Review Article

Medicinal Plants for Jaundice and Gall Stone in Folk Practice of Assam

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Abstract

North-Eastern of India being a part of eastern Himalayas represents one of the top spots of bio-diversity. Assam has brought the attention of the world not only for it’s culture, tribes, but also with rich bio-diversity placing 12th position. This diverse flora is well represented by a vast medicinal plants treasure with varied distinct ecosystem or habitats and are used by the local ethnic people since years together for their health issues.

Folklore practices of tribals are very old and traditional with conventional way of approach for various diseases. Jaundice/gall stone is one of them which is being treated with the medicinal plants by the ethnic people of Assam. Though the disease is linked with complex physio-pathological changes in the body and needs scientific approach, ethnobotanical use of medicinal plants have shown the tremendous efficacy in such disease conditions but are limited within the community which is new or less known. After extensive survey in different tribal pockets of Assam, it could be possible to find out these medicinal plants with their uses in both jaundice & gall stone like diseases.

Key Words: Jaundice, Ethno-botany, Surveillance, Assam

Introduction:

North-East of India comprises of the states like Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim & Tripura. The area is characterised by rich bio-diversity and considered as 12th hot spot in World scenario. It is endowed with forest wealth and is ideally suited to produce a whole range of plantation like crops, spices, fruits, vegetables, flowers, herbs etc. The region has a high concentration of tribal population and are mostly inhabited by a number of tribes. Each tribe has it’s own distinct tradition of art, culture and life style. As per latest record of the schedule tribes of North-East region of India is as follows:-

Assam-12.4%, Arunachal Pradesh – 64.2%, Meghalaya - 85.2%, Manipur-34.2%, Mizoram 94.5%, Nagaland-89.1%, Sikkim – 20.6% & Tripura 31.1%. The tribal population of Assam is predominantly rural with 95.3% and is having eight major tribes out of which 23 nos. of notified tribes are in the state. Among ST, Boro represents nearly half of the total ST population of the State (40.9%).

Each healing tradition being a product of specific social and cultural milieu has necessary to reflect its own existence. Almost in every village at least one ojhā resides who treats for cure of ordinary diseases apart from conducing all religious rites. However, others too are associated with the healing art. They are specialists for bone setting, snake bites etc. They get initiation from gurus, relatives or neighbours conversant with the art. The important claims according to tribes are remedial measures on snake bite, jaundice; herpes skin diseases, fistula, leprosy and fracture like diseases through herbal products. Jaundice, also known as icterus, is a yellowing of the skin, conjunctiva (a colour covering over the sclera, or whites of the eyes) and mucous membranes caused by hyperbilirubinemia (increased levels of bilirubin in red blooded animals). Usually the concentration of bilirubin in the blood must exceed 2-3 mg./dL for the coloration to be easily visible1. According to Ayurveda, kamala
Jaundice may be defined as a disease in which the colour of the netra (conjunctiva) and tvacha (skin) changes to deep yellow (haridra-varna) along with the symptoms of aruchi (loss of appetite) and weakness (daurbaly) in this disease. The patient passes (haridra-varna) deep yellow or (rakta pitta) reddish yellow colored urine\(^2\). When red blood cells die, the haem in their haemoglobin is converted to bilirubin in the spleen and in the hepatocytes of the liver. The bilirubin is processed by the liver, centres bile and is eventually excreted through faeces. Consequently, there are three different classes of jaundice. Pre-hepatic or haemolytic where too many red blood cells are broken down. Hepatic where the processing of bilirubin in the liver does not function correctly and post-hepatic or extra hepatic where the removal of bile is disturbed.

Sometimes, stones in the gall bladder are formed mainly due to disturbance in cholesterol metabolism which may be aggravated due to excess intake of fatty foods. Another important predisposing factor is statis of bile in the gall bladder where precipitation of stones may occur due to solidification of some chemicals of bile. With the increasing life span and longevity over 20% of people are found to be harbouring gall stones without symptoms after the age of fifty. It may also migrate into common bile duct resulting jaundice\(^3\).

So far the management is concerned, it is dealt according to the etio-pathogenesis confirmed through investigations in modern system of medicine\(^4\). Where as similar diagnosis and management are also done in Ayurveda taking to consideration of sign and symptoms of the disease. No drugs till date have been developed which can dissolve all types of stones, although there are some medicines which can dissolve particular type of stones if taken for a prolonged period. However, the chance of recurrence of stones following dissolution therapy is very high. It has been seen in practising field that most of the herbal drugs are effectively used through lacking a little scope of confirmation through ultra-sonography. However, with their traditional knowledge and focussing on sign and symptoms the system is still in force.

Quite a long period the system of practice by traditional healers remain unchanged having confidence in the various therapeutically measures\(^5\). However, till today the ethnic people use certain herbs and their various parts for effective treatment of jaundice\(^7\) which have not taken into full confidence for a clinical validation in spite of its prevalent practice.

Research Methodology:
The data were collected from Karbi Anglong, Silchar, Kachar, Barpeta, Jorhat, Nalbari and Kamrup like districts of Assam through interaction and discussion with traditional healers who have sound knowledge in bio-folklores and utilization and identification of medicinal plants. The information provided by one person is cross checked with others. The identity of plants reported in the paper was confirmed through literature also. The purpose of collecting data were disclosed to the informants and taken their informal consent for publication.

Enumeration of Plants:

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Leucas Linifolia L.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanskrit Name</td>
<td>Dronapuspi</td>
</tr>
<tr>
<td>Local Name</td>
<td>Durum Phul</td>
</tr>
<tr>
<td>Plant Description</td>
<td>An erect annual, stem pubescent, grooved, leaves linear lanceolate, flowers-large, white nutlets-brown, btuse</td>
</tr>
<tr>
<td>Plant Distribution</td>
<td>Common plant of Assam.</td>
</tr>
<tr>
<td>Part Used</td>
<td>Root</td>
</tr>
<tr>
<td>Mode of administration</td>
<td>5-10 ml. Juice of the root of the Dronapuspi is taken orally in empty stomach for few days.</td>
</tr>
<tr>
<td>Botanical Name</td>
<td>Oroxylum indicum</td>
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</tbody>
</table>

3. **Botanical Name**: Erythrina indica  
4. **Botanical Name**: Phyllanthus niruri Linn.  
   **Sanskrit Name**: Bhumyamalaki  
   **Local Name**: Bhu-amalaki  
   **Plant Description**: Erect annual herb, flowers-greenish-white, a weed of wastelands and gardens  
   **Plant Distribution**: Common in Assam  
   **Part Used**: Whole plant  
   **Mode of administration**: 20 ml decoction of the root is used orally twice or thrice in empty stomach daily for 7 to 10 days. Sometimes the juice of the whole plant is also used.  

5. **Botanical Name**: Ficus religiosa Linn.  
   **Sanskrit Name**: Asvattha  
   **Local Name**: Ahot  
   **Plant Description**: A large deciduous tree, usually epiphytic; trunk-irregularly shaped. Bark – greyish with brownish specks; leaves-orbicular ovate, entire or undulate, veins prominent, closely reticulate; male flower – sessile, often absent; female flower – perianth, lanceolate  
   **Plant Distribution**: Common plant of Assam  
   **Part Used**: Stem  
   **Mode of administration**: 5-10 ml juice of the stem bark is used in empty stomach once daily for few days in jaundice
6. Botanical Name: Mimosa pudica L.
   Sanskrit Name: Lazzalu
   Local Name: Nilaji Bon
   Plant Description: A straggling and spreading deciduous undershrub; stem and branches prickly and clothed with bristles; leaves - sensitive, pinnate, common beset with ascending bristles; heads – pink on slender, axillary peduncles
   Plant Distribution: Common in Assam and adjacent areas
   Part Used: Leaves with stem
   Mode of administration: About 20 ml to 40 ml decoction of the whole plant is to be taken once daily for a week in empty stomach

7. Botanical Name: Glycosmis pentaphylla Correa
   Sanskrit Name: Ashva- Shakota
   Local Name: Hengena poka, Chagol ladi, Chaul dhowa, Tultha poka
   Plant Description: An evergreen shrub or small tree upto 15 feet in height with corky grey or blackish bark; leaves imparipinnate, rachis; leaflets – usually alternate, very variable in size, generally axillary fruit – a berry, white or purplish when fully ripe
   Plant Distribution: Silchar, Kachar, Barpeta, Jorhat etc. of Assam
   Part Used: Leaves
   Mode of administration: About 5-10ml juice from the leaves of the plant is mixed with 100 ml of water are to be taken orally in empty stomach for 3 days or more

8. Botanical Name: Averrhoa carambola L.
   Sanskrit Name: Karmal, Karamarda
   Local Name: Khamreng
   Plant Description: Small tree leaves imparipinnate, flowers - white, fruit – oblong
   Plant Distribution: Hilly areas of Assam
   Part Used: Fruit
   Mode of administration: About 5-10 ml of fruit juice is taken orally in empty stomach once daily for some days

8. Botanical Name: Chlerodendron serratum
   Sanskrit Name: Bharangi
   Local name: Phuinam Shari
   Plant Description: Shrub or under-shrub, leaves opposite or 3 nately whorled, coarsel serrate, flowers-bluish white.
   Plant Distribution: Plain areas of Assam.
   Part used: Fruits
   Mode of administration: About 5-10 ml. of fruit juice is taken orally for some days in empty stomach.
   Sanskrit Name: Amlaka
   Local name: Amlakhi
   Plant Description: Deciduous, leave-glabrous, flower –yellowish, fruit-globose.
   Plant Distribution: Common plant of Assam.
   Part used: Fruits
   Mode of administration: Dried power of fruit juice is taken 5 gms with water orally for a longer period.

10. Botanical Name: Boerhavia diffusa L.
    Sanskrit Name: Punarnava
    Local name: Punarnava
    Plant Description: Herbs, leaves-opposite, oval shape, flowers-dark pink.
    Plant Distribution: Common plant of Assam.
    Part used: Whole plant
    Mode of administration: The whole plant is made into paste and mixed with cow’s urine and boiled. The decoction of 20 ml. is used as medicine for 7 days in empty stomach once daily.

11. Botanical Name: Coccinia indica W&A
    Sanskrit Name: Bimba
    Local name: Kowa Bhaturi
    Plant Description: Climber, leaves-cordate, flowers-white, fruit-oblong red when ripe, marked with white.
    Plant Distribution: Forest areas of Assam.
    Part used: Root/fruits
    Mode of administration: Root juice 5 ml is given orally

12. Botanical Name: Carica papaya L.
    Sanskrit Name: Eranda Karkati
    Local name: Amita
    Plant Description: Tree, fruit-Globose, yellow when ripe.
    Plant Distribution: Common plant of Assam.
    Part used: Fruits
    Mode of administration: The fruit of the plant boiled with water and taken orally as a food and medicine.

13. Botanical Name: Nyctanthes arbor-tristis
    Sanskrit Name: Sephali
    Local name: Sewali
    Plant Description: Small tree, leaves-ovate, coarse flowers, white and tubular portion-brick red, and capsule-orbicular.
    Plant Distribution: Common plant of Assam.
    Part used: Leaves
    Mode of administration: Leaves are boiled in water with sugar and decoction of 15 ml. is given to the patient in empty stomach. Flowers are also taken.
14. Botanical Name: Plumbago zeylanica L.
Sanskrit Name: Chitrak
Local name: Agorachita
Plant Description: Shrub, leaves ovate-acute, flowers-white, capsule-oblong.
Plant Distribution: Forest area of Assam.
Part used: Leaves/Root
Mode of administration: The root is made into paste and the small part (5gm.) is taken with water for 15 days.

15. Botanical Name: Morus acedosa Griff.
Sanskrit Name: Shalmali
Local name: Gangaothaisip
Plant Description: Deciduous tree, leaves-ovate, acuminate, serrate, flowers appear with young leaves, fruit-ovoid.
Plant Distribution: North and West Bank of Assam.
Part used: Root
Mode of administration: Small portions of roots (2-3gms) are made garland to wear on chest.

Discussion and Conclusion:
Jaundice is such a disease condition which needs principally precautions in preventing aspect in sorts of its varieties for awareness. Though, it is being always serous in the field of medical sciences for its infection and its mode of transmission in categories other than simple pathology. It should be treated with proper medical attention. However, the plants or herbs described are having certain limitations of use definitely due to etiological factor discussed earlier but yet to be established through its proper identification and standardization so that the herbs used by these traditional people can be proved and a better alternative may be expected. Moreover, these people also to be aware about the adverse reactions if any after proper documentation and standardization so that the difficulties found in their system of practice can be rectified for a greater interest of human kind.

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References:

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