*	Ring Worm Plant (Charouta)	Seeds, leaves, whole plant	Fabaceae／Leguminosae – Pea family	Cassia tora is rich in medicinal antifungal properties. The understanding of these properties will help us to better utilize this herb. These also indicate the conditions in which we should avoid it.
3.	*Swertia chirayita*	Chirayita	leaves, whole plant	Gentianaceae	Fever: the chirayata is an effective remedy for reducing fever. Stomach Disorders,

					Intestinal Worms
4.	*Lantana indica*	Raimunia	leaves, Flowers	Verbaneceae	Antibacterial, against various pathogenic bacterial.
5.	*Menthe piperita*	Pipermint	Leaves	Lamiacaeae	Antibacterial, against various pathogenic
6.	*Moringa oleifera*	Sahjan (munga)	Seeds, fruits, whole plant	Moringaceae	Antibacterial and antifungal
7.	*Solenum xanthocarpum*	Bhatkatia	Fruits, Leaves	Solenaceae	Antibacterial, antifungal
8.	*Jatrofa curcas*	Ratanjot	Fruits	Euphorbiaceae	Antibiotic property
9.	*Sphagneticola trilobata*	Yallow dots	Whole plant	Asteraceae	Antibacterial properties
10.	*Argemone Mexicana*	Styanashi	Seed, Leaves	Papaveraceae	Antifungal, Ring worm
11.	*Ocimum sanctum*	Holy basil	Whole plant	Lamiaceae	Antibacterial and antifungal Cough, coled, Skin Bronchitis, expectorant
12.	*Calotropis procera*	Aank	Whole plant	Asclepiadaiaceae	Anti-Inflammatory, Anticoagulant, Analgesic, Antidiarrhoeal, Spermicidal, Antioxidant
13.	*Aegle marmelos*	Bael (Bilva)	Fruits, Leaves	Rutaceae	Antioxidant, Inhibition Of Lipid Peroxidation, Antibacterial, Antiviral, Anti-Diarrheal
14.	*Parthenium hysterophorus*	Carrot Grass	Leaves, root	Asteraceae	Skin Inflammation, Rheumatic Pain, Diarrhoea,
15.	*Thespesia populnea*	Parus Piple	Fruits leaves	Malvaceae	Anti-Oxidant Activity, Antibacterial Activity, Antifungal Activity
16.	*Acorus calamus*	Bach (Sweet Flag)	Leaves, Rhizome	Acoraceae	Anti-Inflammatory Activity, Gram-Negative Organism

17.	*Eclipta alba*	Bhringraj	Leaves,	Asteraceae	Antioxidant, Antibacterial, Anticancer
18.	*Datura metal*	Dhatura	Leaves, fruits	Solenaceae	Antibacterial, Antifungal, Antiprotozoal, Antiviral, Antidiarrheal, Analgesic, Antimalarial, Antioxidant, Anti-Inflammatory
19.	*Aloe vera*	Ghritkumari	Leaves	Liliaceae	Antibacterial, Antiprotozoal, Antiviral, Analgesic, Antimalarial, Antioxidant.
20.	*Partulaca oleracea*	Kulfa	Whole Plant	Portulacaeae	Antibacterial, Antiprotozoal, Antiviral, Antidiarrheal, Anti-Inflammatory

DISCUSSION

The data shows that maximum 13 Herb plant, 4 Sharb and 3 Tree found by researcher which has 20 species and 16 family plants similar results have also reported by Tirkey (2006).

These plant species have Antibacterial, Insecticidal, Antiseptic, Analgestic properties and they are useful in treatment of various skin diseases, allergic reactions and diarrhea treatment. Similarly Thakur et al (1989), Jain, et al (2006), Kala (2009) have also reported antihelmintic, anticancerous, antitumour, antirheumatic, antiasthmatic and antidiarrhoeal activities of various plants.

CONCLUSION

It has been seen in some cases the modern science is not able to cure some medicinal plant, where the traditional medicine works. So still we are dependent on traditional method of medicine. Most of the medicinal plant species due to properties are antibiotic, antifungal, antioxidence, antibacterial, skin inflammation etc. In the present investigation it has been observed the 20 medicinal plant: Achyranthes aspera, Cassia tora, Swertia chirayita, Lantana indica, Menthe piperita, Moringa oleifera, Solenum xanthocarpum, Jatrofa curcas, Sphagneticola trilobata, Argemone Mexicana, Ocimum sanctum, Calotropis procera, Aegle marmelos, Parthenium hysterophorus Thespesia populnea, Acorus calamus, Eclipta alba,

Datura metal, Aloe vera and Partulaca oleracea of traditional medicine have antibiotic and antifungal properties. The day will come when this science will be lost irretrievably with passing away of such people. Thus it is expected that this investigation will be helpful to conserve the heritable knowledge in the field of herbal treatment and general uses of plants in village ecosystem of Kawardha district.

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