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Review Article

SOME ETHNOMEDICINAL TREE SPECIES OF SHEKHAWATI REGION OF RAJASTHAN USED IN FOLK AND HERBAL MEDICINES

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ABSTRACT

The Shekhawati region is spread over the Jhunjhunu and Sikar districts of Rajasthan state. Studies have been done on identification and exploration of the possibilities of exploitation of ethnomedicinal tree species of Shekhawati region. The major tribes are Bhils, Garasia, Saharia, Meena, Damor, Patelia, kanjar, gadolia luhar etc. These tribes still prefer traditional medicines for their household remedies. Ten tree species like *Ailanthus excelsa* Roxb., *Albizia lebbeck* (Linn.) Willd., *Balanites aegyptiaca* (Linn.) Delile., *Bauhinia variegata* Linn., *Butea monosperma* (Lam.) Taub., *Crataeva nurvala* Buch-Ham., *Dalbergia sissoo* Roxb., *Maytenus emarginata* (willd.) Ding-Hou., *Salvadora persica* Linn., *Tecomella undulata* (Sm.) Seem. have been selected for this research work. It has revealed that these tree species have great potential to be used in drugs and pharmaceutical industries. The present investigation is aimed to create awareness about the ethnomedicinal value of the plants and their uses to draw the attention of pharmacologists, phytochemists and pharmaceuticals.

Keywords: Ethnomedicinal tree species, Shekhawati region, Rajasthan, Folk and Herbal Medicines

INTRODUCTION

The Shekhawati region is spread over the Jhunjhunu and Sikar districts of Rajasthan state and surrounded by Haryana towards the East and the districts of Jaipur, Nagaur and Churu on other sides. The soil of Shekhawati largely comprises of desert sands and gravel in hilly areas. The region is traversed by a single rainy season and characterised by high velocity winds in summers. Rajasthan includes 12.44% of tribal population of the total population. The major tribes are Bhils, Garasia, Saharia, Meena, Damor, Patelia, kanjar, gadolia luhar etc. These tribes still prefer traditional medicines for their household remedies. The commonly used herbal medicines by these tribes mostly belong to family Apiaceae, Asclepiadaceae, Asteraceae, Balanitaceae, Bignoniaceae, Caesalpiniaceae, Cappariaceae, Chenopodiaceae, Convolvulaceae, Cucurbitaceae, Cyperaceae, Euphorbiaceae, Fabaceae, Mimosaceae, Molluginaceae, Moraceae, Rutaceae, Salvadoraceae, Solanaceae and Zygophyllaceae

Studies have been done on identification and exploration of the possibilities of exploitation of medicinal plants of Shekhawati region. It has revealed that there are several medicinal plants which have great potential to be used in drugs and pharmaceutical industries.

Since from the time of Rigveda (4500-1600 B.C.) or even earlier man has been using the plants as medicine. The plant kingdom still has many plant species of medicinal value yet to be discovered. Literature on traditional medicines is very little, especially from the point of view of their ethnomedicinal value. The herbal plants of Rajasthan desert have been studied for their ethnobotanical aspects by many workers.¹⁻¹² To fill up the lacuna in the existing knowledge on medicinal plants and to add little more, ethnomedicinal studies have been undertaken for such plants that are used extensively by the local people and tribal communities of Shekhawati region of Rajasthan.

The present investigation is aimed to create awareness about the ethnomedicinal value of the plants and their uses to draw the attention of pharmacologists, phytochemists and pharmaceuticals.

METHODOLOGY

To collect and document this valuable information, several field trips were made in the villages of Shekhawati region. Interviews were conducted with experienced people of various communities, vendors, tribals, experts of Ayurveda, and

native doctors such as Ohjas, Bhopas, Bhagats and Vaidyas as they possess inherited knowledge regarding the plants of ethnomedicinal importance. Repeated enquiries and group discussion on the use of same plant were made to ascertain the authenticity of information.

OBSERVATIONS AND DISCUSSION

Ethnomedicinal tree species of Shakhawati region, used in folk and herbal medicines are: *Ailanthus excelsa* Roxb., *Albizia lebbek* (Linn.) Willd., *Balanites aegyptiaca* (Linn.) Delile., *Bauhinia variegata* Linn., *Butea monosperma* (Lam.) Taub., *Crataeva nurvala* Buch-Ham., *Dalbergia sissoo* Roxb., *Maytenus emarginata* (willd.) Ding-Hou., *Salvadora persica* Linn., *Tecomella undulata* (Sm.) Seem.

Ten tree species which have great medicinal value are arranged systematically with their ethnomedicinal uses.

1. *Ailanthus excelsa* Roxb.

Family : Simaroubaceae

Local Name : Motio-Aduso, Ardu, Tree of Heaven, Vilayati neem, Arru, Churan, Aldua-bhoot-jhad, Papri.

Ethno-medicinal Uses :

- Stem bark in water after boiling inhaling of vapours is used to cure cough and cold.
- Bark powder is taken orally against snake bite.
- It is used in debility after child-birth.
- Bark is used to cure epilepsy and heart trouble.
- It is used for dyspeptic complaints.
- It is used to cure chronic bronchitis and asthma.
- It is used as tonic.
- The rural people of Shekhawati region apply the extract of leaves and stem bark to cure skin eruption.
- Bark extract is given by drenching tube to animals in flatulence.
- Extract of bark is also given to animals orally twice a day for three days to cure asthma, bronchitis and pneumonia.
- In magico-religious uses the leaves are used by the Bhopas in Jhada-rituals, because the leaves have a typical powerful odour.
- The decoction of roots is given orally to the patients suffering from persistent low fever.
- The decoction of stem-bark is, however, given to the cows suffering from abdominal swellings and to the human beings for 2-3 days to cure dropsy and to expel guinea-worms.
- The tribals give bath to the patient suffering from scabies with the crushed roots in butter-milk. After bath the patient is allowed to sit in sunlight for at least 2 hours.
- Powdered bark is given with half cup of yoghurt as antivenom in snake bite and scorpion sting.
- Bark extract is taken orally by the tribals to cure pneumonia and bronchitis.
- Powdered bark is given with half cup of yoghurt as antivenom in snake bite and scorpion sting.

2. *Albizia lebbek* (Linn.) Willd.

Family: Mimosaceae

Local Name: Sares

Ethno-medicinal Uses:

- The bark, leaves and seeds are used in native medicines.
- Paste of seeds is applied externally on piles due to their astringent property.
- It is used to cure piles and diarrhoea.
- It is used as tonic.
- Root bark in powder form is used to strengthen gums.
- The leaves are used to cure ophthalmia and night blindness.
- Pods and seeds are used to cure diabetes.
- Decoction of flowers and leaves is used for gargling in weak, bleeding gums and chronic pharyngitis.
- The rural people of Shekhawati region crush the stem bark on the stone and apply the paste on boils and pimples.
- Paste of stem bark is also taken orally to cure ulcer.
- The oil extracted from seeds is applied locally to cure leucoderma.
- Paste of flowers is applied locally on boils and swellings.

3. *Balanites aegyptiaca* (Linn.) Delile.

Family: Balanitaceae

Local Name: Hingota, Hingorni

Ethno-medicinal Uses:

The leaves are purgative and anthelmintic.

- The powder of mature fruits is taken orally by the women to prevent pregnancy.
- The pulp of fruits is also medicinally reputed among the people of Shekhawati region for whooping cough and leucoderma.
- Researchers have also proved that roots and fruits yield high percentage of "Diosgenin"- a sapogenin content widely used for production of pharmaceutical steroid and oral contraceptives.
- Seed oil is used as a remedy for sleeping sickness and as a purgative.
- The Garasia tribals give stem-bark powder to cattle for removing the intestinal worms.
- The Saharia tribes burn the rind of mature fruits and then pulp is powdered and mixed with cow-milk and the paste is applied on abscess for 3-4 days.
- Seed-kernels are eaten to cure dysentery and liver enlargement by Bhil tribes. Bhil tribes use roots to cure guinea-worm disease. It is also used in snake-bite.
- Herbal bath of extract of roots and leaves is taken by the tribals as antiseptic.
- Decoction of leaf powder is used for washing hairs to rid of lice.
- The powdered seeds are used by tribes to get relief from pain of sciatica. It is used as anti-inflammatory and antioxidant.

4. *Bauhinia variegata* Linn.

Family: Caesalpiniaceae

Local Name: Kachnar

Ethno-medicinal Uses:

- The Bhils of Shekhawati region tie warmed leaves on the

abdomen and give their extract orally to cure tumor in abdomen.

- The bark decoction about 25 ml is administered for a fortnight twice a day in tubercular lymphadenites.
- The flower powder is used for haemorrhage.
- Decoction is used to cure diabetic wounds.
- It shows antitumour activities.
- It is used as tonic.
- It is used to cure skin diseases and ulcers.
- Dried buds are used to cure dysentery, piles, diarrhoea and worms.
- Decoction of roots is used in dyspepsia.
- Roots are also used in snake-bite.
- The rural people of Shekhawati region take extract of leaves orally and warmed leaves are tied on abscesses to suppress them.
- Decoction of leaves is gargled in throat sore and tonsillitis.

5. *Butea monosperma* (Lam.) Taub.

Family: Fabaceae.

Local Name: Dhak, Palas, Chhola, Khankhera, Kesu, Kesuda, Khankhro, Khakra, Kesudo, Kamarkas

Ethno-medicinal Uses:

- The seed powder is given by Bhils to their cattle as a vermifuge and applied externally with lime as a powerful rubefacient.
- They also give 1 or 2 seeds orally against intestinal worms in man.
- The extract of flowers is taken with sugar by Garasia tribals as a cooling agent and residue of flowers is tied over swellings.
- In Shekhawati region the local people give bath to the polio patients with the extract of flowers.
- The seed powder is given orally to the ladies by tribes to prevent pregnancy.
- The infusion of stem bark is considered useful against body pain, abdominal pain, diarrhoea etc. when taken orally.
- They also apply the paste of stem bark on the wounds and scorpion-sting.
- It is diuretic, astringent and anthelmintic.
- It is used to cure eczema and disorders in eyes.
- It is also used in the treatment of epilepsy.
- Fried gum is mixed in sweat and given to women in leucorrhoea.
- Tribals take ¼ cup bark extract twice a day for two days in dysentery.
- Bark extract is also taken by the tribal ladies to stop excessive bleeding after delivery.
- It is used as blood purifier.
- Flower buds are used as contraceptive by the tribal ladies of Shekhawati region.
- Powder of stem bark is used to cure kidney stone problem and anemia.
- Paste of seeds is taken orally by the tribals with fresh cow milk early in the morning for 20 days to cure asthma.

6. *Crataeva nurvala* Buch-Ham.

Family: Cappariaceae

Local Name: Varni, Varno, Vanno, Vaivarno, Barna

Ethno-medicinal Uses:

- The leaves have been reported to have the property of reddening and even blistering the skin. Its leaves are stomachic tonic and very good counter irritant. Fresh leaves are externally rubefacient and internally febrifuge and tonic.
- Leaf juice in doses 1/2 to 3 is given in rheumatism mixed with the coconut milk and ghee and externally the leaves and bark pounded and tied in the cloth are applied as a fomentation.
- A paste of the leaves applied to soles of the feet to relieve swelling and burning sensation.
- The paste of leaves and stem bark alone or with stem bark is applied as an ointment on the cracked and chapped lips and skin by the Bhils and Tribals of Shekhawati region.
- The leaves are used as poultice.
- The leaves are also useful in calculus and of affections of the urinary organs.
- The leaves are put in boiling water and hot leaves are tied locally to cure guinea-worms.
- An extract of bark is given as laxative and for promoting appetite.
- Bark is useful in primary complaints such as kidney and bladder stones, fevers and to relieve vomiting and symptoms of gastric irritation.
- Bark is also used in snake-bite.
- Root and the bark promote appetite and increase bile secretion.
- In Shekhawati region, the tribals add the stem bark to the broth during distillation of liquor which is given to the patients of dropsy.
- The Bhils of Shekhawati region make a paste of stem bark and apply on the skin for improving complexion.
- Compound decoction containing its root, bark and leaves and small caltrops, ginger, carbonate of potash, honey and water is very useful in urinary disorders and calculus affections.
- Other useful preparation of the bark are a compound cibrita and oil, known as varunadya gbrita and varunadya taila which are prepared with the addition of several tonic, alternative aphrodisiac and demulcent drugs.

7. *Dalbergia sissoo* Roxb.

Family: Fabaceae

Local Name: Talli, Sishum

Ethno-medicinal Uses:

- The Bhil and Meena tribals use the infusion of leaves for gargling against throat infection.
- Tribals take orally the paste of leaves to cure diabetes.
- They also massage with the rib of wood to cure paralysis and give orally with twice a day for 2-3 days.
- The powder of stem bark is used to cure children suffering from pneumonia. Decoction of leaves is used to cure gonorrhoea.
- It is used to cure boils, eruptions and skin disorders.

- It shows anti-inflammatory activity.
- It is used as antipyretic and analgesic.

8. *Maytenus emarginata* (Willd.) Ding-Hou.

Family: Celastraceae

Local Name: Kankero, Vikankata

Ethno-medicinal Uses:

- The ash of leaves with 'Ghee' is used to heal up sores and wounds.
 - The bark is grounded to a paste and applied with oil to destroy pediculi.
 - Decoction of plant is taken by tribals with black pepper to cure pneumonia and cold fever.
 - The local Vaids prescribe the seed oil to cure scabies, eczema and allergy.
 - The leaves are chewed to cure ulcer of mouth and constipation.
- Fruits are eaten to purify the blood.
Paste of fruits is applied against scorpion sting.
- The paste of stem bark with vegetable oil is applied on the hairs to kill lice.
- It is used to cure arthritis and rheumatism.
It is used to cure kidney troubles.
It shows anticancerous activities.
It is used as antioxidant.
It is used as stimulant and tonic.

9. *Salvadora persica* Linn.

Family: Salvadoraceae

Local Name: Pilu, Dhalu, Mithi-jal, Mithi-pilu, Miswak

Ethno-medicinal Uses:

- The Kathodi tribals apply the paste of leaves effectively to cure rheumatism and scurvy.
- Patelia tribals, however, apply the paste of root-bark with mustard-oil on the blisters.
- Tender branches are used widely by the natives as hygienic and medicated tooth brush, probably due to the presence of sodium and potassium chloride and sulphate along with traces of ethereal oil.
- In Sikar district, old fruits are crushed in water and given orally against snake-bite for inducing vomiting.
- Paste of leaves is taken orally with water by the tribals in constipation and stomachache.
The fruits are used as carminative and diuretic.
Decoction of stem bark is used in fever and as a tonic.
- The nomadic tribe particularly Gadolia Luhar give the decoction of root bark orally to cure fever.
The fruits are used as carminative and diuretic.

10. *Tecomella undulata* (Sm.) Seem.

Family: Bignoniaceae

Local Name: Rohida, Rohira, Rohiro

Ethno-medicinal Uses:

- The Bhil and Garasia tribals of Shekhawati region chew the bark of tender branches to cure syphilis in males; the ladies, however, are not given this treatment since it may result in abortion.
- They also take powder of root bark with honey or sugar and milk before sleeping at night to the women to cure

leucorrhoea.

- The paste of stem bark with vegetable oil is applied over eczema. In case of old eczema, the inner bark of stem is placed in an earthen pot, the mouth of pot is sealed keeping a hole in the centre. The pot is placed upside down over the fire, the fluid that comes out through the hole of lid is collected and applied on the eczema.
- The local Vaids prescribe seed-powder with pure "Ghee" to apply on abscesses.
- The vapours of crushed leaves are inhaled to cure cough by the tribals. They also prepare a remedy for inducing abortion by powdering its roots with the roots of *Sapindus emarginatus* (Ritha) and take it orally for 2-3 days.
- The bark is used as anti-diabetic.

CONCLUSION

The Shakhawati region of Rajasthan state is rich in medicinal plant wealth. These plants are not valued as herbal drugs but also utilized for food, fodder, gums & resins, essential oils, dyes, fatty oils, condiments, spices etc.

There is an urgent need to create greater awareness amongst the population as a whole particularly the farmers about the medicinal and economic values of these plants, so that its heritage may be wisely used and exploited and at the same time conserved and perpetuated through judicious management for future generation. These studies of ethnomedicinal aspects will be useful for further researches in the field of pharmacology, phytochemistry and pharmaceutical chemistry.

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