

# Traditional Healing Practices of Jaundice in Dadra and Nagar Haveli

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**Abstract**— The study deals with the traditional healing practices for jaundice prevalent among tribal healers in Dadra and Nagar Haveli, and surrounding areas. A semi-structured interview was conducted in the study area to collect information about the treatment of jaundice from the tribal healers and patients. The predominant practice involves the use of garlands made from *Tinospora cordifolia* (Thunb.) Miers. stems, renowned globally for its jaundice-treating properties. A total of 13 plant species belonging to 12 families were recorded for their therapeutic use against jaundice. The most preferred herbal formulation is in the form of juice, and in most cases, treatment involves oral administration of extracts for 2-3 times from a week to days until it disappears. The study documented various traditional remedies employed by traditional healers, detailing specific quantities, preparations, and dosages of medicinal plants used, including *Oroxylum indicum* (L.) Benth. ex Kurz, *Pterocarpus marsupium* Roxburgh, *Radermachera xylocarpa* (Roxb.) K.Schum., *Boerhavia diffusa* L. nom. cons., *Phyllanthus niruri* L., and *Asparagus racemosus* Willd.

**Keywords:** D&NH, Indigenous community, Jaundice, Traditional remedies.

## I. INTRODUCTION

Dadra and Nagar Haveli is located in western India, in the union territory of Dadra and Nagar Haveli and Daman and Diu. D&NH is composed of two geographical areas: Dadra, which is bordered by Gujarat, and Nagar Haveli, which is located northwest of Gujarat and between Maharashtra. Tribal people represent the majority of the area's population [1].

The term "jaundice" comes from the French word "jaune," which indicates yellow in literal translation [2]. Jaundice is an indication of liver malfunction. This disorder is characterized by a yellow coloring of the skin and mucous membranes brought on by an elevation of the blood's bile pigment, bilirubin [3]. The bilirubin metabolism occurs through the hemolysis of red blood cells, which releases hemoglobin. Heme is degraded into biliverdin and carbon monoxide in the reticuloendothelial system by heme oxygenase. Biliverdin reductase then converts biliverdin into unconjugated bilirubin. Albumin binds to unconjugated bilirubin and is then transported to the liver, which is toxic to the central nervous system as it can pass through the blood-brain barrier [4]. Based on its pathophysiology, jaundice manifests in three main stages or types: pre-hepatic jaundice, which is brought on by the hemolysis of erythrocytes, or red blood cells. Post-hepatic jaundice is brought on by decreased liver function or any obstruction in the bile duct, whereas hepatic jaundice is caused by aberrant liver metabolism or liver failure [5].

Tribes are dependent on mother nature. Various medicinal plants are used for curing jaundice. Various bioactive compounds of plants called secondary metabolites are the reason for their medicinal value and include glycosides, tannins, steroids, alkaloids, terpenoids, essential oils, etc [6].

Jaundice is a prevalent health concern in Dadra and Nagar

Haveli, and traditional remedies play a significant role in its treatment. Modern therapies are costly as compared to traditional medicines with fewer side effects [7]. This article deals with documenting the traditional healing practices followed in the study area. In addition to helping to preserve cultural customs and biodiversity, ethnobotanical research on indigenous knowledge is beneficial for community healthcare and drug development both today and in the future [8].

## II. MATERIALS AND METHODS

The study was conducted from January 2023 to May 2023 to collect data on medicinal plants used by traditional healers and common people for the treatment of jaundice. Native traditional healers residing in Randha, Morkhal, Faldhara, and Dadra villages were interviewed for the treatment procedures. The medicinal formulation used for jaundice was collected and documented correctly. Traditional healers in this area treat almost every disease with the help of herbal medicine. Different traditional healers use different combinations of medicinal plants for treating any disease, and one of the most preferred methods by every traditional healer for the treatment of jaundice is tying Giloi {*Tinospora cordifolia* (Thunb.) Miers} garland around the patient's neck along with the medicinal intake.

## III. RESULT AND DISCUSSION

Dadra and Nagar Haveli is densely covered with thick forest cover and inhabited by tribes. Humans depend on nature for food, medicine, and shelter [9]. In the present study, 13 plant species belonging to 12 families are used for the treatment of jaundice by the tribes in the DNH region. Excess bilirubin concentration causes the eyes, skin, and mucus membrane in the mouth to turn yellowish in patients suffering

from jaundice [10]. Some traditional healers use one medicinal plant, or some use a combination of two or more plants. The 13 medicinal plants used for the treatment of jaundice are listed in Table 1 with their common name, family, scientific name, parts used, method of preparation, and dosage.

**Table: I** Remedies for Jaundice followed by traditional healers and common people are listed below.

Sr no.	Common name/Family	Scientific name	Part used	Method of Preparation & Dosage
1	Adusi/Acanthaceae	<i>Adhatoda vasica</i> (L.) Nees	Leaves	5ml leaf juice with 5ml honey for two times
2	Bili/Rutaceae	<i>Aegle marmelos</i> (L.) Correa	Leaves	3g black pepper and 15 ml bili juice with buttermilk for 3 times.
3	Shatavari/Asparagaceae	<i>Asparagus racemosus</i> Willd.	Root	Cut roots into 1 inch long pieces, mix the roots with turmeric and make a garland and tie it to patient's neck.  2.5g powder with 1 glass water is taken for 2 times for 4-5 days.
4	Neem/Meliaceae	<i>Azadirachta indica</i> A. Juss.	Leaves	Leaf juice with honey for 2 times
5	Cucurbitaceae	<i>Luffa acutangula</i> (L.) Roxb	Fruit	Fruit juice is drunk for two times
6	Tetu/Bignoniaceae Giloi/Menispermaceae Biyo/Fabaceae Kharsingh/ Bignoniaceae	<i>Oroxylum indicum</i> (L.) Benth. ex Kurz <i>Tinospora cordifolia</i> (Thunb.) Miers <i>Pterocarpus marsupium</i> Roxburgh <i>Radermachera xylocarpa</i> (Roxb.)	Fruit Stem Bark Bark	1 spoon powder is mixed with 1 glass of water and taken for 2times for 3 days
7	Bhoi amla/ Phyllanthaceae	<i>Phyllanthus niruri</i> L.	Whole plant	10 ml whole plant juice is given 3 times
8	Muli/Brassicaceae	<i>Raphanus raphanistrum</i> (L.) Domin	Leaves	100 ml leaf juice with 20g sugar is drunk in morning for 15-20 days
9	Eranda/Euphorbiaceae	<i>Ricinus communis</i> L.	Leaves	5g tender leaf paste for 1 time empty stomach.
10	Giloi/ Menispermaceae	<i>Tinospora cordifolia</i> (Thunb.) Miers	Stem	Peel the stem and cut into small pieces then these pieces are mixed with turmeric paste and made into garland using cotton strings and tied around the neck of patients.
11	Neem Giloi/ Menispermaceae Punarnava /Nyctaginaceae Bhoi amla/Phyllanthaceae	<i>Tinospora cordifolia</i> (Thunb.) Miers <i>Boerhavia diffusa</i> L. nom. cons. <i>Phyllanthus niruri</i> L.	Stem Stem Whole plant	Giloi, Satodi and Bhoi amla is boiled in 1L water and reduced to 1/4 <sup>th</sup> volume and drink 1 glass decoction for 2 times for 15 days

Some traditional healers use one medicinal plant, or some use a combination of two or more plants. The maximum plant part used was leaves (5 plants), followed by stems (4 plants), fruit, bark, and whole plants (2 plants), and the least part used was roots (1 plant). Traditional healers mostly use fresh plant parts and dried plant parts as powder. The reported plants were mostly administered in 5 categories: powder, fresh part, decoction, paste, and juice. Most of the time, the mode of application was oral. According to the patient's condition, preparations were used once or more than twice daily from week to month until the problem was cured. The plants used for the treatment have hepatoprotective properties, which helps to treat jaundice.

As soon as people suffer from any disease, they contact their traditional healer. Traditional healer is someone who inherited the knowledge of curing various diseases from his ancestors and other people using plants. The knowledge of medicinal formulation is passed on to the next generation with his family. After the symptoms of a particular disease are recognized by the traditional healer and treated with plants available in that region, A dark urine color is the

primary sign of this disease, while it can also present with other symptoms such as weakness, high temperature, nausea, lack of appetite, and vomiting [5]. Once the symptoms of Jaundice are analyzed by the traditional healer, they tie *Tinospora cordifolia* (Thunb.) Miers. garland tightly around the patient's neck. For this, stems are collected, peeled, and cut into small pieces, mixed with turmeric paste, and then tied. It is believed that as the garland loosens up, the disease gets cured. Though everybody uses *Tinospora* garland, some traditional healers also use the garland of *Asparagus racemosus* Willd for the treatment.

Traditional healers depend on wild plants for the treatment of diseases. Reference [7] documented certain plant species like *Calotropis procera* (Aiton) W.T. Aiton, *Terminalia chebula* Retz., *Terminalia bellerica* (Gaertn.) Roxb., *Azadirachta indica* A. Juss., *Boerhavia diffusa* L. Nom. cons., and *Raphanus sativus* (L.) Domin used by traditional healers to cure jaundice. Reference [11] also stated that traditional healers in Dang, Gujarat, India, use 27 medicinal plants to treat jaundice, with *Cassia tora* L., *Dalbergia volubilis* Roxb., *Oroxylum indicum* (L.) Benth. ex Kurz, and *Pterocarpus*

being the most commonly used. Reference [4] documented 207 plants used for treating jaundice, with potential mechanisms of action based on their origin, graphical location, and usage.

Tribes are the storehouse of knowledge about plants, and this knowledge is passed on orally to the next generation. Documentation of indigenous knowledge through ethnobotanical studies is important for the conservation of knowledge of traditional medicines preserved in tribal and rural communities in various parts of the world before it is permanently lost [12]. The documented information can be used for further research.

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