



INDIGENOUS PEOPLE AND PLANTS-PERSPECTIVES OF AN ETHNOBOTANICAL STUDY FROM JAIPUR DISTRICT (RAJASTHAN)

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Man is solely dependent on other organisms for the sustenance of his life. Various animal and mineral products contribute for his welfare, the plant kingdom is most essential to man's well being, especially in catering his basic needs. Human is continuously using the plants in one or the other way in the treatment of various disorders. Plant science has opened number of vistas with the increasing knowledge of various fields pertaining to plant physiology experimental morphogenesis, cytology, genetics, biochemistry, plant breeding, plant pathology, genetic engineering, but in view of the existing relationship between plant and human beings since ancient time, it has not been analyzed in deep sense. The present article brings into light the relationship between indigenous people and plants and the various ailments cured by these plants.

Keywords: Ethno botany; Indigenous; Jaipur; Medicinal plants.

Introduction

Ethnobotany is the study of the relationship between plants and people. Ethnobiology and human ecology are two most important disciplines which have a great significance for welfare of human beings and animal world. Ethnobiology is nowadays emerging as a holistic segment of ecology and has brought to light numerous known or unknown uses of plant which have potential of wider usages. Ethnobotanical studies based on utilization of plants by the rural folks including tribals have gained momentum in the recent past all over the world. A comprehensive work has been carried out both at national and regional levels^{1,2}. In Rajasthan, which is one of the largest states of the India, a lot of work has

been done in the past three decades. Although large variety of medicinal plants are growing in India but the trade of these crude drugs has remained in the hands of unqualified and unskilled person which causes the collection of the primitive or incorrect drugs and thus often leads to adulteration or substitution. The global interest and practices of such studies of crude drug therefore, considerably increased during the last two decades because of growing awareness about the toxicity and adverse effects of synthetic allopathic drugs. It is therefore imperative that scientific standard techniques should be adopted for validity and quality control of such types of herbal drugs. The tribals and different ethnic groups throughout the world have developed their own culture, taboos,

totems, legends, myth folk lures, songs, food, medicinal practices etc. The importance of medicinal herbs in the present scenario is a matter of argument than of potent research.

All oldest cultures of the world traditionally used plant medicines both for primary health care and as a household remedies. In many of these countries, like those of India and China, this cultural knowledge is well documented^{3,4,5}.

Medicinal plants are value based for the content and chemical composition of their known active principles. Therefore, the demand on plant therapeutics has enhanced many fold in both developing and developed nations due to their growing recognition that they are natural products being non-toxic, no side effect and being available at affordable prices. According to a survey, international market of medicinal plant or plant based drug is over US \$ 60 billion per year which is growing at the rate of 7 percent per year^{6,7}. The early 20th century saw an important evolution of the pharmaceutical industries with the development of certain chemical techniques, crude drugs were replaced by pure chemicals drugs and at the same time developed countries witnessed a huge decline in popularity of medicinal plant based drug. However, during the recent past

the pendulum has swung back again and there is a revival of interest in such studies and utilization of medicinal herbs^{8,9,10}.

The above text reveals that ethnobotany is an emerging field of botanical research in present scenario and has gained momentum in the last decades due to the changes in the areas pertaining to environmental, social, and developmental and other properties which has created interest among the development of the local inhabitants. They are further attracted towards the field of ethnobotany for cultural medicinal and ecological interaction^{11,12,13}. Hence, there is an urgent and potent need to record and preserve the age long folklore and practices before valuable ethnobotanical data gets disappear.

Methodology

The methodology used for collecting the ethnobotanical information in the present investigation was categorised as (1) Direct approach (2) Indirect approach wherein the tribals were interviewed for unveiling the uses of plants in curing the various ailments.

Result and discussion

In Rajasthan which is one of the largest states of India, a lot of work has been done in last few decades regarding the importance of medicinal plants used by the indigenous people.

Table 1. Ethnomedicinal plants of Jaipur district (Rajasthan)

S. No.	Name of Plants	Local Name	Family	Useful part	Ailment	Mode of administration
1.	<i>Acacia catechu</i>	Kattha/ Khair	Mimosaceae	Barks	Stomatitis	Paste locally
				Seeds	Immunization	Seeds with water given orally for 7 days
				Leaves	U.T.I.	Leaves mixed with sugar taken orally
				Leaves	To clear uterus after child birth	As vegetable

				Stem bark	Heal pain	100 gm <i>Piper longum</i> , 100 gm bark of this plant mixed with Kacchi Ghani and roasted in cow urine and apply locally.
2.	<i>Abelmoschus mosvestus</i>	Wild bhindi	Malvaceae	Seeds, fruits and barks	Stomach ache	Paste of seeds taken orally
3.	<i>Abrus precatorius</i>	Ratti, Safed gunja	Fabaceae	Leaves	Heart inflammation	Extract orally
				Roots	Sexual vigor	Orally
				Root	Leucorrhoea	Decoction is taken orally twice a day
				Seeds	Abortion or birth control	Powder taken orally with water
				Seeds	Leprosy, pimples and Acne, ringworm	Paste of seed mixed with <i>Sesamum</i> , <i>Cannabis</i> and applied locally
				Seeds	Constipation	2-3 seeds orally
				Seeds	Increase, scanty menstrual flow	Powder taken orally after menstruation.
				Seeds	Pregnancy testing	One seed taken orally with water in case of non conceiving,
				Seeds	Laxative and vomiting agent	Powder taken orally in less quantity because seed is poisonous.
				Leaves	Wounds	Paste locally.
4.	<i>Abutilon indicum</i>	Khanghi, bel-Khateti, Tala Kunji	Malvaceae	Leaves	Lack of estrus (heating)	Crushed seeds are soaked in water overnight and given orally in the morning.
				Leaves	Insect bite	Leaf extract with goat milk given orally.
				Leaves	Diabetes	Powder orally with cow milk
				Leaves	Syphilis	Paste Locally
				Leaves	Dental ailment	Extract gargle
				Leaves	Stone in urinary bladder	Leaf juice taken orally

				Whole Plant	Gonorrhoea	Decoction taken orally
				Seeds	Syphilis	Paste orally
				Whole plant	Sexual potential & sperm scarcity	Powder mixed with sugar taken orally
				Whole plant	Leucorrhoea	Shadow dried mixed with sugar and cow milk and taken orally.
				Whole plant	Dilute semen & weak sperm	Shadow dried powder mixed with sugar and cow milk,
				Roots	Long life span with strong vigour	Decoction taken with milk or honey, orally
				Seeds	Constipation	Seeds powder taken orally.
5.	<i>Acacia senegal</i>	Khairi/ Sengal	Mimosaceae	Flower	Eye infection	Sap locally
				Gum	Haemorrhage	Taken orally
				Gum	Inflammation	Orally given
				Stem bark	Dysentery	Decoction given orally mixed with honey or Jaggery
				Stem bark	Fever	Decoction mixed with honey or Jaggery, vapour inhaled by nose
				Stem bark	Severe cough and cold	Decoction given orally
				Stem bark	Abdomen swelling	Decoction orally given for 2 days
				Roots	Fever	Orally given for 3 days
				Bark inner parts layer lower epidermis	Dysentery	10gm inner bark paste mixed with gholuwa and drink orally for two days in morning.
				Stem bark	Swelling	Boiled and cooled decoction of stem is given orally in the night.
6.	<i>Alangium lamorokil</i>	Akol	Alangiaceae	Roots	Snake bite	Decoction mixed with cow milk given orally in interval

						of 15 minutes.
				Roots	U.T.I.	Decoction given orally.
				Roots	Constipation	Powder given orally
7.	<i>Albizia lebbeck</i>	Siris	Aizoaceae	Leaves	Diabetes	Juice taken orally
				Leaves	Insects bite	Pastes topically
				Flower	Headache	Paste locally
				Seeds	Asthma	Powder given with goat milk
				Seeds	Spermatorrhoea, piles and Diarrhoea	Seed power with cow milk given orally for fifteen days
				Barks	Toothache	Decoction as mouth wash
				Seeds	Teething problem in children's	The necklace of seed is wore by child.
8	<i>Boswellia serrata</i>	Salar	Burseraceae	Leaves	Scorpion sting	Paste topically
				Bark, gums and resins	Abscesses	Locally applied
				Leaves and bark	Body pain	Decoction taken orally
9	<i>Capparis decidua</i>	Kair, Kareel	Capparaceae	Leaves	Boils and swelling	Paste locally
				Fruits	Cardiac trouble	Taken orally
				Bark	Cough and asthma	Decoction orally
				Roots and roots bark	Rheumatism, intermittent fever and dropsy	Decoction taken orally
				Twigs	Toothache	As tooth brush
				Fresh, new borne leaves	Ringworm	Paste applied locally in effected area
				Leaves	Toothache	Juice/extract dropped in ear
				Buds	Sprain	Paste mixed with cow urine, externally
				Latex	Embedded thorn in body	Latex applied locally

10.	<i>Cardiospermum halicabum</i>	Ilayachi	Sapindaceae	Seeds	Rheumatism	Powder with water or cow milk orally
				Plants	Tumours	Decoction taken orally
				Fruits	Internally heating in body	Mixed with cow milk and taken orally
				Fruits	Leucorrhoea	Taken orally daily with cow milk (freshly)
				Fruits	Piles	One fruits mixed with <i>Areca catechu</i> , mishri and honey and taken orally in morning.
				Fruits	Riddances the smoking habit	Chewing seeds besides Bidi, cigarette
11.	<i>Cyanodon dactylon</i>	Doob, Doob ghas	Poaceae	Seeds	Mouth fresh	Chewed orally
				Whole plant	Wounds	Paste apply locally
				Whole plant	To fix pregnancy or bleeding during pregnancy	Ground with sugar and taken orally for 7 days
				Whole plant	Piles	Paste locally
				Whole plant	Eye disease vomiting with bleeding	Juice locally
				Whole plant	Tuberculosis	Juice taken orally in morning for one month
12	<i>Gloriosa superba</i>	Kalihari	Tiliaceae	Whole plant or leaves	Boils	Apply the paste locally
				Roots/leaves	Thorn embedded in body	Paste apply locally
13	<i>Maytenus emarginata</i>	Kokoda	Cucurbitaceae	Leaves	Sore and wound	Paste locally
				Seeds	Allergy, scabies	Oil locally applied
				Whole plant	Pneumonia/ cold fever	Decoction orally
				Fruits	Scorpion sting	Locally applied

				Fruits	Blood purities	Taken orally daily in morning
				Fruits	Constipation indigestion	Used as vegetable or sauce orally daily with lunch
14	<i>Melia azedarach</i>	Bakayan / Maha neem	Meliaceae	Leaves	Sprain	Extract orally
				Leaves	Cataract	Leaves extract dried in sunlight and mix 3 gm Bheemseni kapoor in it then apply as kajali.
				Leaves	Stomachache	Decoction of leaves with 2 gm ginger powder (Sounth) and given orally.
				Seeds	Diabetes	Seed crushed in rice water and mixed in cow butter and given orally twice a day for 30 days
				Fruits	Moderate fever	Unripe fresh fruits pounded with ajwayan seeds and mixed with guduchi extract and prepare tablets, 2 tablets given orally twice a day.
15	<i>Mentha spicata</i>	Mints / Podina	Lamiaceae	Whole plant	Scorpion sting	Paste topically
				Leaves	Diarrhoea	Paste mixed with curd or Lassi or juice taken orally
				Whole plant	Cholera	Juice taken orally
16	<i>Mollugo cerviana</i>	Chida ka Bazra/ Chidighas	Molluginaceae	Roots	Fever	Decoction orally
				Whole plant	Sexual vigour	Juice taken orally
				Fruits	Sexual vigour	Powder taken orally with ghee
				Seeds	Erectile dysfunction	Seed powder warm up in sesamum oil & used for massage.

17	<i>Redilanahus tithimalo</i>	Nagdammi bis- mohra	Euphorbiaceae	Leaves/ latex	Snake bite	3 leaves mixed will 5 seeds of black pepper and given orally 2-3 time day
				Latex & leaf	Boils	Roasted half & locally.
18	<i>Solanum surratense</i>	Vrahadi kantkari	Solanaceae	Fruits	Cough	Chewed
				Fruits	Toothache and jaw ache	Chewed directly
				Flowers	Diarrhoea	Given orally directly
				Leaves	Rheumatism	Given orally to patient
				Roots	Cough asthma and fever	Decoction given orally for 5 days
				Seeds	Irregular menstrual cycle	Eaten orally with water
				Whole plant	Syphilis	Paste locally applied
				Whole plant	Piles	Locally applied
				Seeds	Cough, URI	10 gm seeds roasted half on tawa and mixed 10 gm jaggery then make 10 tablets of 2-2 gm and taken orally twice in a for 3 day
				Seeds	Germ in tooth and toothache	Vapour used to kill the germ mustard oil and seeds of <i>Solanum</i> roasted and dropped in ear.
19	<i>Solanum laxmana</i>	Laxamana white flower kantkari	Solanaceae	Roots, Seeds	To male progeny	5 gm fresh roots crushed-powdered and mixed with cow milk and given orally after 3 weeks of pregnancy given in morning daily for 3 days
				Seeds	Infertility	Powder given orally with cow during mens.

20.	<i>Sonchus oleraceus</i>	Kadi Gobhi sonchus	Asteraceae	Whole plant	Piles	Paste applied for a week.
21	<i>Tamarix aphylla</i>	Farash	Tamaricaceae	Roots and stem bark	Burns, ulcers and wound	Paste locally applied
22.	<i>Thevetia peruviana</i>	Pili Kaner, Ashwa marak	Apocynaceae	Roots	Eczema and other skin disease	Roots roasted with oil of <i>Sesamum</i> and make a decoction and paste with besan apply locally.
23	<i>Tecomella undulata</i>	Rohida	Bignoniaceae	Bark	Syphilis	Chewed directly for 7 days
				Bark	Birth control	Chewed directly for 3 days
				Bark	Leucorrhoea	Powder mixed with honey and sugar and taken with milk orally
24	<i>Tephrosia purpuria</i>	Sarpunkha, Dhamasa	Fabaceae	Leaves	Piles and leprosy	Paste locally apply
				Roots	Gohara bite	250 gm roots roots of Dhamasa mixed with 100 gm old gur and give orally 2-3 time with regular intervals of $\frac{1}{2}$ an hours
				Roots	Typhoid	5 gm roots, 21 leaves of <i>Ocimum sanctum</i> , black salt 2 gm, <i>Piper longum</i> mixed with water warmed and cooled it make pills then orally for three day
				Roots	Menorrhao	Powder with rice mand (Rice water) given orally for 5 days
				Whole plant	Gastritis	Paste orally taken orally
				Whole plant	Skin disease wounds	Paste locally

				Plant	Jaundice, Asthma, cough and fever	Decoction orally
				Roots	Snake bite	Paste locally
				Twigs	Toothache	As tooth brush
25	<i>Terminalia chebula</i>	Haritki, harad	Combretaceae-e	Fruits	Infection in eye due to latex of <i>Calotropis</i>	Chewed
				Stem bark	Fracture of bone	Paste locally and powder from taken orally with ghee and sugar daily
26	<i>Terminalia arjuna</i>	Arjun	Combretaceae-e	Stem bark	Heart problems obesity, night fail, loss of appetite, moderate fever, dysentery, wound healing etc.	Make (Arjun ksheer) and taken orally for 3 months regularly for relax from mentioned disease, Method of prepare the ksheer, 1 cup milk of cow, 1 cup of water, 10 gm Arjun powder, decoction prepare mixed sugar and taken orally
				Stem bark	Chronic acute wound healing	Decoction used for wash the wound daily for 15 days
				Stem bark	Moderate fever	Arjun kesheer Decoction taken orally in morning for 15 days
				Stem bark	Dysentery	Used the goat milk to prepare Arjun kisheer and taken orally twice in a day powder also taken twice in a day to fast relief

The present investigation is also related with ethnobotanical especially ethnomedicinal importance of plants growing in

Rajasthan. Deforestation, urbanization, industrialization, transmigration, colonization and other developmental

activities have threatened not only the biological resources but also the traditional culture and ethnobotanical knowledge^{14,15,16}. The present review unveils some of the important plants used by the local indigenous people of Rajasthan for various purposes pertaining to food, shelter and medicines for curing ailments (Table 1).

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