Ethno medicinal properties of few selected plants of Thar Desert

Rohini Sahaya Mary*

Department of Botany, Teresian College Mysuru, University of Mysore, India

**Abstract**

The scientific rigor of ethno botanical research has increased dramatically in the past few decades. The passion for medicinal plants has triggered interest to seek medicinal values in the desert plants. Despite the prevailing harsh climatic conditions, the Indian Thar desert comprises richest plant diversity among the other desert of the world. This region is rich in phytodiversity especially in medicinal plants. In the present paper ten selected medicinal plants are used extensively by the local people and tribal communities. Ethno botanical data have been gathered on the traditional uses of plant species, especially for asthma, blood pressure, cough, chickenpox, constipation, dysentery, diarrhea, diabetes, diuretic, piles, kidney troubles, rheumatism, sore throat, headache, tooth ache, jaundice, paralysis, skin disease, snake-bite, vomiting and etc. This includes botanical names, family, local names and ethno medicinal uses. The present investigation is aimed to create awareness about the ethno medicinal value of the plants and their uses to draw the attention of pharmacologists, phytochemists and pharmaceuticals.

**Citation:** Mary R.S.*, 2017. Ethno medicinal properties of few selected plants of Thar Desert. International Journal of Medicinal Plants. Photon 111, 837-843

All Rights Reserved with Photon.

Photon Ignitor: ISJN66724384D872416092017

1. Introduction

Medicinal plants play a vital role in providing health care to human beings since the dawn of civilization. Starting the prehistoric era to date, people healed themselves with local plants remedies. In the recent days, one can observe an international drift of significance in the long-established structure of medicines (Cragg and Newman, 2003). It is evident that the Indian people have tremendous passion for medicinal plants and they use them for wide range of health related applications. The demand for medicinal plants is increasing in both developing and developed countries and the bulk of their material trade is still from wild harvested plants. India is a store house of medicinal plants which are useful from the health point of view. Medicinal plants have traditionally occupied an important position in the socio-cultural and spiritual arena of rural and tribal lives and they are potential renewable natural resources. Medicinal plants provide an efficient local aid for disease free life. The importance of ethno medicine has been realized by various sections of the society and the need to use herbal medicines in health care programs is being stressed upon (Singh VK 1998). Ethnobotany came into being when earliest man observed animals eating certain plants, and he gathered and hunted for his food and for healing his wounds or sought cover from rain and hailstorms. The exact meaning of the word “ethnobotany” is the study of botany of primitive human race. John Harshberger was the first person in 1895, who applied the term “ethnobotany”, to study the plants used by primitive and indigenous people. The awareness of ethnobotany gain wealthy use and success in experimentation on human being and lead to our familiar foods and medicines (Campbell et al., 2002). Ethnobotany deals by means of the direct time-honored and natural association among human beings and plants (Trivedi, 2002). Traditional ethno medicinal studies have in recent years, received much attention due to their wide local acceptability and clues for new or lesser-known medicinal plants (Tripsathi YC 2000).

The field approach of study of ethno botany plays a vital role because of the direct contact that can be established with the authentic information on the uses of plants both wild and cultivated. The wild
plants in Indian folklore have been and are used to meet the various needs of the tribe’s and poor people. About one-fourth of the total plants of the Indian Thar desert are useful for the welfare of human beings and domestic animals for food, fuel, fodder, medicine and other requirements. The erratic rainfall and poor soil fertility have marked effect on the vegetation of the Indian desert. Despite the prevailing harsh climatic conditions, the Indian Thar desert comprises richest plant diversity among the other desert of the world (Singh et al., 1993). Indigenous plants have their own principle and choice for old people residing in the city. Almost in every house people use medicinal plants as medicine, although the ratio of people using indigenous plants is miner because of the urban culture of the area. Generation of present era lacks the knowledge of indigenous plants. The indigenous medicinal information of plants is helpful to ecologists, pharmacologists, taxonomists, watershed and wild life managers in civilizing the prosperity of area, besides listing the traditional uses (Ibrar et al., 2007).

2. Objective of Research

- The objective of the present study was to implore the information on the ethno medicine values of plants in the desert.
- To help in conservation of plants as well as tribe’s knowledge on plants.
To create interest and to bring awareness of plants which are the source of novel drug.

3. Methodology

During the field trip the relevant plants were collected from the study area with detailed information regarding ethno medicinal uses by the local people. The present work is mainly based on information gathered from the interview with the “Tribal and local people” and from the local guide who accompanied along with the field trip. The data collected was compared and cross linked with already available data to ascertain its validity and integrity. The ethno medicinal plants documented by photograph and the specimens were preserved by herbarium technique. Identification of the plants was done by Dr. Ganesh Babu at FRLHT at Bangalore.

4. Observation and Discussion

Ethnobotany is very helpful in identifying and solving conservations issues, as in cases where the harvesting rate exceeds the re-growth rates. It is prosperous to conserve the medicinal plants, which were harvested (Bopana and Saxena, 2007). This is in favour of the coming generations, so that they could benefit from this treasure of God, which is a real gift and blessing of nature for mankind. In modern times it is alarming that the knowledge of ethnobotany is disappearing rapidly. Westernization, collapse of traditional cultures and yet the destruction of entire ethnic groups are to blame (Bussmann and Sharon, 2006). A principal aim of such a study is to make sure that local natural history becomes a living tradition in communities; it is being transmitted orally from time to time. The results of this work can later be applied to biodiversity, conservation and community development (Martin, 1995; Qurashi et al., 2009). Ethno botanical data have been gathered on the traditional uses of plant species, especially for asthma, burning sensation, blood pressure, cough, chickenpox, constipation, dysentery, diarrhoea, diabetes, diuretic, piles, kidney troubles , fever, fracture, rheumatism, sore throat, headache, tooth ache, heart disease, itches, jaundice, paralysis, skin disease, snake-bite, vomiting and etc. Most of these tribal groups do not have modern health facilities. Generally they use their traditional knowledge of the locally available plants for medicinal and other purpose. Due to lack of interest of the young generation among the tribal’s in traditional knowledge, urbanization and unscientific exploitation of natural forests the valuable traditional knowledge and plant species are depleting very fast. Therefore it is necessary to collect and document such precious knowledge from the tribal areas as soon as possible and also to increase awareness among the tribal communities for the conservation and sustainable use of plant wealth. Some important ten ethno medicinal plants are described here in brief with their botanical name, family, local name and ethno medicinal uses. The check listed information about the plant materials collected from the study area are described below.

4.1 Capparis dessidua
Family: Capparidaceae
Local name – Kair
Ethno medicinal Uses:
Part used: Bark, roots, buds & fruits
- Bark: treats inflammation, acute pain, jaundice, joint infection and diabetic.
- Roots: used to treat fever.
- Buds: used to treat alleviate boils.
- Fruits: are consumed as cooling agent, abdominal pain, and constipation.
The unripe fruits and shoots are used as hypercholesterolemia. They are used as vegetables and for making pickles.

4.2 Solanum surattense
Family - Solanaceae
Local name – Nili- kateli
Ethnomedicinal Uses:
Part used: Roots, fruits, leaves and flowers
• Roots: In cough, asthma and pain in the chest.
• Fruits: Sore throat, in cough, asthma and tooth ache.
• Leaves: juice with black pepper in rheumatism. Leaves are applied for the relive muscular pain.
Flower: are used orally with water to cure diarrhea in children.

4.3 Aerva javanica var. bovei Webb
Family: Amaranthaceae
Local name: Patharphod, Buyi
Ethnobotanical uses:
Part used: leaves, roots stem seed & whole plant
• Leaves: Antifungal, Antimicrobial, used in jaundice, urinary trouble.
• Root: Diuretic, used in urinary trouble.
• Roots and flowers: are reported to possess hypoglycaemic, Antioxidant, anthelmintic, analgesic, antimalarial, antivenin activities and medicinal properties against rheumatism and kidney troubles.
• Stem and Flower: Antifungal, Antimicrobial.
• Seed: Used in rheumatism.
Whole plant: It is used for the treatment of headache and the decoction of the plant is administered to remove swellings. The plant is used to cure ulcer, eye infection, toothache, headache, skin dryness and self-cracking of skin, in disorders of abdomen and inflammation of internal organs.

4.4 Leucas aspera (Willd.) Spreng
Family - Lamiaceae
Local name – Goma
Ethnomedical Uses:
Part used: Leaves, roots, whole plant
• Leaves: Warmed leaved are applied locally on painful swelling, whereas leaf paste is applied locally on various skin diseases, leprosy, eczema and warts etc. Leaves are considered useful in chronic rheumatism, psoriasis and other chronic skin eruptions. Bruised leaves are applied locally in snake bites. Poultice of warmed leaves is applied locally in abdominal pain and gastric complaints.
• Root: Root paste is used in hemicranias.
• Inflorescence: The inflorescence is massaged by the tribal’s on forehead to cure headache and migraine.
Whole plant: The plant is used traditionally as an antipyretic. Medicinally it has been proven to possess various pharmacological activities like antifungal, antioxidant, antimicrobial, antinociceptive and cytotoxic activity. The smoke of whole plant is inhaled by the tribal’s to cure chickenpox

4.5 Calotropis procera
Family: Asclepiadaceae
Local name: Aak
Ethnobotanical uses:
Part used: Bark, leaves and whole plant
• Bark: the bark powder is used in curing itching.
• Leaves: Eye flu can be cured by applying the latex of leaves on thumbs of the feet 2-3 times a day.
• Whole plant: The vital role of this plant is in coughing & skin disease, common ailments like fevers, rheumatism, indigestion, cough, cold, eczema, asthma, elephantiasis, nausea, vomiting and diarrhoea.

4.6 Eclipta alba (L.) Hassk.
Family: Asteraceae
Local name: Kalokeshi.
Ethnobotanical uses:
Part used: Leaves, roots & whole plant
• Leaves: Paste of leaves are used in skin disease and wound. The plant juice of the leaves is rubbed on the shaven scalp for the purpose of promoting the growth of hair. The juice of the leaves is given in one teaspoonful doses in jaundice and fevers. The pounded leaves are prescribed in haemorrhage.
• Roots: The root is given to relieve the scalding of wine.
Whole plant: The plant is considered as an astringent in China, and is used for checking haemorrhages and fluxes and strengthening the gums. The plant is rubbed on the gums for toothache, acting as a counterirritant. The plant is much used as a cure for asthma and bronchitis in Indo China. In Sri Lanka, it is used to purify the blood

4.7 Tridax procumbens Lin
Family: Asteraceae
Local name: Tridhara.
Ethnobotanical uses:
Part used: Leaves, flowers and whole plants.
• The plant extract is used in bleeding.
• The leaves are good for piles, kidney troubles, muscular pain; their juice is used for earache and ophthalmic.
• The flower is bitter; astringent, carminative, stomachic; good for the teeth and the gums; lessens inflammation; useful in scabies, belching, scorpion and snake poisoning, liver complaints, bleeding piles. The flowers are employed in diseases of the eyes and for unhealthy ulcers, internally they are said to purify the blood, their juice is given as a remedy for bleeding piles.
4.8 Ziziphus mauritiana
Family: Rhamnaceae
Local name: Ber (Indian Jujube)
Ethnobotanical uses:
Part used: Leaves, bark & fruits.

- Leaves: Paste made out of leaves of Indian Jujube is applied externally to relieve burning sensation and fever. It helps to bring down body temperature.
- Bark: Used as eye drop for curing inflammation. The paste and applied externally to treat Visphota – Boils, abscess.
- Fruit: Being rich in vitamin A and C extends good protection against cough and cold. Jujube fruit is found to decrease high blood pressure. It is a good source of antioxidant. Hence, it rejuvenates body cells, and rectifies various liver and kidney dysfunctions. It is also used externally for curing sunburns, dryness of skin, wrinkles and various facial problems. It cures constipation and various digestive disorders. It reducing fatigue and in relieving stress and anxiety. It cures various sleeping disorders like insomnia. Its fruits are consumed as it is. It is also made into pickles, beverages.

4.9 Fagonia ssp
Family: Zygophyllaceae
Local name: Dhamasa
Ethnobotanical uses:
Part used: leaves & whole plant.

- Leaves: The decoction of dried leaves or fresh juice of whole plant are used for stomach problems, fever and skin problems like itching and wounds.
- Whole plant: Plant is used for high acidity, gonorrhoea, skin problems; stomachic, tonic, expectorant, anti-inflammatory, vulnerary, good for hepatic problems, fever, swellings, wounds and kidney stones.
- Dhamasa is considered to be a bitter, astringent & cooling herb. Dhamasa is said to have blood purification properties & heart problems.
- May support healthy liver functions. It increases the physical strength and weight of the weak and underweight people. Treated for asthma & breathing difficulty. It increases urination and hence overhauls the kidneys and urination system.
- Improves heart and mental ability.

4.10 Portulaca oleracea
Family: Portulacaceae
Local name: Luni, khursa
Ethnobotanical uses:
Part used: Whole plants

- Used for liver, kidney and bladder problems,
- To cure scurvy and coughs.
- Used for blister, boils, swollen gums and inflamed eyes.
- Healing of wounds, relieves pain from burns.
- Good digestion and used as vermifuge.
- Consumed as vegetable.
- For good lactation in nursing mothers

Conclusion

Tribal, rural and primitive societies of India have discovered solution for treatment of disease to almost all their needs and problems from the natural resources around them. Hence, in recent years, ethno medicinal studies received much attention as this brings to light the numerous little known and unknown medicinal virtues especially of plant origin which needs evaluation on modern scientific lines such as phytochemical analysis, pharmacological screening and clinical trials. These plants are a good source to interact with the nature. It is crucial to have this precious ethnobotanical knowledge and it should be transferred to the younger generation also, in that we did not lose a great treasure that is disappearing rapidly. The data can be used in future for pharmacological studies. There is enough scope of the amalgamation of these drugs in the main stream of prenatal medicinal systems today after the tribal drugs are subjected to the photochemical and biological screening together with clinical trials.
Research Highlights

Use of medicinal plants by the tribe’s in the desert.

To draw attention of pharmacologists on the uses of traditional plants for the treatment of various diseases.

Limitations

Selected only few plants in the desert for the studies due to scarcity of time.
References


For publications/ Enquiries/ Copyrights:
Email: photonjournal@yahoo.com