

Therapeutic Uses of Selected Folk Medicinal Plants at Sacred Grove of Churu District

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Abstract

The traditional applications of plants in medical procedures and treatment of various ailments are offering hints for new research directions as people have been using them since the time immemorial. However, there is not a plenty of documentation regarding the medicinal applications of native plants in rural areas of Rajasthan including Churu district. To overcome the adverse effects of changing lifestyle, side effects of allopathic medicine systems and use of pesticides in food on the human health, it has become necessary to use ancient knowledge of traditional remedies based on ethnomedicinal plants. The present study is focused on ethnomedicinal uses of 64 medicinal plants found in Taranagar tehsil of Churu District. It is based on discussions with local tribes, old age people, ayurveda practitioners, and other reliable sources. This study elaborates the use of either whole plant or plant's parts like root, shoot, fruits, leaves, flowers, bark and seeds in the form of natural state, paste, decoction, powder, dried part etc. in healing the various ailments.

Keywords: Sacred Grove, Medicinal Plant, Phytodiversity, Ethnomedicine.

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Introduction: Ever since coming into view on the earth, some million years ago, human being has been utilizing plants to fulfill his requirements of fundamental needs like food, shelter and medicine. Earlier human being used to live a nomadic life and his only objective of life was to procure food. During the course of time, his knowledge about plants enriched and he started exploiting plants and plant products for medicinal purpose also (Singh & Singh, 2010). The Indian continent is considered as one of the mega biodiversity countries in the world as there are 10 biogeographic regions in the country. Desert, forest, grassland, marine ecosystem are having diversity of physical and climatic features and exhibit a huge pattern of biodiversity (Khan & Gora, 2012).

Ever since coming into view wild plants and their extracts obtained from their parts play an important role in treatment of various diseases. People have been using them to meet their basic and daily needs. Since the time immemorial the plants are still used to treat different diseases and to provide livelihoods. About 80% population of the world use medicinal plants to get rid of diseases and ailments (Toksoy *et al.*, 2010).

There are many medicine systems like Ayurveda, Homeopathy, Unani and others. These all systems are based not plants and their extracts. The Allopathic system is most popular now a day but it has many side effects and it does not provide satisfactory results. On the other hand, medicinal plants do not have side effects and uproot the diseases at all (Kumari *et al.*, 2011).

Medicinal plants are more beneficial due to fewer side effects and better results and patient satisfaction. Bhandari (1990) stated that 87 families, 352 genera and 628 plant species are in arid zone area of Rajasthan. He also stated that 116 species from 99 genera and 52 families show ethnomedicinal properties and being used in different medicinal system to cure diseases (Bhandari, 1990).

Churu district of Rajasthan is a part of the Thar Desert and having adverse climatic conditions. Despite of it this area is dispersed with 188 plant species which belong to 142 genera of angiosperms. Major part of this vegetation is covered by 57.5% herbs, 13.3 % trees, 10.6% grasses and 10.1% shrubs (Sweta & Sharma, 2018). Tripathi *et al.* (1996) surveyed many plants in Rajasthan and categorized 205 medicinal plants with their

traditional applications. The medicinal plants can be used as different forms like powder, juice, paste and decoction. Snake bite, diarrhea, pain, cough, cold and many diseases may be treated with the use of traditional remedies using medicinal plants (Tripathi *et al.*, 1996).

In Churu district local people are using 68 plant species very frequently to cure different diseases like fever, diarrhea, piles, cough, asthma etc. People of old age are more aware about local medicinal plants than younger generation (Parveen *et al.*, 2007).

Study Area: According to the official website of District Churu, this district is one of the 41 districts of Rajasthan state which is situated in the Thar Desert area. The area of this district is approximate 16830 square km. having 08 tehsils including Churu, Sardarshahar, Ratangarh, Sujangarh, Sadulpur, Bidasar Sidhmukh and Taranagar. The area of Taranagar tehsil is 1805 square km. which is about 13% of the total area of Churu district. It is situated at 28°66'N Latitude and 75°03'E Longitude and 232 meters elevation from sea level. Taranagar city is 50 km. far from districts headquarter Churu and about 250 km. far from State Capital Jaipur (PRO, 2019).

One location has been selected for study on phytodiversity of medicinal plants in Taranagar tehsil which is a Sacred Grove near Kailash village of Taranagar tehsil and also known as 'Shyam Pandia Temple' reserve forest area. This is a 'Sacred Grove'. A very famous 'Shyam Pandia Temple' is situated in the middle of this area. This area is highly protected and harmful human activities are not allowed here. There is only a single way of going to the temple. People are allowed to protect and preserve local flora and fauna in this area but destructive activities are not allowed at any cost. This is a religious and sacred place for local people. The Biodiversity of this Sacred Grove is highly rich. Gymnosperm *Ephedra* and many more Angiosperms like *Aloe vera*, *Acacia senegal*, *Boerhavia diffusa*, *Argemone maxicana*, *Leptadenia pyrotechnica*, *Pedaliium murex*, *Capparis decidua*, *Chenopodium album* are very common in this area.

Taranagar tehsil is placed in arid zone of the Thar Desert of Rajasthan. The deviation between the temperature of summer and winter season is exceptionally high. In May-June, the temperature rises up to 49-50°C. In winter season the temperature falls up to 0°C (IMD, 2019). The average annual rainfall of this area is 381mm. During summer season this area is adversely affected with 'Sandstorms'. (IMD, 2019).

Material and Methods: Plants were collected from study area in regular time intervals. Plants were collected during different phases of plant life like in young stage, flowering stage, fruiting stage and seed formation stage. No plants were harmed during collection time. A large-scale discussion, meetings and interviews were carried out with local villagers, hakims, saints and Ayurveda practitioners about identification and their uses as medicines. The Flora of British India (Hooker, 1975-97), the Flora of Rajasthan (Meena, 2015), An Illustrated and Photographic Flora of Rajasthan (Meena, 2017), Flora of Indian Desert (Bhandari, 1990), Flora of North East Rajasthan (Sharma & Tiagi, 1979), eFlora of BSI (EFlora, 2014), were used in taxonomic identification of plants.

Observations:

Family	Botanical Name of Plant	Local Name of Plant	Plant Part(s) used	Medicinal Uses
Acanthaceae	<i>Andrographis paniculata</i>	Kalmegh	Leaf, Stem	Cold, Osteoarthritis, Tonsilitis
Aizoaceae	<i>Trianthema portulacastrum</i>	Safed Santo	Whole plant	Blood purifier, Anaemia, Night blindness
Amaranthaceae	<i>Achyranthus aspera</i>	Latjira, Undo-kanto	Whole plant, Roots	Cough, Diuretic

Amaranthaceae	<i>Aerva persica</i>	Bui	Whole plant, Seeds, Flowers	Diuretic, Diarrhoea, Chest Pain
Amaranthaceae	<i>Pupalia lappacea</i>	Chiptio bharut	Whole Plant	Extract used as Anticancer, Antipyretic, Anti-inflammatory
Asclepiadaceae	<i>Calotropis procera</i>	Aak, Aakdo	Roots, Flowers	Used with black pepper to treat Malaria
Asclepiadaceae	<i>Ceropegia bulbosa</i> var. <i>bulbosa</i>	Khadula	Seeds	Paste used to treat deafness and ear diseases
Asclepiadaceae	<i>Leptadenia pyrotechnica</i>	Kheemp	Whole plant	Antidiabetic, Wound healing
Asteraceae	<i>Eclipta alba</i>	Bhringaraj, False daisy	Whole plant, Leaves	Hair vitalizer and tonic, Appetizer, Eye problems, Cough, Jaundice
Asteraceae	<i>Launea procumbens</i>	Jangli gobi	Leaves	Kidney dysfunction, Hormonal disorders
Asteraceae	<i>Oligochaeta ramosa</i>	Brahm buti	Whole plant	Hepatic disorders, Swelling, Antiemetic
Asteraceae	<i>Tridax procumbens</i>	Pilo bayoni, Ghavpatta	Whole plant	High blood pressure, Diarrhoea, Wound Healing
Bignoniaceae	<i>Tecomella undulata</i>	Rohida	Bark, Seed	Liver problems, Syphilis, Eye complaints, Laxative
Boraginaceae	<i>Cordia gharaf</i>	Goondi	Roots, Bark	Root used for Malaria, Bark for Throat infection
Capparidaceae	<i>Capparis decidua</i>	Ker, Kair, Keriya	Whole Plant	Toothache healer, Dysentery, Cholera, Renal disinfectant
Capparidaceae	<i>Cleome gynandra</i>	Hulhul, Safed hulhul	Leaves, Roots, Seeds	Anaemia, Rheumatism, Intestinal worms, Diarrhoea
Celastraceae	<i>Maytenus emarginata</i>	Kankero	Leaf, Fruits	Leaves used as Mouthwash for Toothache & Healing sores, Fruits in Ulcers, Piles and Blood purifier
Chenopodiaceae	<i>Chenopodium album</i>	Bathua	Leaves	Laxative, Aphrodisiac, Throat infections, Abdominal Pains
Convolvulaceae	<i>Convolvulus microphyllus</i>	Shankpushpi	Whole plant	Memory enhancer, Brain tonic
Convolvulaceae	<i>Evolvulus alsinoides</i>	Phooli	Whole Plant, Leaves, Flowers	Memory loss, Sleeplessness, Brain tonic, Epilepsy
Cucurbitaceae	<i>Citrullus colocynthis</i>	Tumba, Desert gourd	Roots, Fruits, Leaves	Diabetes, Constipation, Jaundice, Leprosy
Cucurbitaceae	<i>Cucumis callosus</i>	Kachri	Fruits, Seeds	Fruits are Anthelmintic & Antidiabetic, Seeds used during Bile & Liver disorders

Cucurbitaceae	<i>Momordica balsamina</i>	Barh-Karela	Whole plant	Fever, Rheumatism, Seeds in diabetes
Cyperaceae	<i>Cyperus rotundus</i>	Motho	Tubers	Bowel irritations, Stomach disorders, Menstrual irregularities, Pyrosis
Euphorbiaceae	<i>Embllica officinalis</i>	Amala	Fruits, Seeds, Leaves, Bark, Root	Source of Vit C, Antioxidant, Ulcer, Nose bleeding
Euphorbiaceae	<i>Euphorbia hirta</i>	Dudhi, Lal-dudhi	Whole plant	Asthma, Cough, Bronchitis, Digestive problems
Euphorbiaceae	<i>Jatropha gossypifolia</i>	Ratanjot	Leaves	Treatment of Guinea worms, Purgative
Euphorbiaceae	<i>Ricinus communis</i>	Arand, Castor	Leaves, Seeds, Seed oil	Stomach disorders, Arthritis, Constipation, Menstrual cramps
Fabaceae	<i>Abrus precatorius</i>	Chirmi, Ratti		
Fabaceae	<i>Acacia nilotica</i>	Babul	Bark, Fruit Pods	Burns, Abdominal disorders, Diarrhoea
Fabaceae	<i>Acacia senegal</i>	Kumta	Gum	Burns, Intestinal inflammation
Fabaceae	<i>Albizia lebbeck</i>	Siris, Sares	Leaves, Bark, Pods	Cough, Eye flu, Night blindness, Inflammation
Fabaceae	<i>Alysicarpus monilifer</i>	Leel, Gumal	Shoot	Paste with Goat milk in treatment of Jaundice, Antidote to Snakebite
Fabaceae	<i>Dalbergia sissoo</i>	Shisham	Leaves, Bark	Inflammation of breasts, Piles
Fabaceae	<i>Prosopis cineraria</i>	Khejri, Jaanti	Flowers, Bark	Skin diseases, Ear ache, For safe pregnancy, Asthma
Gnetaceae	<i>Ephedra foliata</i>	Unt phog	Whole plant	Abortion, Bronchitis, Pneumonia
Lamiaceae	<i>Ocimum sanctum</i>	Tulsi	Leaf	Extract used for Cough, Cold, Heart disease, Immunity booster
Liliaceae	<i>Aloe vera</i>	Ghritkumari, Gwarpatha	Leave, Leaf Juice	Skin Disease, Acidity, Constipation
Liliaceae	<i>Asparagus racemosus</i>	Satawari	Roots	Powder for Lactation in mothers, Gastric ulcers
Lytharaceae	<i>Lawsonia inermis</i>	Mehandi	Leaves	Anti-diabetic, anti-inflammatory, Wound healing, Anaemia, Jaundice
Malvaceae	<i>Sida cordifolia</i>	Kharinti	Whole plant	Fever, Rheumatism, Erectile dysfunction, Seeds in Bowel complications
Meliaceae	<i>Azadirachta indica</i>	Neem	Leaves, Stem	Teeth diseases, Itching, Skin disorders

Menispermaceae	<i>Cocculus hirsutus</i>	Pilwani	Leaves, Roots	Leaves useful in Leucorrhoea & Headache, Roots powder with honey and milk useful in Rheumatism
Menispermaceae	<i>Tinospora cordifolia</i>	Neem Giloy	Whole plant, Stem	Improve platelets count, Fever, Asthma, Jaundice
Molluginaceae	<i>Gisekia pharnaceoides</i>	Sureli	Whole plant	Strength booster after miscarriage, Seeds as Anthelmintic
Molluginaceae	<i>Mollugo cerviana</i>	Chirio ghas	Whole plant	Gout, Fever, Jaundice, Hepatoprotective
Moraceae	<i>Ficus religiosa</i>	Pipal	Bark, Leaves, Fruits	Ulcers, Prevent conception, Piles
Moringaceae	<i>Moringa oleifera</i>	Sahjana	Whole plant	Young leaves for Lactation, Bark for Cardiac problems & Appetizer, Flowers Rubefacient
Nyctaginaceae	<i>Boerhaavia diffusa</i>	Saata, Punarnava	Roots, Leaves	Snake bite, Blood pressure, Jaundice, Cardio tonic
Papavaraceae	<i>Argemone maxicana</i>	Satyanashi	Seeds, Roots	Constipation, Chronic fever, Malaria, Eczema
Pedaliaceae	<i>Pedaliium murex</i>	Bada Gokhru	Fruits	Renal Calculus, Dysuria
Polygonaceae	<i>Calligonum polygonoides</i>	Phog	Flower buds	Flower buds in Curd used to Treat Heatstroke, Improve digestion
Portulacaceae	<i>Portulaca oleracea</i>	Luni, Lunki	Whole plant	Vermifuge, Anti-inflammatory, Useful in Liver disorders & treatment of boils, blisters
Rhamnaceae	<i>Ziziphus nummularia</i>	Ber, Bordi	Roots, Leaves, Fruits	Menstrual Problems, Fever, Diarrhoea, Ulcers, Cut & Wounds, Heat stroke
Rubiaceae	<i>Borreria articularis</i>	Agio	Leaves	Hepatoprotective, Eye conjunctivitis & inflammation
Rutaceae	<i>Aegle marmelos</i>	Bilpatra, Bel	Fruits, Leaves	Fruits in Constipation and Digestive disorders, Leaves in Ulcers
Salvadoraceae	<i>Salvadora oleoides</i>	Mitha jaal	Shoot, Leaves, Fruits, Seeds	Branches are used as Miswak as a part of toothpaste & natural toothbrush, Edible fruits show cooling effect
Salvadoraceae	<i>Salvadora persica</i>	Jaal, Pilu, Kharo jaal	Shoot, Leaves, Fruits, Seeds	Shoot as Toothbrush, Used in toothache, Fruits in Constipation &

				Gastric problems, Seeds and Leaves in Rheumatism,
Solanaceae	<i>Datura metel</i>	Kala Dhatura	Seeds, Fruits, Leaves	Seeds in Baldness, Fruits in Fever and Malaria, Leaves in Whooping cough & bronchitis
Solanaceae	<i>Solanum nigrum</i>	Makoi, Makoy	Whole plant	Tooth ache, Pneumonia, Tonsillitis, Fever
Solanaceae	<i>Withania somnifera</i>	Ashwagandha	Roots	Sexual disorders, Miscarriage, Cough
Tiliaceae	<i>Corchorus depressus</i>	Kagler, Kurand	Whole Plant	Decoction in Liver infections, Sexual tonic & Indigestion, Seed with jaggery during diarrhoea
Zygophyllaceae	<i>Balanites aegyptiaca</i>	Hingotia	Fruits, Leaves, Roots	Fruits used for Skin infections & Antidote for Scorpion bites, Leaves for Sleeping sickness, Root bark for Anti malaria
Zygophyllaceae	<i>Tribulus terrestris</i>	Bhakhari, Chhota Gokhru	Fruits, Stem	Stomach ache, Kidney treatment

Results and Discussion:

The study illustrates about some selected 64 medicinal plants of sacred grove. These plants are well known among people but are not used as medicinal point of view frequently. Most of the people are even not aware about their respective medicinal properties and use alternate medications. The Government perhaps do not play their part in promotions for traditional use of these plants.

In this study it was found that 07 medicinal plants of Fabaceae family are being used by people. It is the largest family. Euphorbiaceae and Asteraceae family are having 04 medicinal plants from each family in studied area. Amaranthaceae, Asclepiadaceae, Cucurbitaceae and Solanaceae families are having 03 plants from each family which show medicinal properties. Capparidaceae, Convolvulaceae, Liliaceae, Menispermaceae, Molluginaceae, Salvadoraceae, and Zygophyllaceae families represent 02 medicinal plants from each family. Remaining 23 families represent one medicinal plant from each family. Although many other medicinal plants are also present in studied area but this study is based on the plants which are being used by local inhabitants and tribes as medicinal purpose. So, it is disappointing that despite of some people, most of the people of this area are not much aware about medicinal values of plants. They have a lot of medicinal plants in their surroundings but due to lack of awareness they do not use them. This study will help them to know about the surrounding plants and their therapeutic properties

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