



# Survey on Medicinal Plants Using in Traditional Hair Care Practices by Assamese Peoples of Lakhimpur District, Assam, North- East, India

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**Abstract.** Although different kinds of commercial hair care products are available in the market still some ladies and gentlemen of Assamese using traditional hair care plants or plant products to keep their hair in healthy condition. Plants have the potent to provide nutrients to hair growth and development. Traditionally, Assamese peoples are using leaves, flowers, seeds, bark of seeds, fruits and calyx of different plants in hair care practices. These traditional practices are followed by generation after generation. Indirectly, primary or secondary metabolites of plants play the beneficial role to keep healthy and shiny hair. 14 medicinal plant species reported with high phytochemical ingredients, traditionally used in hair care practices by peoples of 15 villages in Lakhimpur district, Assam, North-East, India.

**Index Terms-** medicinal plants; traditional practices; hair care

## I. Introduction

Hair care is a fashion now a days. Widely different synthetic or commercial products are using in hair care. It's a quiet very expensive standard. Old peoples of Assam are unfamiliar to those synthetic or commercial hair care products so they are using traditional practices by neglecting the present world of hair fashion. Their practices of hair care mainly depend upon only on plants so they are using locally available traditional medicinal plants and plant parts directly. Now it has reflected that hair of old aged peoples is not becoming white or ripe but the young aged people's hair is looking son is a father and father is the son. Entertaining but it's the reality. Majority of rural peoples are using traditional hair care practices only. In assamese society it thinks that people with white hair are old and people with black hair are considered as younger.

Lakhimpur is a large district of Assam and the Assam is at the North-East direction of the geographical map of India. Demographically, it has different community peoples living in a friendly relationship. it has rich diverse flora and fauna due to its fertile soil quality and climate. So Lakhimpur is considered as a hub of great biodiversity.



## II. Materials and Methods

This survey was conducted in 15 remote villages of Lakhimpur district. Name of the villages are 1.Kuhiyarbari,2.Agharo mile, 3.Ghatapara, 4.Bantow gaon, 5.Choiguri, 6.Ayengia mishing gaon-i, 7.Ayengiya mishing gaon-ii, 8.Chinai digholi, 9.Chinai, 10.Mohmari, 11.Ghahi gaon, 12.Moina para, 13.Gharmara, 14.Mahdhuwa, and 15. Chetia gaon. Extensive field travel was conducted to find out the accurate data. During this survey, systematically, I have approached the villagers and interviewing about their local hair care practices. Peoples are simple so without any hesitation they told about the plant and plant parts they are using in hair care and control. By an experience person, I have confirmed with the accurate local name of the plants in each village and recorded.

## III. Results

Traditionally used medicinal plants in hair care practices are listed below

Sl. No.	Scientific name	Family name	Vernacular name	Parts used
1	Abelmoschus esculentus	Malvaceae	Bhendi	Fruit
2	Aloe vera	Liliaceae	Aloe vera	Leaf
3	Bacopa monnieri	Plantaginaceae	Brahmi	Leaf
4	Brassica campetris	Brassicaceae	Sariyah	Seed
5	Citrus limon	Rutaceae	Gulnemu	Fruit
6	Dillenia indica	Dilleniaceae	Outenga	Fruit and calyx
7	Eclipta prostrata	Asteraceae	Kenhraj	Whole plant
8	Emblica officinalis	Euphorbiaceae	Amlokhi	Fruit
9	Hibiscus rosa-sinensis	Malvaceae	Joba	Flower and leaf
10	Lawsonia inermis	Lythraceae	Jetuka	Leaf
11	Moringa oleifera	Moringaceae	Sajina	Leaf
12	Sesamum indicum	Pedaliaceae	Til	Seed
13	Terminalia chebula	Combretaceae	Hilikha	Fruit
14	Vigna mungo	Fabaceae	Matimah	Seed

## IV. Discussion

Abelmoschus esculentus is locally known as bhendi in Assam. The fruits are mainly using as vegetable in Assam. Some women of assamese are preparing a paste of Abelmoschus esculentus fruits in grinder as per their hair quantity and requirements. It can be directly applying in hair to manage the smoothness. It is an alternate to commercial synthetic spa. Abelmoschus esculentus fruit paste has no any side affects so it can be applied to any duration as per own routine. It's a novel concept to the research world.



Fruit of *Abelmoschus esculentus* is phytochemically rich in citric acid, oxalic acid malic acid, (E)-anethole limonene,  $\beta$ -caryophyllene, decanal, carvone and phenolic compounds.[1]

Aloe vera is an available plant in Assam. Its known as salkonwari in Assam. The mucilaginous substances of leaf are using in hair as paste. Aloe vera is a dermatologically proven natural plant to skin so there is no any side effects of Aloe vera paste in hair too. Aloe vera removes the scalps and dust particles of hair and providing extra shining to the hair. Aloe vera paste promote the hair growth by reducing hair falls and strengthening the hair follicles.

Aloe vera leaf pulps and exudates are phytochemically a good sources of Carbohydrates anthraquinones, chromones, lectins, lectin-like substance, mannose, glucose, L-rhamnose, aldopentose, vitamins B1, B2, B6, C,  $\beta$ -carotene, choline, folic acid,  $\alpha$ -tocopherol various inorganic compounds.[2]

*Bacopa monnieri* is known as brahmi in assam. Leaf of *Bacopa monnieri* is a highly recommended to recover different kinds of health problems in Ayurveda. Raw leaf extract of *Bacopa monnieri* plant is using on hair directly. *Bacopa monnieri* promoting in new hair growth and removes dandruffs.

Phytochemically *Bacopa monnieri* leaf is rich sources of nicotine, D-mannitol, bacoside-A, saponin compounds, bacoside I etc. 52 biologically active plant-derived molecules were found in leaf extract.[3]

*Brassica campestris* is economically high valued plant as its seeds are source of dietary oil. Oil of seeds are extracted in raw and warming for a little moment. Keeping for a moment to cool down. When it became cool or normal then it is applying directly in hair as normal hair oil. It improves blood circulation in body and strengthening the root hair cells due to which hair fall reduces.

Phytochemically *Brassica campestris* is rich sources of glucosinolates, conten, oleic acid, linolenic acid, and erucic acid.[4]

Citrus limon fruits are medicinally very important. The fruit juices are using by maximum peoples of Assam in hair to improve the hair texture and to control dandruffs or dust particles of hair. Gulnemu juices protect the hair follicles from damage by environmental and climatic factors.

Phytochemically gulnemu fruit is rich in flavonoids, phenolic acids and vitamin-c. [5]

*Dillenia indica* fruits in hair care is a novel concept to the research world. *Dillenia indica* is known as outenga in assamese community. Different plant parts are using in respiratory, digestive and neurological problems. Raw calyx part with the



mucilaginous substances of the fruit is using in hair care practices by peoples of Assam.

Phytochemically fruit is rich in phenolic substances, arabinogalactans, sterol, glycosides, saponins, anthraquinones and tannins [6]

*Eclipta prostrata* is known as bhingaraj or kenhraj plant in Assam. Whole aerial shoot part of the plant is using in hair care practices by assamese peoples. People making a paste of shoot part and using in hair to control the smoothness and dazzling. It also removes the dandruffs and scalps of hair.

Phytochemical analysis of *Eclipta prostrata* leaf extract revealed that leaf is rich in coumestan derivatives, phenolic acid derivatives, flavonoids, triterpenoid, steroids and saponins.[7]

*Emblica officinalis* fruits are widely using in hair care practices all over the world. Fruit paste or extract fastens the hair growth and reduces the scalps and dandruffs from hair.

Phytochemically *Emblica officinalis* fruits are rich source of tannins, alkaloids, polyphenols, vitamins and minerals. [8]

Flowers and leaf of *Hibiscus rosa-sinensis* are using in hair care practices by assamese peoples. Flowers and leaves are mixing in grinder to make a paste as per hair quantity then applied to the hair. There is no side effect of this paste is recorded. It helps the hair by preventing uncontrolled hair fall and provides hair of dandruff and scalp free.

Phytochemically leaves are rich in tannins, anthraquinones, quines, phenols, flavonoids, alkaloids, terpenoids, saponins, cardiac glycosides, protein, free amino acids, carbohydrates, reducing sugars, mucilage, essential oil and steroids.[9]

*Lawsonia inermis* plant leaves are using as dye to the hair but it also improves the hair quality. Leaf extracts protects from damaging of hair. Making a leaf paste and simply applied to the hair as per hair quantity.

Phytochemically leaves are rich in D-allose, lawsone, beta-D-glucopyranoside, methyl, phytol, 1- isobutoxy-1-methoxypropane, n-hexadecanoic acidin, 9,12,15-octadecatrienoic acid (Z,Z,Z), squalene and vitamin E.[10]

*Moringa oleifera* leaves are using in hair care practices by assamese peoples. Vegetative leaves are grinded properly and applied to hair easily. It provides natural beauty to the hair as well as nourishment to the hair. It also promotes the hair follicles to grow new hair on head. It also helps in the migraine problems of brain.



Phytochemical screening of leaves revealed that leaves are rich in phenol and flavonoids.[11]

*Sesamum indicum* plant seeds are economically very important. Oil of seeds are widely using in all over the globe. Sesamum oil nourishing the hair by providing its developing nutrients to the hair cells and follicles. It also helps in new hair formation and by preventing hair fall.

Phytochemically seeds are rich in palmitic acid, oleic acid, linoleic acid, linolenic acid, stearic acid, arachidic acid, behenic acid, and gandleic acid contents.[12]

*Terminalia chebula* fruits are grinded properly to make paste in raw condition. Then the paste applies properly in hair and wait as anybody wants because the fruit paste has no any harmful affect to the hair. It keeps the hair in dark black or dark brownly in colour. It protects the hair cells. It also removes the dandruff and scalps of hair.

Phytochemically tannin, phenol, arthroquinone, chebulins etc. are recorded in this fruit.[13]

*Vigna mungo* seed paste is occasionally used in hair. It popularly believes that the seeds of *Vigna mungo* and *Curcuma longa* rhizome paste when applied to the hair and body parts then that person will not be suffered in any hair and skin diseases for that year. Usually in the month of Bohag of assamese calendar or on 14/15 April of English calendar using this paste in hair. It provides externally very high shining and smoothness to the hair. It clears the dandruff and scalp from hair.

Phytochemically alkaloids, flavonoids, steroid, tannin, phenols, glycosides, saponins, ascorbic acids are highly found in the seeds of *Vigna mungo*. [14]

#### **Photo Gallery of 11 Species**



*Eclipta prostrata*  
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Aloe vera



Abelmoschus esculentus



*Brassica campestris* (seeds)



*Hibiscus rosa-sinensis*



*Curcuma longa*



Citrus limon



Moringa oleifera



Dillenia indica (fruit





*Terminalia chebula*(fruits)



*Lawsonia inermis*

## V. Conclusion

14 plant species were found using; in traditional hair care practices; in 15 villages of Lakhimpur district of Assam. The *Abelmoschus esculentus* fruit/pod and *Dillenia indica* fruit application in hair care practices are novel and new concept to the world community. If phytochemical analysis of these two plants done properly in hair care perspective then definitely it will give a new direction to the research community too. Rural employment can be generated by new hair care product formulation from these two plant parts.



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### Conflicts

### No Conflict of Interest to be Disclosed.

The AI acts as a brainy layer on top of existing project management tools, enhancing their functionality and providing a more holistic approach to work. Ultimately, this concept aligns with the broader mission of Tymeline, which seeks to optimize team performance by integrating cutting-edge technology with human-centered design. By addressing mental health alongside productivity, Tymeline sets a new standard for how technology can be used to support the well-being of professionals in the modern workplace

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