

Ethnomedicinal Use of Medicinal Plants for the treatment of Jaundice.

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Abstract

Jaundice, a condition resulting from hyperbilirubinemia, is a common clinical manifestation of liver dysfunction, hemolytic diseases, or biliary obstruction. Despite advances in modern medicine, the high prevalence of jaundice, particularly in resource-limited regions, underscores the need for alternative and complementary therapeutic options. Medicinal plants have been widely used in traditional medicine systems for the treatment of jaundice, owing to their hepatoprotective, antioxidant, and anti-inflammatory properties. This study explores the ethno botanical and pharmacological profiles of medicinal plants traditionally employed in the management of jaundice. Key plant species, their bioactive compounds, mechanisms of action, and therapeutic efficacy are critically reviewed, with a focus on their hepatoprotective potential. Furthermore, the study highlights scientific advancements in validating traditional claims, as well as challenges in standardization, safety evaluation, and clinical application of these herbal remedies. The findings emphasize the importance of medicinal plants as a promising avenue for the development of cost-effective and accessible therapies for jaundice. Integrating traditional knowledge with modern pharmacological research can provide valuable insights into innovative liver-protective agents and contribute to global healthcare solutions.

Keywords: Jaundice, antioxidant, anti-inflammatory , bioactive, cost-effective , medicinal plants , liver-protective , pharmacological, jaundice, standardization

Introduction

Jaundice, a clinical condition characterized by the yellowing of the skin, mucous membranes, and sclera due to elevated bilirubin levels in the blood, remains a significant public health concern, particularly in regions with limited access to conventional healthcare systems. It is often associated with liver dysfunction, hemolytic disorders, and bile duct obstructions, necessitating diverse therapeutic approaches.

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While modern medicine offers effective treatments, the reliance on medicinal plants for managing jaundice has persisted across cultures, especially in traditional medicine systems such as Ayurveda, Traditional Medicinal Practice, and folk practices. Medicinal plants have been valued for their hepato-protective, antioxidant, and choleric properties, making them pivotal in mitigating liver disorders. Furthermore, they are often more accessible, cost-effective, and culturally acceptable compared to synthetic drugs.

This paper explores the ethnobotanical, pharmacological, and therapeutic aspects of medicinal plants traditionally used in the treatment of jaundice. By consolidating scientific evidence and traditional knowledge, it aims to provide a comprehensive understanding of their efficacy, mechanisms of action, and potential for integration into modern medicine. Emphasis is placed on identifying bioactive compounds, evaluating clinical relevance, and addressing the challenges associated with their standardization and commercialization.

Methodology

This research explores how medicinal plants can be used to treat jaundice by combining experimental studies with ethnobotanical research. The methodology is structured as follows:

1. Research Design

A mixed-methods approach was employed, integrating qualitative insights from traditional practices with quantitative data from laboratory experiments. This comprehensive strategy allowed for a detailed evaluation of the therapeutic potential of the selected plants.

2. Plant Selection

- **Selection Criteria:** Plants were chosen based on their documented use for liver ailments, availability, and safety. Sources included scholarly articles, ethnobotanical surveys, and recommendations from traditional healers.

3. Ethnobotanical Survey

- **Participants:** Interviews were conducted with traditional healers, herbalists, and individuals familiar with plant-based treatments for jaundice.
- **Data Collection:** Semi-structured interviews and focus group discussions captured details on plant preparation methods, dosages, and effectiveness.
- **Ethical Guidelines:** Participants provided informed consent, and the study adhered to ethical protocols to protect traditional knowledge.

4. Phytochemical Analysis

- **Sample Preparation:** Plant materials (e.g., leaves, roots, seeds) were collected and authenticated by a botanist. Samples were dried and processed for analysis.

Results -

1. Jaundice

- Acacia nilotica* (L.) Delile(Babool)-** The equal quantities of its flower powder and sugar candy is mixed and given 10g of this powder to the patient three times a day it cures jaundice. The cost of treatment per episode is noted Rs. 20.
- Aegle marmelos* (L.) Correa(Bel) -** The 50 leaves of *Aegle marmelos*(L.) Correaare taken and crushed in mortar and pestle and strained to prepare juice, 10-30ml juice is taken and in this ½ g powder of black papper is added and given to the patient every morning and evening. The total cost of treatment per episode is recorded Rs. 30.
- Andrographis paniculata* (Burm. f.) Wall. ex Nees(Bhui neem)-** It's decoction is very effective in hepatic disorders. The whole plant is boiled in 500ml of water, till the 100ml decoction is left. 50-50ml decoction is given to the patient in the morning & evening. The cost of treatment per episode is noted Rs. 30.
- Azadirachta indica*A. Juss.(Neem)-** 1gm fine powder of its whole plant is prepared and given to the patient, twice a day with 5g ghee and 10g honey. In case ghee and honey are not suitable, 1gm powder of its whole plant can be given with cow's urine or water or milk.

The cost of treatment per episode is told Rs. 20.

- e. ***Boerhavia diffusa* (L.) nom. Con F.(Punarva)** - The whole plant is taken and crushed in mortar and pestle and strained it, juice is prepared 90ml of this juice mixed with 2g baheda powder is given to the patient. The total cost of the treatment per episode was recorded Rs. 50.
- f. ***Buchanania lanzan* Spreng. (Char) and *Terminalia arjuna*.(Roxb.) Weight and Arn.(Kahua)**- The bark of two plants are taken in same proportion and dried in sunlight then it is powdered in mortar and pestle. The half tea spoon of this powder is taken with one tea spoon of curd, twice in a day (morning and evening) for ten days. The total cost of the treatment is approximately Rs. 55.
- g. ***Cassia fistula* Linn.(Amaltas)**- The leaves are taken and crushed in mortar and pestle and strained it properly. The 50ml juice of it is taken and mixed with 50ml of sugarcane juice and given to the patient twice a day. The total cost of treatment is recorded Rs. 20.
- h. ***Citrus aurantifolia* (Christm.) Swingle (Nimbu)**- The juice is applied in eyes. It cures jaundice. The cost of the treatment per episode is told Rs. 10.
- i. ***Crotalaria sericea* Retz. (San), *Phyllanthus niruri* L. (Bhui amla) and *Achyranthes aspera* L. (chirchila)**- Whole plant of *Phyllanthus niruri*L. (Bhui Amla) and leaves of *Crotalaria sericea* Retz. (san) are powdered and tablets are prepared by mixing molasses. Two tablets are taken with half cup of curd in empty stomach in morning and evening for 7 days to get relief from the jaundice. The cost of treatment per episode is recorded Rs. 55.
- j. ***Ficus religiosa*Linn.(Pipal)**- 3 new peepal leaves are grinded in 250ml of water and paste is prepared and strained to get solution. This solution is given to the patient twice a day, for 5 days. It is a very effective medicine for curing jaundice. The cost of treatment per episode is told Rs. 15
- k. ***Glycyrrhiza glabra* L.(Mulethi)**- 1 tea spoon full of its powder with honey or its decoction is given to the patient. The total cost of treatment per episode is recorded Rs. 20.

- l. *Melia azadirach* Linn.(Mahaneem)-** 50g of fresh bark is taken, grinded it and cooked it in 300 ml water till water is reduced to 1/4th. ½ tea spoonful of this mixture is given to patient every morning and evening, with in 20 days it helps in liver problems. The total cost of treatment per episode is told Rs. 25.
- m. *Mimosa pudica* Linn.(Lajwanti)-** The juice of its leaves is given to the patient regularly with in first 7days. It cures the fever and all types of pitta disorders. In the next week it cures jaundice and piles like disorders. The cost of treatment per episode is recorded Rs. 20.
- n. *Momordica charantia* L. (Vankarela)-** The raw fruit is dipped in the butter milk for some time and added little salt and eaten once a day daily. The cost of treatment per episode is recorded Rs. 30
- o. *Phyllanthus fraternus* Linn.(Bhui amla)-**
- (i) 10gm of its root is grinded and given with 250ml of milk every morning and evening on empty stomach.
- (ii) The root is utilized for it, 10g of root is taken and grinded in 50 ml of water and paste is given with 250 ml of milk.
- The total cost of treatment per episode is told Rs. 30.
- p. *Psoralea corylifolia* Linn.(Bakuchi)-** 10ml juice of spreading hogweed, 1/2g *Psoralea* seeds powder are taken and mixed them well, given the mixture to the patient every morning and evening. (Excessive use of seeds may cause vomiting). The cost of treatment per episode is noted Rs. 20.
- q. *Raphanus sativus* L. (Muli) and *Cuscuta reflexa* Roxb. (Amarbel)-** *Raphanus sativus* (Muli) leaves are grinded with same portion of *Cuscuta reflexa* Roxb.plant in mortar and pestle and extract is collected in the bottle. One tea spoon extract with pinch of sugar is taken twice in a day for 7 days to get relief from Jaundice. The cost of the treatment per episode is Rs. 50.

- r. ***Ricinus communis* Linn. (Arand)**- The root is taken and crushed in mortar and pestle and strained, its 6ml of juice in 250ml milk is given to the patient it cures jaundice. The total cost of the treatment is Rs. 40.
- s. ***Terminalia chebula* (Gaertn.) Retz. (Harra)** - The equal amount of harad, iron-ash and turmeric is mixed and 500mg to 1gm of this powder with ghee or honey is given to the patient, or 1g harad with honey or jiggery is given to the patient 2 time a day. The cost of the treatment per episode is Rs. 30.
- t. ***Tephrosia purpurea* (L.) Pers.(Sarponkha) and *Madhuca indica* J.F.Gmel. (Mahua)**- Mixed the *Tephrosia purpurea* (L.) Pers.whole plant, bark and seed cake of *Madhuca indica*J.F.Gmel. 1:1:1 and dried under sunlight. A fine powder is prepared by grinding in mortar and pestle. One tea spoon of the powder is taken with one cup of butter milk once in a day in empty stomach for 7 days to get complete relief. The cost of treatment per episode is recorded Rs. 70.
- u. ***Tinospora cordifolia* (Thunb.) Miers (Giloy)**- Its 10 leaves are grinded and mixed in a glass of butter milk, strained the solution and given this to the patient in the morning. It cures jaundice. The cost of treatment per episode is noted Rs. 20.
- v. ***Woodfordia fruticosa* Salisb. (Dhawai)**- 2g powder of its flowers, turmeric powder and madar leaf are taken. Give this to the patient with 50g jaggery. It cures jaundice. The cost of treatment per episode is noted Rs. 25.

S. no.	Name of the disease	S.N	Botanical name of the plant	Vernacular name of the plant	Family	Habit	Plant Parts used
1	Jaundice	1	<i>acacia nilotica (L.) Willd.</i>	Babool	FABACEAE	Tree	flower
		2	<i>Andrographis paniculata (Burm. f.) Wall. ex Nees</i>	Bhuileen	ACANTHACEAE	Herb	Whole plant
		3	<i>Azadirachta indica A. Juss.</i>	Neem	MELIACEAE	Tree	Whole plant
		4	<i>Boerhavia diffusa (L.) nom. Con F.</i>	Punarava	NYCTAGINACEAE	Herb	Whole plant
		5	<i>Buchnanania lanzan Spreng.</i>	char	ANACARDIACEAE	Tree	Bark,fruit
		6	<i>Cassia fistula Linn.</i>	Amaltas	FABACEAE	Tree	Leaves
		7	<i>Cirtus aurantifolia (Christm) Swingle</i>	Van Nimbu	RUTACEAE	Tree	fruit
		8	<i>Crotalaria sericea Retz.</i>	Bansan	FABACEAE	Shrub	Whole plant
		9	<i>Cuscuta reflexa Roxb</i>	Amarbel	CONVOLVUCEAE	climber	wholeplant
		10	<i>Ficus religiosa Linn.</i>	peepal	MORACEAE	Tree	new leaves
		11	<i>Glycyrrhiza glabra L.</i>	Mulethi	FABACEAE	Shrub	Whole plant
		12	<i>Madhuca indica J.F.Gmel</i>	Mahua	SAPOTACEAE	Tree	Leaves
		13	<i>Melia azadirachta Linn.</i>	Neem	MELIACEAE	Tree	Bark
		14	<i>Mimosa pudica Linn.</i>	Lajwanti	FABACEAE	Herb	leaves
		15	<i>Momordica charantia L.</i>	Van Karela	CUCURBITACEAE	Climber	fruit
		16	<i>Phyllanthus fraternus G.L.Webster.</i>	Bhui amla	EUPHORBIACEAE	Shrub	Root
		17	<i>Phyllanthus niruri Linn</i>	Bhui amla	EUPHORBIACEAE	Herb	Whole plant
		18	<i>Psoralea corylifolia Linn.</i>	Bakuchi	FABACEAE	Shrub	seeds
		19	<i>Raphanus sativus L.</i>	Muli	BRASSICACEAE	Herb	leaves
		20	<i>Ricinus communis Linn.</i>	Arand	EUPHORBIACEAE	Shrub	Root
		21	<i>Tephrosia purpurea (L.) Pers.</i>	Sarponkha	ASTERACEAE	Herb	Leaves , Whole plant
		22	<i>Terminalia chebula (Gaertn) Retz.</i>	Harra	COMBRETACEAE	Tree	Fruit
		23	<i>Tinospora cordifolia (Thunb.) Miers</i>	Giloy	MENISPERMACEAE	Tree	leaves, fruit
		24	<i>Woodfordia fruticosa Salisb.</i>	Dhavai	LYTHRACEAE	Shrub	Flower

References -

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