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Research Article

Ethnomedicinal Plants of Jaisalmer District of Rajasthan Used in Herbal and Folk Remedies

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Abstract

The Jaisalmer district a part of Thar Desert is very rich in medicinal plant wealth. These medicinal plants have been used by local people and tribal communities since long time in herbal and folk remedies. Kalbelia, Nats, Bhils, Raika, Bhopas, Banjara, Gadolia-Lohar, Garasia and Saharia tribal communities of this district have a rich knowledge of plants based traditional medicines. Fifteen ethnomedicinal plants like *Abrus precatorius* Linn., *Aerva persica* Burm.f., *Argemone mexicana* Linn., *Calligonum polygonoides* Linn., *Chenopodium album* Linn., *Cleome viscosa* Linn., *Commiphora wightii* Arnott., *Corchorus depressus* Linn., *Cucumis melo* Linn., *Euphorbia hirta* Linn., *Fagonia indica* Burm., *Grewia tenax* Forsk., *Salvadora oleoides* Decne., *Solanum nigrum* Linn. and *Ziziphus nummularia* Burm. have been selected for this research work. 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 plants, Jaisalmer district, Herbal and Folk Remedies

Introduction

Arid zone of Rajasthan is fortunately gifted with 628 species belonging to 352 genera and 87 families [1]. 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 [2].

The Ethnomedicinal plants of Rajasthan have been studied for their medicinal uses in herbal and folk remedies by many workers [3-16].

The present chapter highlights the importance of ethno- medicinal plants of Jaisalmer district of Rajasthan. Jaisalmer is located in the western part of the state Rajasthan forming a part of the Thar Desert. Kalbelia, Nats, Bhils, Raika, Bhopas, Banjara, Gadolia-Lohar, Garasia and Saharia communities of this district have a rich knowledge of plants based traditional medicines used in herbal and folk remedies.

Material and Methods

The Fifteen ethno-medicinal plant species growing in Jaisalmer district and their voucher plant specimens have been collected and maintained in the herbarium, P.G. Department of Botany, Govt. Dungar College, Bikaner.

Information regarding the utility has been gathered from local people, tribal communities, vendors as well as experts of Ayurvedic field etc.

Observations and Discussion

Important Fifteen ethnomedicinal plants are described here in brief with their botanical name, family, local name and ethnomedicinal uses.

1. *Abrus precatorius* Linn.

Family – Fabaceae

Local name - Chirmi, Chanboi, Ratti, Sarmai, Chormoi

Ethnomedicinal Uses

- Leaves are used in blood disorders, diarrhoea, dysentery, malnutrition, stomach troubles, tumors and cancers.
- Seeds are used as abortifacient and in menstrual cycle.
- Plant is used in bone fracture and wounds.
- The plant is used to treat tetanus and to prevent to rabies.
- Paste of roots is administered to cure abdominal pains and tumors.
- Paste of leaves and seeds is used for graying of hairs.
- Powdered of dry seeds is taken to cure worm infection.

2. *Aerva persica* Burm.f.

Family- Amaranthaceae

Local name - Bui, Buari

Ethnomedicinal Uses

- The flowers are taken orally for promoting discharge of urine.
- Roots are used in headache and also as demulcent.
- Plant is used in the treatment of dysentery, gonorrhoea, and kidney disorders.
- Plant is used in bone fracture and wounds.
- The seeds are powdered and mixed with the flour of Bajara during famine for making breads in desert area.
- Seeds are one of the best known remedies for bladder and kidney stones.

3. *Argemone mexicana* Linn.

Family - Papaveraceae

Local name - Pili Kateli, Pila Dhatura, Satyanasi

Ethnomedicinal Uses

- The whole plant is analgesic, antispasmodic possibly hallucinogenic and sedative.
- The fresh yellow milky sap contains protein, dissolving substance have been used in the treatment of warts, cold sores, cutaneous affection and skin diseases etc.
- The paste of seeds with salt and mustard oil is used as tooth paste for pyorrhoea.
- Leaves juice is used on eyes in conjunctivitis.
- Seed oil is used for skin disease.

4. *Calligonum polygonoides* Linn.

Family - Polygonaceae

Local name - Phog, Phoglo, Phogro

Ethnomedicinal Uses

- The Bhil and Garasia tribals gargle with the decoction of plant adding some water to cure sore-gums.
- The natives of desert wash the eyes with the leaf juice as a cure against the latex of *C. procera*.

- The flower-buds, locally called "Lasson" in the desert area, are eaten by the tribals with butter-milk adding some salt during summer.

5. *Chenopodium album* Linn.

Family - Chenopodiaceae

Local name – Bathua, Chilario

Ethnomedicinal Uses

- Leaves and stem are rich in iron and considered very nutritive, laxative and anthelmintic.
- The powder of seeds is taken orally to cure swollen gums by the Bhil tribals.
- Extract of leaves is taken orally in piles, cough and intestinal worms.
- The leaves are tied to cure sprains.

6. *Cleome viscosa* Linn.

Family - Capparaceae

Local name - Bagro, Handi-bagro, Pili-hulchul

Ethnomedicinal Uses

- Plant paste is applied on ulcer infected with guinea worm.
- Whole plant is useful in liver disorder, chronic painful joints and mental disease.
- The seeds are anthelmintic, carminative, cardiac stimulant.
- The leaf juice is used in earache and taken orally in fever and plague.
- Juice of leaves is poured in ears for infection, pain and deafness.
- Crushed leaves are used to heal up old wounds.
- Seed powder is taken orally to cure bleeding in

piles.

7. *Commiphora wightii* Arnott.

Family - Burseraceae

Local name - Guggul, Gugal

Ethnomedicinal Uses

- The tribals dissolve the gum resin in warm water and use for gargling against pyorrhoea, tonsillitis and pharyngitis.
- The paste of gum resin is used on cuts and injuries for early healing.
- Tribals inhale the fumes of germ-resin to cure fever, bronchitis, nasal catarrh, laryngitis and phthisis.
- The fumes of dry gum resin are used by tribals to ward off evil spirits and please their god.
- Bark is taken orally to cure cough and cold.
- Kalbelia nomadic tribes take orally the fresh decoction of plant to cure asthma.

8. *Corchorus depressus* Linn.

Family - Tiliaceae

Local name - - Cham-ghas, Bahypali, Munderi

Ethnomedicinal Uses

- Plant is used to cure dysentery, dyspepsia and for liver disorder.
- Leaves are used on wounds and skin eruptions.
- Decoction of fruits and seeds with goat milk and sugar during acute diarrhoea.
- Plants are dried in shade, powdered and taken regularly by tribal men with fresh milk as a tonic to gain sexual vigour.

9. *Cucumis melo* Linn.

Family - Cucurbitaceae

Local name - Kachara, Kharbiyo, Baro kacho

Ethnomedicinal Uses

- The fruits can be used as cooling light cleanser or moisturizer for the skin they are also used as first aid treatment for burns.
- The roots are diuretic and emetic.
- The seeds are antitussive, digestive, febrifuge and vermifuge. When used as a vermifuge, the whole seed coat is ground into fine flour than made into an emulsion with water and eaten.
- The ripened fruit is cut into pieces and dried which is used as a condiment in cooking vegetables, especially in carrot, acts as mild laxative.
- The fruit crushed and boiled with cow's milk and is applied by tribals to the head to prevent insanity, strengthen the memory and remove vertigo.

10. *Euphorbia hirta* Linn.

Family - Euphorbiaceae

Local name - - Duchoni, Dudhi.

Ethnomedicinal Uses

- The plants are used for female disorders but are now more important in treating respiratory ailments, especially cough, bronchitis and asthma.
- In India, it is used to treat worm infestations in children and for dysentery, gonorrhoea, jaundice, pimples, digestive problems and in tumors.
- The fresh milky latex is applied to wounds and warts.
- The root of the plant is used by tribals in sprains and inflammation, miscarriage, epilepsy, maggots in wounds and irregular growth of teeth.

11. *Fagonia indica* Burm.

Family - Zygophyllaceae

Local name - Jawasio, Dhamaso

Ethnomedicinal Uses

- Bhils prepare a decoction of plants which is bitter in taste and take it orally as a tonic to cure fever, small pore, dropsy and disorders caused by poisoning.
- The tribals prepare a powder of this plant and mix it with fruits of *Terminalia chebula* and *Cassia italica* and take it orally to cure abdominal pain and as a tonic against weakness.
- Whole plant is boiled in water and its bath is taken for allergies and other skin diseases.

12. *Grewia tenax* Forsk.

Family - Tiliaceae

Local name - Gangoti, Gangi, Gangeron

Ethnomedicinal Uses

- The fresh decoction of stem bark is used orally to cure cough and muscular pain.
- Young roots are also used to cure diarrhoea.
- The tribals eat the seeds to cure urine obstruction and give decoction of roots mixed with the roots of *Jatropha curcas* (Jamalgota) and stem of *Ampelocissus latifolia* (Bechuti) orally to cure bone fracture.
- One tea spoon extract of root is given to children twice a day for one day to cure dysentery.
- Mature fruits are eaten by local people and shepherds.

13. *Salvadora oleoides* Decne.

Family - Salvadoraceae

Local name - Kharo jal, Jal, Pilu

Ethnomedicinal Uses

- The plant is diuretic, carminative, digestive and used to cure inflammations.
- The fruits are used in the treatment of enlarged spleen, rheumatism and low fever.
- The oil from seeds is used as a stimulating application in painful rheumatic affection and after child birth.
- The decoction of the leaves is used in asthma and cough.
- Fruits are aphrodisiac which increases sexual power.
- The tribals prepare paste from ash of whole plant with milk and apply to cure scabies in camels.
- The short pieces of young branches and roots are used as tooth stick to clean the teeth to relieve pain, very effective in pyorrhoea and strengthen gums.

14. *Solanum nigrum* Linn.

Family - Solanaceae

Local name – Makoi, Kali papoten, Mukkoe, Chirpoti

Ethnomedicinal Uses

- The juice of fresh plant is taken orally daily early in the morning to cure liver disease and as a blood purifier.
- The Garasia tribals apply leaf juice on the wounds caused due to dog-bite, boils, psoriasis and give orally the extract of roots to cure vomiting in children.
- Warmed leaves are applied to painful and swollen testicles.
- Fresh juice added with the pulp of *Cassia*

fistula is used as gargle for diphtheria, tonsillitis and inflammation of the tongue.

- Juice of the leaves is given orally for jaundice and inflammation of the liver.

15. *Ziziphus nummularia* Burm.

Family - Rhamnaceae

Local name – Bordi, Jhar Bor, Pala Bor, Borti

Ethnomedicinal Uses

- The leaves are boiled with tea leaves and decoction taken to cure cold and cough.
- Paste of leaves is applied on skin disease.
- Young branches and leaves are used as tooth brush for preventing decay and other teeth diseases.
- The filter of crushed roots is given orally to cure diarrhoea.
- Leaves and fruits are used by tribals in cold, diarrhoea, dysentery, indigestion, inflammation of gums and tonic.
- Leaves are used to cure scabies and boils.

Conclusion

The Jaisalmer district of western Rajasthan exhibits a great variety of geology, physiography, and peculiar edaphic and climatic conditions. The region is a rich repository of genetic material of important arid 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.

These studies of ethnomedicinal aspects will be useful for further researches in the field of pharmacology, phytochemistry and pharmaceutical chemistry.

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