



Ethnomedicinal plants specially used for liver disorders in the Aravalli ranges of Gujarat, India.

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Abstract

Objective: To study the ethnomedicinal plants used by the tribes of Aravalli ranges of Gujarat for the treatment of liver disorders. **Materials & Methods:** Ethnomedicinal field survey method with local medicinemen was used. **Results & Conclusion:** 27 plant species belonging to 23 families of angiosperms are reported along with plant parts and their local formulations used medicinally for the treatment of liver disorders.

Keywords: Ethnomedicinal plants, Liver disorders, Sabarkantha, Banaskantha, North Gujarat, Aravalli ranges.

1. Introduction

The Aravalli ranges, which run along the northern fringe of the Gujarat State, are situated between 23° 3' and 24° 37' North latitudes and 72° 15' and 73° 39' East longitudes. The area under study covers the forests of Aravalli hills situated in Banaskantha and Sabarkantha districts of North Gujarat.

The Banaskantha district is situated in north western part of the Gujarat State between 23° 35' and 24° 43' North latitudes and 71° 00' and 73° 00' East longitudes while the district of Sabarkantha is situated in north eastern part of the Gujarat State between 23° 03' and 24° 30'

North latitudes and 72° 43' and 73° 39' East longitudes.

The tribal people who live in remote areas of Aravalli ranges of both the districts treat their liver complaints with plant remedies and their local formulations. The perusal of literature revealed the Aravalli ranges have never been surveyed from ethnomedicinal viewpoint except floral survey [3].

In continuation of our earlier attempt [1, 2], the ethnomedicinal plant of this region for curing liver disorders is being covered by us. The

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predominant scheduled tribe in the area is Bhil including Bhil Garasia, Dungri Bhil, Dungri Garasia, Chokhla Garasia, etc.

4. Materials and Methods

The Ethnomedicinal survey of traditional herbal remedies to treat liver disorders was conducted with close assistance and cooperation of local tribal informants of Aravalli ranges of both the districts during 2000-2001. During the field trips, personal interviews were conducted with chieftains of different tribal villages, elderly persons and traditional healers (vaidyas). The medicinemen were interviewed locally using questionnaire; photographs, fresh and dried specimens. The collected plant specimens were identified by using Flora of Gujarat state [3].

5. Observations

During the survey in the tribal areas of Aravalli ranges of both the districts of North Gujarat, many plant species have been found to be effective drugs in the treatment of liver disorders used by tribal people. The total information is arranged in alphabetical order in following manner; botanical name, family in parentheses, local name and voucher specimen number in parentheses and some formulations of plant part used.

01. *Achyranthes aspera* L. var. *aspera* (Amaranthaceae) 'Anghedi' [BLP-11]: One teaspoon root extract is mixed with half-cup of butter milk and given orally once a day for 10-12 days regularly to cure liver disorders.

02. *Adhatoda vasica* Nees. (Acanthaceae) 'Ardusi' [BLP-14]: Two to three teaspoons extract of leaves and flowers is mixed with sakar (sugar) or honey and administered orally for thrice a day to cure jaundice.

03. *Aegle marmelos* (L.) Corr. (Rutaceae) 'Bili' [BLP-17]: The half-cup decoction of the leaves is given twice a day for quick relief in jaundice.

04. *Aloe barbadense* Mill. (Liliaceae) 'Kunvar' [BLP-26]: One teaspoon pulp of the leaves is given orally twice a day for 12-15 days to cure jaundice and to reduce enlargement of the liver.

05. *Azadirachta indica* A. Juss. (Meliaceae) 'Limdo' [BLP-46]: Two to three teaspoons extract of the inner bark is mixed with honey and given orally twice a day for two weeks to cure weakness and jaundice.

06. *Boerhaavia diffusa* L. (Nyctaginaceae) 'Satodi' [BLP-52]: Five gms. powdered herb (panchang) is mixed with honey or sakar (sugar) and given orally twice a day for 12-15 days to cure chronic liver disorders.

07. *Calotropis procera* (Ait.) R.Br. (Asclepiadaceae) 'Aakdo' [BLP-66]: The root bark powder is mixed with mari (*Piper nigrum*) powder and soda (sodium bicarbonate) powder. One teaspoon preparation is given orally twice a day regularly for two weeks with one cup of buttermilk to cure jaundice.

08. *Carica papaya* L. (Caricaceae) 'Papayu' [BLP-72]: 5-10 drops of the fresh latex of raw fruits is mixed with sakar (sugar) and given orally twice a day for a week to reduce enlargement of liver. The ripe fruit pieces are mixed with lemon (*Citrus limon*) juice, Elchi (*Elettaria cardamomum*) and sakar (sugar). The preparation is given orally for two weeks to improve liver activities and appetite.

09. *Cuscuta reflexa* Roxb. (Cuscutaceae) 'Amarvel' [BLP-110]: Half-cup of fresh stem juice or the infusion of the dried stem is given orally twice a day for 8-10 days to reduce and cure inflammation of liver.

10. *Diplocyclos palmatus* (L.) C. Jeffrey (Cucurbitaceae) 'Shivlingi' [BLP-138]: The fruits (10-12 nos.) are boiled and fried with edible oil and used as vegetable regularly to cure liver complaints.

11. *Eclipta prostrata* L. (Asteraceae) 'Bhangro' [BLP-142]: One teaspoon fresh juice of whole plant is given orally in early morning for a month to cure disorders of the liver and jaundice.
12. *Holarrhena antidysenterica* (Heyne ex Roth) Wall. (Apocynaceae) 'Kudo' [BLP-170]: Five gms. powdered stem bark is given orally twice a day for one week to cure jaundice and chronic amoebiasis of liver.
13. *Indigofera tinctoria* L. (Fabaceae) Gali [BLP-324]: Half-cup of fresh leaves juice is given orally once a day for two weeks to reduce inflammation of liver.
14. *Lawsonia inermis* L. (Lythraceae) 'Mendi' [BLP-187]: Two teaspoons decoction of stem bark is given orally twice a day for one week to cure jaundice and other liver disorders.
15. *Leucas cephalotes* (Roxb. ex Roth) Spr. (Lamiaceae) 'Kubo' [BLP-192]: Four to five drops of leaves decoction is mixed with honey or jaggery and the preparation is administered into the eyes once a day for a week to cure jaundice.
16. *Luffa echinata* Roxb. (Cucurbitaceae) 'Kukarpado' [BLP-197]: Two teaspoons infusion of whole plants is given orally in early morning for a week to cure jaundice. Seven dried fruits are filled with water and the water is given orally from each fruit daily in the morning to cure jaundice and other liver disorders.
17. *Manilkara hexandra* (Roxb.) Dub. (Sapotaceae) 'Rayan' [BLP-202]: One teaspoon decoction of the leaves is mixed with sakar (sugar) and given orally twice a day for a week to cure jaundice.
18. *Maytenus emarginata* (Willd.) D. Hou (Celastraceae) 'Vikro' [BLP-205]: Two to three teaspoons of fresh leaves juice is mixed with or without sakar (sugar) and administered orally thrice a day for two weeks against jaundice.
19. *Mimosa pudica* L. (Mimosaceae) 'Risamani' [BLP-325]: Half-cup infusion of the leaves is given orally twice a day for a week to cure liver dysfunction.
20. *Oroxylum indicum* (L.) Vent. (Bignoniaceae) 'Tetu' [BLP-229]: The stem bark is soaked in water for a day and half cup filtrate is given orally twice a day for a week against liver disorders for quick relief.
21. *Phyllanthus fraternus* Webst. (Euphorbiaceae) 'Bhoy Aamli' [BLP-241]: One teaspoon of fresh root extract is mixed with half-cup milk or rice water and given daily in morning regularly for a week to cure liver diseases.
22. *Plumbago zeylanica* L. (Plumbaginaceae) 'Dholo Chitrak' [BLP-244]: 50-60 mg. ash of the whole plant is given orally once a day for a week to reduce inflammation of the liver.
23. *Sphaeranthus indicus* L. (Asteraceae) 'Gorakhmundi' [BLP-276]: Two teaspoons decoction of whole plant is given orally once a day for a week to cure jaundice and other liver problems.
24. *Syzygium heyneanum* Wall. ex W. & A. (Myrtaceae) 'Jal Jambudi' [BLP-280]: The sindhav (rock salt) is dissolved in the fresh fruit juice and half teaspoon of the preparation is given orally on alternate days for three weeks to cure jaundice and other liver disorders.
25. *Tecomella undulata* (Sm.) Seem. (Bignoniaceae) 'Rohiro' [BLP-282]: The tea is prepared from the inner bark with water, milk and sugar (required quantity). The cup of tea is given orally in the morning for two weeks to cure jaundice and general weakness.

26. *Tephrosia purpurea* (L.) Pers. (Fabaceae) 'Sarpankho' [BLP-323]: 100-120 mg. whole plant ash or one teaspoon root extract is given orally twice a day for a week to cure enlargement of the liver and jaundice.

27. *Tinospora cordifolia* (Willd.) Miers (Menispermaceae) 'Galo' [BLP-290]: One teaspoon stem extract is mixed with or without honey or one teaspoon leaf extract with half-cup of buttermilk is given orally in the morning for two weeks to cure jaundice and other liver problems.

6. Results and discussion

27 plant species found useful to cure liver disorders in traditional medicine by the tribals of Aravalli ranges of Gujarat State are arranged in alphabetical order of their botanical names.

Amongst the plants of 23 families used in the treatment of different liver disorders maximum

2 plants were from each of the 4 families viz., Cucurbitaceae, Asteraceae, Fabaceae and Bignoniaceae while remaining 19 families had one plant each.

The tribal people of Aravalli ranges have a vast wealth of plants, which are rich sources of medicinal compounds. Therefore, more concerted efforts are needed for the documentation of all the tribal medicines and their health practices useful in the treatment of liver disorders. The above reported ethnomedicinal plants also require a proper chemical, pharmacological experiments and clinical trials for the validation of the traditional claims.

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