

Ethnic Plants and Plant parts Used for the treatment of Oral Diseases by Gujjar Tribe of Shivalik Hills (H.P.)

Corresponding Author: Dr. Romita Devi*

Assistant Professor, Department of Bio Sciences, MLSM College Sundernagar, District Mandi, Himachal Pradesh

ABSTRACT

The main objective of the study was to explore the therapeutic methods used by the Gujjar tribe to treat oral diseases in District Bilaspur and Hamirpur of Shivalik hills. Information elicited was the local names of the medicinal plants used to treat oral diseases; mouth sores, their routes of administration and method of usage. Total 28 plants identified and method of usage, sore throat, mouth sores, abscess, tooth sensitivity, dental caries and tonsillitis. The study provides comprehensive information on therapeutic methods employed by tribal people for the treatment of oral diseases. The tribal people have good knowledge of plant administration to treat many diseases. This is documentation of the knowledge of these tribal people for treatment for oral disease.

KEY WORDS: Administration, Gujjar, Knowledge, Oral diseases, Shivalik, Therapeutic.

INTRODUCTION

Himachal Pradesh enjoys both the ranges of Himalaya, the North West Himalaya and the Shivalik Hills. So the treasure house of medicinal plants. Ethnic people understand the importance of plants which are inhabited in there surrounding environment. Plant produce chemicals as metabolites (Drugs) which have beneficial health effects and are used to treat diseases. It has been stated that more than 30% plant species at one or another time; are used for medicinal purposes. The drugs found in the plants save lives of many residents of developing countries. There drugs have good values to treat many infection and chronic diseases. Due to population rise, inadequate supply of drugs, side effects of several allopathic drugs have led to increased emphasis on the use of plants as sources of medicines. These tribal people of Shivalik Hills use the plants and plant parts as medicine as the modern medicines are beyond their reach. The main objective of the study was the documentation of therapeutic methods used by the tribal people to treat oral problems.

STUDY AREA

Himachal Pradesh state a peaceful state in the lap of snow laden mountains is a northern state in the Western Himalayas. Most of the population of the state lives in rural areas and depends upon agriculture, horticulture, hydropower and tourism for their economy. Himachal Pradesh is one of the hill state of India located between latitudes 30° 22' 40'' N to 33° 12' 20'' N and longitudes 75° 45' 55'' E to 79° 04' 20'' E. Most of the population belongs to ethnic groups and live in 16,997

villages. The information was collected from the old age and traditional healer Gujjar tribe people of different villages from districts of Bilaspur and Hamirpur.

MATERIAL AND METHODS

All the information of this medicine was collected from traditional practitioners, knowledgeable persons, village heads and house women of different villages by conducting random surveys. The information was collected by interviews, discussions and observations through intensive and extensive surveys conducted in different villages. During the surveys it was observed that the plants and plant parts almost used in every house of the Gujjar villages. The data of plants used for preparation of oral medicine was collected according to the questionnaire prepared according to the proforma designed by Jain and Goel, (2005). The data is collected according to herborizing practices given by Jain and Rao, (1977). The present specimens were identified by using different floras (Chauhan, 1999; Chowdhery and Wadhwa, 1984; Collett, 1902; Dhiman, 1976, Polunin & Stainton, 1984; Stainton, 1988) manuals and monographs. For identification of nomenclature of plant species Bennet, (1986) and Wiegorskaya, (1995) were used. The information obtained are enumerated in alphabetical order, with family, local name, parts used, Forms of preparation, Diseases treated and methods of uses and brief description of plants.

TABLE - I: The present work includes botanical name of plant, family, vernacular name, English name, parts used, habitat Brief description of plant with sources from where all information is collected (Table-I).

Botanical name/Vern. name	Parts used	Forms of preparation	Diseases treated and methods of uses
<i>Acacia catechu</i> Willd. Khair	Bark	Boil in water	Doing Gargle in Toothache and mouth sores
<i>Ageratum conyzoides</i> L.	Whole Plant	Powder	Extraction is used in Toothache
<i>Allium sativum</i> Linn. Lahsan	Root	Paste	Direct application of paste in Gingivitis and Toothache
<i>Amomum subulatum</i> Roxb. Badi illachi	Seeds	Chewing Seeds	For the treatment of Mouth sores, Throat Sores
<i>Astragalus tragacantha</i> L. Kateera gond	Gum	Powder	Mouth lesions and bullous lesions by bruising Leaves
<i>Azadirachta indica</i> A. Juss. Neem	Leaves	Decoction Leaves	Used in toothache and inflammation by gargling
<i>Carica papaya</i> Linn.	Leaves	Solution	Used in toothache, mouth sores, Sore

			Throat and Thrush
<i>Carthamus tinctorius</i> Linn. Sadabahaar	Leaves	Chewing Leaves	Used in mouth Sores
<i>Chenopodium ambrosioides</i> L.	Whole plant	Paste	Paste is used by placing on painful tooth
<i>Cinnamomum verum</i> Persl. Daalchini	Bark	decoction	Used to rinse mouth in toothache and mouth Sores
<i>Curcuma longa</i> Wall.	Rhizom e	Decoction	Decociton of rhizome powder is used in Mouth Sores, Throat inflammation and Bullous lesion
<i>Elettaria cordamomum</i> Maton Choti illachi	Seeds	Chewing Seeds	Seeds chewed in sore throat
<i>Foeniculum vulgare</i> Mill. Meethi saunf	Seeds	Chewing Leaves	Leaves are chewed for calm down pain and wound healing
<i>Glycyrrhiza glabra</i> Linn. Mullathi	Bark	Powder	Decoction is used in soft tissue inflammation
<i>Ipomoea carnea</i> Facq.	Leaves	Decoction	Decoction is used as mouth wash
<i>Mentha piperita</i> Linn.	Leaves	Chewing Leaves	Leaves chewed in Dry Mouth and toothache
<i>Nelumbo nucifera</i> Gaertn. Kaml doda	Seed	Dry Power	Paste used to clean teeth and to bleach teeth
<i>Nicotiana tobaccum</i> (Linn.) Gaertn. Tambakoo	Dried or fresh Leaves	Powder or Wet Paste	Powder is used in toothache and paste is used to bleach teeth
<i>Ocimum sanctum</i> Linn. Ram tulasi	Leaves	Decoction	Decoction used in inflammation of a sinus
<i>Piper longum</i> Linn. Magen	Seeds	Paste	Paste used in toothache and dental abscess
<i>Piper nigrum</i> Linn. Kali mirch	Seeds	Decoction	Decoction used in sore throat
<i>Plumbago zylanica</i> L. Cheeta	Leaves	Mouth rinse solution	Used in dry mouth, inflammation by gargling and drinking

<i>Psidium guajava</i> Linn. Marood	Leaves	Decoction	Used in toothache and mouth ulcers to calm down pain and wound healing
<i>Spilanthes paniculata</i> Wall. ex DC. Akerkara	Flowers	Chewing Flowers	Fresh Flowers chewed in mouth odor and toothache
<i>Syzygium aromaticum</i> (Linn.) Merr. & Perry. Loung	Dried Fruits	Paste	Paste used in toothache to relieve pain
<i>Terminalia arjuna</i> Arjan	Bark	Decoction	Used as mouth wash intoothache
<i>Terminalia chebula</i> Retz. Harar	Dry fruits	Paste	Paste used in mouth sores and toothache
<i>Trachyspermum ammi</i> (Linn.) Sprague. Ajwain	Seeds	Decoction	Used in toothache to rinse mouth

Brief Description of plants used for the treatment of Oral Problems.

***Acacia catechu* Willd.:** Deciduous tree with dark brown bark. Branchlets petiolated. Pods 10-15cm, thin, flat. Seeds 308, about 5 mm in diameter. Throughout drier parts of India. Asolkar, *et. al.* (1992); Bennet (1986); Kirtikar, & Basu. 1984.

***Ageratum conyzoides* Linn.:** A hispadally hairy annual having flowers in small, dense terminal corymbs. Ray-florets many, pale blue or white in colour. Achenes black. Pappus 5-awned. Chauhan, (1999); Kirtikar, & Basu. 1984.

***Allium sativum* Linn.:** A cultivated, scapigerous herb. Plant have coated bulbs and leaves are narrow. Flowers capitate, umbelled and pedicelled. Sepals linear-oblong. Seed are black in colour. Asolkar, *et. al.* (1992); Bennet (1986).

***Amomum subulatum* Roxb.:** Evergreen tall, perennial herbaceous plant. Leaves are oblong and lanceolate. Ripened fruit is reddish brown, capsules. Capsules are dark red brown in colour. Rhizomes are branched and creeping. Found Eastern Himalayas. Cultivated in Nepal, North West Bengal, Sikkim, Bhutan and Hills of Assam. Bennet (1986); Kirtikar, & Basu. 1984.

***Astragalus tragacantha* Linn.:** Herbaceous plants. Flowers purple or pink in colour. Seeds oblong, ovoid or reniform. Distributed in temperate and alpine regions of the Himalayas at an altitude 3,000-6,000m. Most diverse in the Irano-Turkish. Found in J&k, H.P. Asolkar, *et. al.* (1992); Bennet (1986).

***Azadirachta indica* A. Juss.:** Plants are large trees. Leaves pinnate having 9-15 leaflets. Flowers are white and honey scented. Petals short and ciliated. Ovary 3-celled, fruit 1-seeded. Chauhan, (1999); Kirtikar, & Basu. 1984.

***Carica papaya* Linn.:** A herbaceous tree. Grow very rapidly to 8m. leaves segmented. Flowers are yellow. Fruits are large, black seeded. Bennet (1986); Chauhan, (1999).

***Carthamus tinctorius* Linn:** A wild pubescent and glabrous herb. Leaves entire and unarmed or spinulose-serrated. Outer involucre bracts ovate-oblong, acute. Flowers orange-red. Achenes obovoid. Bennet (1986); Kirtikar, & Basu. 1984.

***Cinnamomum verum* Persl:** Evergreen tree with green oval shaped leaves. Flowers in clusters. Fruits berry. Found in Western Ghats and Kerala.. Flowers are funnel shaped yellow. Asolkar, *et. al.* (1992); Kirtikar, & Basu. 1984.

***Curcuma longa* Wall:** It is a rhizomatous perennial cultivated herb. It grows upto 3-5 feet. Leaves are pointed. Bennet (1986); Chauhan, (1999).

***Elettaria cordamomum* Maton:** Tall, herbaceous and perennial shade loving plant. Cultivated in Hill Forests, Western Ghats in Karnatka and Kerala, Madurai and Tamil Nadu. Bennet (1986); Kirtikar, & Basu. 1984.

***Foeniculum vulgare* Mill.:** Upright branching perennial herb with soft feathery, hair like foliage growing upto 2m tall. Leaves filiform, green, flowers golden in terminal umbels. Fruits green elongated with ribs. Cultivated in Assam, Gujrat, Maharashtra, and Punjab. Native to Mediteranian region. Asolkar, *et. al.* (1992); Kirtikar, & Basu. 1984.

***Glycyrrhiza glabra* Linn.:** Perrenial halophytic 1-1.5 m. long shrub. Leaves alternate and pinnate. Flowers white or purplish in colour and in spikes. Fruits are pod and reniform seeds. Cultivated in Jammu and Kashmir, Punjab and South India. Bennet (1986); Khare, (2004).

***Ipomoea carnea* Facq:** A perennial bushy plant. Leaves are green and heart shaped. Flowers are light purple in colour. Seeds are small. Bennet (1986); Kirtikar, & Basu. 1984.

***Mentha piperita* Linn.:** A very strong-scented perennial herbs with creeping rootstocks. Leaves rae oblong, obovate, hoary beneath. Whprls in terminal spikes. Nutlets usually pale, smooth. Bennet (1986); Khare, (2004).

***Nelumbo nucifera* Gaertn:** Aquatic plant with yellow rhizomes. Leaves large enormous. Aerial leaves cup shaped and floating leaves are flat. Distributed throughout India, upto 1,800m. Bennet (1986).

***Nicotiana tobaccum* (Linn.) Gaertn.:** Herbs are erect. Leaves oblong or elliptic with narrow base. Corymbs branches form racemes. Calyx with triangular-lanceolate, acuminate. Corolla narrow linear. Fruits are small in size. Bennet (1986); Kirtikar, & Basu. 1984.

***Ocimum sanctum* Linn.:** Plant are erect herbs with strong scented smell and softly hairy. Leaves oblong, obtuse or acute, entire or subserrate. Racemes are slender. Nutlets oblong, smooth, pale red-brown. Asolkar, *et. al.* (1992); Chauhan, (1999).

***Piper longum* Linn.:** Tropical perennial woody climber. Dimorphic branching. Inflorescence is catkin. Flowers sessile and bracteates. Cultivated in Assam, Karnataka, Kerala, Maharashtra, and Western Ghats. Bennet (1986); Khare, (2004). Kirtikar, & Basu. 1984.

***Piper nigrum* Linn.:** Tropical perennial woody climber. Dimorphic branching. Inflorescence is catkin. Flowers sessile and bracteates. Cultivated in Assam, Karnataka, Kerala, Maharashtra, and Western Ghats. Bennet (1986); Khare, (2004).

***Plumbago zylanica* Linn.:** It is herbaceous plant. Stem is climbing, prostrate or erect. Leaves are petiolate or sessile. Flowers are white. Seeds are dark brown in colour. Asolkar, *et. al.* (1992); Bennet (1986); Chauhan, (1999).

***Psidium guajava* Linn.:** A small tree, pubescent on the young branches. Leaves on very short petioles. Flowers large, white. Calyx obovate. Petals 4 or 5, free. Fruits pear shaped. Bennet (1986); Khare, (2004).

***Spilanthes paniculata* Wall. ex DC.:** A trailing annual herbaceous, branched plant. Leaves opposite, ovate and acute at apex. Achennes strongly margined. Pappus bristles 1-2. Found throughout India in shady areas. Cultivated in Gardens. Kirtikar, & Basu. 1984.

***Syzygium aromaticum* (Linn.) Merr. & Perry.:** Evergreen 10-15 m. high tree. Leaves opposite, petiolate, Lanceolate, green Flowers in racemose panicles inflorescence, red in colour. Fruits are dark red and drupe. Cultivated in Kerala and Tamilnadu. Bennet (1986); Kirtikar, & Basu. 1984.

***Terminalia arjuna* (Roxb.) Wight & Arn.:** Evergreen wild trees with large size. Branches are drooping. Bark very thick, grey or pinkish-green, smooth. Leaves subopposite oblong. Petiole very short with two glands near its apex.. Distributed in Sub-Himalayan tracts. Chauhan, (1999); Kirtikar, & Basu. 1984.

***Terminalia chebula* Retz.:** Deciduous large tree with umbrella shaped crown branches upto 25m. in height. Bark dark brown. Leaves ovate, oblong. Flowers yellow-white and emit strong

odour. Fruit drupe, hard, dry and ribbed. Seed globose. Distributed throughout in northern India. Also found in Assam, Bihar and west Bengal. Bennet (1986); Kirtikar, & Basu. 1984.

***Trachyspermum ammi* (Linn.) Sprague:** An erect, glabrous, branched annual herb, Stem is straight and branched. Leaves pinnate, petiolated and linear. Flowers terminal compound umbel and white in colour. Cultivated in Central, South and South West Asia. Cultivated in Andhra Pradesh, Bihar, Gujarat, Uttar Pradesh, Maharashtra and Uttar Pradesh. Bennet (1986); Khare, (2004); Kirtikar, & Basu. 1984.

Result: These people were practicing plants as medicine from time immemorial. A total of 28 plants were identified, which were used to the management of oral problems in form of toothache, sore throat, mouth sores, bulbous lesion, abscess, dentine sensitivity and dry mouth. Bark, dried fruits, seeds and whole plants were most common parts of identified plants used to the treatment of oral health problems. Plants parts boil in water, chewing flowers, leaves, seeds, decoction, dry powder, paste and powder of prepared from plant parts were the form of preparation used to treat oral problems.

DISCUSSION

Medicinal plants play an essential and important role in primary healthcare, because they are used to treat wide varieties of oral problems. The main drawbacks of tradition health practices are the absence of written records. Preservation and storage of medicinal plant products is a major problem. The study document 28 plants used in the management of various form of oral problems. The majority of the identified plants were used in oral pain mainly toothache. The documentation of this study can play an important role in the welfare of mankind.

ACHKOWLEDGEMENT

The authors thankful to the old age people of Gujjar tribe for their help and providing this valued information on the plants and their parts used in the treatment of oral diseases.

REFERENCES:

- Agarwal, V. S. (1985). *Drug Plant of Indian Root Drugs*. Kalayani Publishers, Delhi.
- Ainslie, W. (1926), *Materia Medica*. Neeraj Publishing House, Delhi.
- Ambasta, S.P. 1986; *The Useful Plants of India*. Publication and Information Directorate, C.S.I.R., New Delhi

Arya, K. R. (2004), Traditionally potential plants of Western Himalaya for IPR value and utility of biotechnological tools for their conservation: 41-53. In Pande, P.C. and Joshi K. N. *Tradition and Traditional Knowledge of Central Himalaya*. Bishen Singh Mahendra Pal Singh, Dehradun.

Asolkar, L.V., Kakkar, K.K. and Chakre, O.J. (1992), *Second Supplement to Glossary of Indian Medicinal Plants with Active Principle*. Part-I (A-K) (1965-1981). C.S.I.R., New Delhi.

Bennet, S. S. R. (1986). *Name changes in Flowering Plants of India and Adjacent regions*. Triseas Publishers, Dehradun, India.

Bentley, R. and Trimen, H. (2008). *Medicinal Plants*, Vol I-IV. International Book Distributors, Dehra Dun, India.

Bhattacharjee, S. K. 2001. *Handbook of Medicinal Plants*. Pointer Publishers, Jaipur (Rajasthan), India.

Chauhan, N.S. (1999). *Medicinal and Aromatic Plants of Himachal Pradesh*. Indus Publ. Co., New Delhi.

Chowdhery, H.J. & Wadhwa, B.M. (1984). *Flora of Himachal Pradesh*, Vol. 1-3. Bot. Surv. India, Calcutta.

Collett, H. (1902). *Flora Simlensis*. Thacker Spink and Co. Calcutta and Shimla, Reprinted 1971. Bishen Singh Mahendra Pal Singh, Dehradun (India).

Cook, C.D.K. (1996). *Aquatic and Wetland Plants of India*. Oxford Univ. Press, London.

Dastur, J. F. (1970). *The Medicinal Plants of India and Pakistan*. D.B. Toporowala and Sons, Bombay.

Dhiman, D.R. (1976). *Himachal Pradesh Ki Vanoshdhiya Sampada*. Imperial Printing Press, Dharamsala, H.P.

Dixit, R.D. and Kumar, R. (2003). Plants used by local people in human welfare: 53-58. In Singh, V. and Jain, A. P. (eds.) *Ethnobotany and Medicinal Plants of India and Nepal*, Vol.-1. Scientific Publishers Jodhpur, New Delhi.

Dutta, A. C. (1985). *Dictionary of Economic and Medicinal Plants*.

Farroq, S. (2005). *555 Medicinal Plants Field and Laboratory Manual, (Identification with its Phytochemical and in vitro studies data)*. International Book Distributors 9/3, 1st Floor, Rajpur Road, Dehradun- India.

Jain, S.K. & Rao, R.R. (eds.) (1977). *A Handbook of Field and Herbarium Methods*. Today's and Tomorrow's Printers and Publ., New Delhi.

- Jain, S.K. (1987). *A Manual of Ethnobotany*. Sci. Publ., Jodhpur.
- Kirtikar, K.R. & Basu, B.D. 1984; *Indian Medicinal Plants*. Vols. I-IV. Bishen Singh Mahendra Pal Singh, Dehradun (India).
- Khare, C.P. (2004). *Encyclopaedia of Indian Medicinal Plants, Rational Western Therapy, Ayurvedic and other Traditional Usage Botany*. Springer-Verlag, Berlin
- Martin, G.J. (1994). *Ethnobotany: Methods Manual*. Chapman and hall, London
- Polunin, O. & Stainton, A. (1984). *Flowers of the Himalaya*. Oxford Univ. Press, Delhi.
- Seth, M.K. (2006). Floral survey of the Chandertal wetland: progress report, submitted to SCSTE, H.P.
- Srivastava, S.K. (2003a). Floristic composition of Pong Dam Sanctuary, Himachal Pradesh. *Phytotaxonomy* 3: 156-160.
- Srivastava, S.K. (2003b). Floristic diversity of Renuka lake wetland and its environs: 93-109. In Janarthnam, M.K. & Narasimhan, D. (eds.): *Plant Diversity, Human Welfare and Conservation*. Goa Univ. Goa.
- Stainton, A. (1988). *Flowers of Himalaya, A Supplement*. Oxford Univ. Press, Delhi.
- Tripathi S. and Goel, A. K. (2001). Ethnobotanical diversity of Zinziberaceae in north-eastern India. *Ethnobotany* (17) 167-170.
- Watt, G. (1889-1896). *A Dictionary of the Economic Products of India*. Vol. I-VI. Periodical Experts, New Delhi.
- Wielgorskaya, T. 1(1995). *Dictionary of Generic Names of Seed Plants*. Bishan Singh Mahendra Pal Singh, Dehradun (India).