

Herbal folk medicines used for urinary complaints in tribal pockets of Northeast Gujarat

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Received 7 May 2007; revised 18 July 2008

The first hand information on herbal folk medicines from Northeast Gujarat to treat various urinary disorders such as painful urination, scanty urination, excessive urination, haematuria, etc. is given. Authentic details in respect of frequently used plant species, plant parts used, method of preparation, precise dose and mode of use in the treatment of urinary troubles are given.

Keywords: *Bhils*, Ethnomedicine, Folk medicine, Gujarat, Urinary complaints

IPC Int.Cl: A61K36/00, A61P13/00, A61P13/02

World wide trend towards the utilization of natural plant remedies has created an enormous need for information about the properties and uses of the medicinal plants. In recent past, there is a resurgence of interest in the study and use of medicinal plants. In India, the literature on diverse native floras and medicinal utilities is voluminous¹⁻⁴. In Gujarat, the literature on the ethnobotany and folklore medicinal utilities of plants is limited⁵⁻¹². Perusal of literature revealed that North-east Gujarat has never been surveyed from ethnomedicinal view point with respect to urinary complaints. In continuation of earlier attempts, the ethnomedicinal plants of the region for curing urinary complaints are enumerated¹³⁻¹⁶. The Sabarkantha district is situated in the Northeastern part of Gujarat state between 23° 03' and 24°30' North latitudes and 72° 43' and 73°39' East longitudes (Fig. 1). The region is inhabited by number

of ethnic groups. The predominant tribes are *Bhils*, including *Bhil Garasia*, *Dholi Bhil*, *Dungri Bhil*, *Dungri Garasia* and *Chokhla Garasia*. The tribal people, who live in different remote areas of the region under study, treat their various ailments with plant remedies on the basis of their rich heritage knowledge.

Methodology

During 1994-2004, the ethnobotanical field survey was conducted in tribal villages, viz. Antri, Bhakhra, Badarkha, Bandhana, Chamthan, Hingatiya, Khokhara, Limda, Kalvan Jaleti, Pal, Samtola, Suka amba, Virpur, Vagheshwari, Vireshwar, Songadh, Mamana pipla, Poshina, Zer, Tol dungari, Parsoda, etc. under three *talukas*, viz. Vijaynagar, Khedbraha and Bhiloda of district Sabarkantha situated in Northeast Gujarat. Regular field visits were arranged

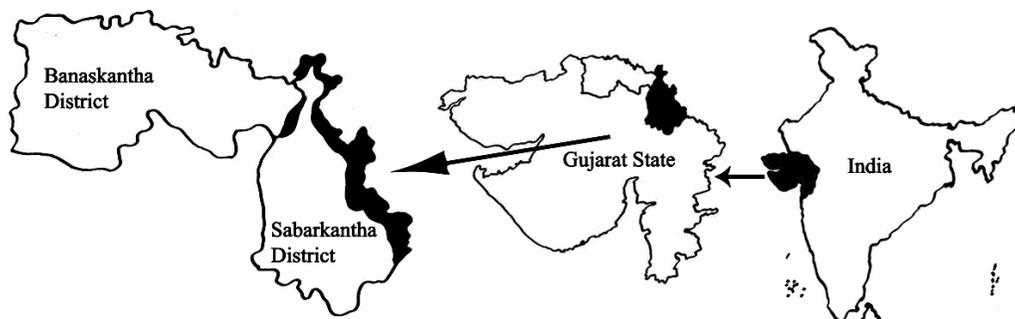


Fig. 1 Location map of North east Gujarat

in the tribal areas of the region under study. Reputed traditional medicine men, locally known as *bhagat* and local tribal people were requested to provide the information on use and mode of preparation along with the fresh specimen of the plant concerned. The first hand information about the plants and plant parts used as traditional remedies against urinary complaints was collected from tribal villages. The uses and local names of plants as given by tribal informants were recorded. The collected plant specimens were identified and deposited in the herbarium at Hariaum Foundation, Gandhinagar, Gujarat¹⁷.

Enumeration

The information on herbal folk medicines to treat urinary disorders is enumerated with botanical name of plant species, plant family, local name and plant part(s) used, form, mode of administration and precise dose of drug (Table 1). Moreover, available clinical

note and uses are also added from references in majority of the species. Uses of plant parts, which are new/interesting (*)are recorded for the first time in the region².

Conclusion

The paper is the result of intensive systematic ethnobotanical studies conducted in Northeast Gujarat. In all, 49 plant species belonging to 30 families of ethnomedicinal interest are recorded after critical screening with the available literature. These are recommended for further phytochemical/ pharmacological investigation and nutritional analysis, which might result in discovery of new drug molecules for human welfare. Amongst the total 49 plant species belonging to 30 Angiosperms families utilized in urinary complaints, 5 plants were from Amaranthaceae, 3 plants each from Rutaceae, and Euphorbiaceae, 2 plants each from Apiaceae, Asclepiadaceae, Asteraceae, Capparaceae,

Table 1—Plants used for urinary complaints by tribals of Northeast Gujarat

Plant name	Local name	Uses
<i>Acacia senegal</i> Willd. Mimosaceae	<i>Goradiyo-baval</i>	Crushed *root and stem bark soaked overnight in a glass of water and filtered next morning; half cup of the filtrate is taken orally once daily for a week to cure painful urination.
<i>Achyranthes aspera</i> L. Amaranthaceae	<i>Anghedi/Aghedi</i>	Half teaspoon ash of *herb (<i>Panchang</i>), mixed with one teaspoon of honey is taken once daily for two weeks to relieve cystitis. The herb is commonly used as a depurative, astringent, diuretic and pectoral ³ .
<i>Aerva javanica</i> (Burm.f.) Juss. ex. J.A. Schultes Amaranthaceae	<i>Gorakh-ganjo</i>	Leaf extract* is given orally twice a day for 10 days to cure any urinary disorders. The plant is diuretic, useful in strangury ³ .
<i>Amaranthus spinosus</i> L. Amaranthaceae	<i>Kantalo-dabho</i>	Stout old *root juice mixed with an equal quantity of milk is taken orally twice a day for a week to cure painful urination. The root is used internally as a diuretic, sudorific and febrifuge. The decoction is given for retention of urine ⁹ .
<i>Anisomeles indica</i> (L.) O. Ktze. Lamiaceae	<i>Chodharo</i>	Stem juice* is given twice daily to relieve painful urination. The plant has carminative, astringent and tonic properties ³ .
<i>Anogeissus latifolia</i> (Roxb.) Wall. ex Bedd. Combretaceae	<i>Dhav</i>	One teaspoon root decoction* is taken orally once daily for two weeks to cure difficulty during urination and haematuria. The root is pungent, acrid, and useful in urinary discharges ³ .
<i>Argyrea nervosa</i> (Burm.f.) Boj. Convolvulaceae	<i>Samudra-sos</i>	Root extract* is given once daily to relieve any urinary disorders till cured. The root is bitter, diuretic used in strangury ³ .
<i>Boerhaavia diffusa</i> L. Nyctagianaceae	<i>Satodi</i>	One teaspoonful of decoction of root or tender shoot* is administered twice daily to cure any urinary disorders. The root is diuretic. It is used in scanty urine ⁹ . Active constituent alkaloid is punarnavine; total alkaloid content of root is 0.04% ¹ .
<i>Bombax ceiba</i> L. Bombacaceae	<i>Shimlo/Shimbal</i>	Root extract is taken orally with puffed rice for one week on empty stomach in the morning to cure bed-wetting syndrome in children. The root is slightly diuretic ³ .
<i>Butea monosperma</i> (Lam.) Taub. Papilionaceae	<i>Khakhro/Kesudo</i>	Fresh/dried flower decoction is taken orally to resume urination quickly. Boiled warm flowers are also spread over abdomen. The flowers are sweet, bitter, hot acrid, cures strangury. The flowers are astringent; used as a poultice, used to disperse swellings and promote diuresis ³ .

(Contd—)

Table 1—Plants used for urinary complaints by tribals of Northeast Gujarat— *Contd*

Plant name	Local name	Uses
<i>Cadaba fruticosa</i> (L.) Druce Capparaeae	<i>Kalo-katakiyo</i>	Decoction of root* and leaves is given twice daily for a week to cure urine obstruction and to resume free flow of urination. Leaves and roots are purgative, deobstruent, emmenagogue and aperient ¹ .
<i>Celosia argentea</i> L. Amaranthaceae	<i>Lampdi</i>	One teaspoon of *leaf decoction is taken orally daily to resume free flow of urination. The seeds are demulcent and useful in painful micturition ^{1,3} .
<i>Citrus medica</i> L. Rutaceae	<i>Bijoru</i>	One cup fruit juice is given orally once daily in the early morning for 3-4 days to get immediate relief in drop by drop urination and to resume easy and free flow urination. The fruit juice is refrigerant and astringent ⁴ .
<i>Cissampelos pareira</i> L. Menispermaceae	<i>Venivel</i>	Juice of fresh leaves/ fruits* with little water is given to cure burning urination (cystitis). The root is used as a diuretic, emmenagogue, and given for urinary gravel ^{1,9} . Root acts as an antiseptic of the bladder and used in chronic inflammation of the urinary passages ³ .
<i>Coccinia indica</i> W & A. Cucurbitaceae	<i>Ghilodi</i>	Fresh juice of leaves and stem is given orally once a day for a week to relieve burning sensation during urination.
<i>Cocculus hirsutus</i> (L.) Diels Menispermaceae	<i>Vevdi</i>	One teaspoon of expressed juice of tender leaves/flowers* and unripe fruits* mixed with sugar candy is administered in empty stomach in morning for a week to cure dysuria and to treat burning micturition.
<i>Cordia dichotoma</i> Forst. f. Ehretiaceae	<i>Gundo</i>	A teaspoonful of powdered unripe fruit is given with water daily to the patient having difficulty in urination till cured. The fruit is sweet and diuretic; useful in strangury and scalding of urine ³ , used in affections of urinary passages.
<i>Commelina benghalensis</i> L. Commelinaceae	<i>Bokna</i>	Tender leaves* are eaten early morning for to relieve urinary problems. The herb is demulcent, refrigerant and laxative ⁴ .
<i>Crateva nurvala</i> Buch. - Ham. var. <i>nurvala</i> Capparaceae	<i>Vay-varno</i>	Trunk bark* decoction is taken orally daily morning to resume urination till cured. The bark is demulcent, diuretic and useful in some cases of urinary complaints ^{1,3} .
<i>Cucumis sativus</i> L. Cucurbitaceae	<i>Kakdi</i>	Powdered seeds* mixed with <i>draksh</i> (<i>grape</i>) juice is administered twice daily to cure urinary complaints. Seeds possess cooling, diuretic properties, used in painful micturition, suppression of urine ³ .
<i>Cynodon dactylon</i> (L.) Pers. Poaceae	<i>Dharo</i>	Whole herb* juice mixed with water is taken once daily to cure burning sensation during urination. Fresh juice is demulcent, astringent and diuretic. Cold infusion of the grass is useful in dysuria and irritation of the urinary passage ⁴ .
<i>Daucus carota</i> L. var. <i>sativa</i> DC. Apiaceae	<i>Gajar</i>	Fresh raw roots* are eaten daily; good remedy to cure urinary troubles through excess urination. The root is diuretic and used in urinary complaints ³ .
<i>Echinops echinatus</i> Roxb. Asteraceae	<i>Utkantaro</i>	Fresh root* decoction is taken twice a day till cured to relieve scanty urination. Plant is pungent, bitter, used in strangury and urinary discharges ³ .
<i>Emblica officinalis</i> Gaertn. Euphorbiaceae	<i>Aamla</i>	<i>Morabba</i> made from fruit is given to relieve dysuria. Fruit powder mixed with equal amount of <i>haldar</i> (<i>Curcuma longa</i> L.) powder is taken with water once daily morning for one week to cure dysuria. The fruit is acrid, sour, bitter, sweetish; cooling, useful in burning sensation, urinary discharges, strangury ³ .
<i>Euphorbia hitra</i> L. Euphorbiaceae	<i>Nagla-dudheli</i>	Mixture of root*crushed with jaggery and <i>jiru</i> (<i>Cuminum cyminum</i> L.) seed is taken once a day to control excessive urination.
<i>Gmelina arborea</i> L. Verbenaceae	<i>Shivan</i>	Fresh tender leaf* juice is administered to relieve burning sensation; get cooling effect during urination. Root and fruits are useful in urinary discharges and strangury ³ .
<i>Hemidesmus indicus</i> (L.) R. Br. Asclepiadaceae	<i>Sariva/ Upalsari</i>	Five cm fresh root is tied up in leaf of <i>kela</i> (<i>Musa paradisiaca</i> L.) and roasted; then crushed with <i>jiru</i> (<i>Cuminum cyminum</i> L.) seed and sugar. The mixture is given once a day for a week to relieve burning sensation during urination and to reduce inflammation of the urinary passages. The root is diuretic, lessens inflammation ³ .
<i>Holostemma annulare</i> (Roxb.) K. Schum. Asclepiadaceae	<i>Shirdodi</i>	Root* powder is administered with a glass of milk with sugar twice daily for a week to treat any urinary troubles.

(Contd—)

Table 1— Plants used for urinary complaints by tribals of Northeast Gujarat— *Contd*

Plant name	Local name	Uses
<i>Leucas cephalotes</i> (Roxb. ex Roth) Spr. Lamiaceae	<i>Doshino-kubo</i>	Decoction of equal quantities of tender leaves* of the plant and tender shoots of <i>satodi</i> (<i>Boerhaavia diffusa</i> L.) is given once daily for a week to cure burning sensation and painful urination. Leaves are useful in urinary discharges ³ .
<i>Madhuca indica</i> J. F. Gmel. Sapotaceae	<i>Mahudo</i>	Decoction of corollas* is taken once a day to treat dysuria till cured. Flower is sweet, cooling, demulcent, cures burning sensation ³ .
<i>Moringa oleifera</i> Lamk. Moringaceae	<i>Saragvo</i>	Powdered gum mixed with curd taken daily for a week to cure painful and burning urination. The gum is astringent ⁴ .
<i>Pedaliium murex</i> L. Pedaliaceae	<i>Ubhu-gokhru</i>	Fresh whole herb* is soaked overnight in water. The sticky infusion mixed with cane sugar is taken daily once daily to cure painful urination, excess urination, haematuria, etc. An infusion is a remedy in dysuria. Fruit juice demulcent and diuretic is useful in irritation of urinary organs and incontinence of urine ³ . Fruit decoction is given for incontinence of urine, nocturnal emission ¹ .
<i>Phyla nodiflora</i> (L.) Greene Verbanaceae	<i>Ratveliyo</i>	Whole plant* is boiled with water and then in warm condition the plant is spread over abdomen to resume urination. The plant is hot and dry; diuretic, maturant; useful in urinary concretions ³ .
<i>Phyllanthus fraternus</i> Webster Euphorbiaceae	<i>Bhoin-amli</i>	Seeds of <i>jiru</i> (<i>Cuminum cyminum</i> L.), sugar and juice of whole herb* is mixed and given internally twice a day for a week to cure burning sensation during urination. Plant is acrid, sour, cooling, bitter; useful in urinary discharges, anuria, as diuretic ³ .
<i>Pterocarpus marsupium</i> Roxb. var. <i>acuminatus</i> Prain Papilionaceae	<i>Biyo</i>	Juice of stem bark of the plant, root* of <i>kanski</i> (<i>Abutilon indicum</i>) and leaves* of <i>kothi</i> (<i>Limonia acidissima</i>) and <i>bili</i> (<i>Aegle marmelos</i>) in equal quantities is taken once daily in the morning for a week to relieve painful and burning sensation during urination. Leaves and bark are demulcent, diuretic ⁴ .
<i>Pupalia lappacea</i> (L.) Juss. Amaranthaceae	<i>Gadar-zipto</i>	Root decoction is given orally once daily for a week to cure scanty urination and to resume free flow of urination.
<i>Raphanus sativus</i> L. Brassicaceae	<i>Mulo</i>	Fresh leaves* or roots* are eaten raw to relieve urinary complaints. Fresh leaf juice is used as a diuretic; root is useful for urinary complaints ³ .
<i>Sesamum indicum</i> L. Pedaliaceae	<i>Tal</i>	Mixture of seeds* and equal quantity of jaggery is given orally once daily at bed time to cure night wetting in children. The seeds are acrid with a sharp bitter sweet taste; cooling, diuretic; useful in urinary concretions, strangury, burning sensation while micturating ^{1,3} .
<i>Sida alba</i> L. Malvaceae	<i>Kantalo-bal</i>	Root* bark powder is taken with a cup of warm water once daily for a week to treat burning sensation during urination. The bark cures urinary troubles and discharges ³ .
<i>Tribulus terrestris</i> L. Zygophyllaceae	<i>Bethu-gokhru</i>	Decoction of root or powdered whole herb* (<i>Panchang</i>) is taken with water twice a day for a week for curing painful micturition. Fruits are regarded as cooling, diuretic, tonic and useful in painful micturition. The root and fruit are sweetish, cooling, useful in strangury, urinary discharges ^{1,3} .
<i>Urginea indica</i> L. Liliaceae	<i>Pankando</i>	Powdered tender bulb/bulb extract is taken orally once a day to relieve painful urination till cured. The bulb is diuretic ³ .
<i>Woodfordia fruticosa</i> (L.) Kurz Lythraceae	<i>Dhavdi</i>	Root* extract is administered daily once for two weeks to cure painful urination and haematuria.
<i>Xanthium strumarium</i> L. Asteraceae	<i>Gadariyu</i>	Leaves* are boiled in water, warmed leaves are spread over abdominal region to resume easy and free flow urination. Whole plant is sedative, diuretic; plant decoction is given in urinary and renal complaints ⁴ .

Cucurbitaceae, Papilionaceae, Lamiaceae, Malvaceae, Menispermaceae, Pedaliaceae and Verbanaceae, whereas, single plant was from each of the remaining sixteen families.

Acknowledgement

Author is grateful to all the traditional healers of Northeast Gujarat for cooperation during field trips in the forest areas and sharing their precious knowledge.

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