



A Review on Herbal Hair Care Agent's

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ABSTRACT: -

Primary goal of this study is to create and assess a herbal shampoo and discover its physiochemical function, with an emphasis on the shampoo's safety, effectiveness, and quality. product. The natural hair care product known as herbal shampoo is used to eliminate grease, debris, increase hair development, strength, and hair colour by reducing dandruff. It is also offered. For the hair, softness, smoothness, and lustre. Different medications are utilised in the manufacture of shampoo for cosmetics. Such medications exhibit a variety of adverse effects, including hair loss, increased scaling, pain, headache, nausea, and itching. Consequently, an effort is undertaken to develop herbal shampoo with no negative side effects.

Keywords include: Antidandruf, cosmetics, and herbs.

INTRODUCTION: -

Shampoo is the most common form of hair treatment. Shampoos are primarily being products aimed at cleansing the hair and scalp. In the present scenario, it seems improbable that herbal shampoo, although better in performance and safer than the synthetic ones, will be popular with the consumers. A more radical approach in popularizing herbal shampoo would be to change the consumer expectations from a shampoo, with emphasis on safety and efficacy. The main objective of this study was to eliminate harmful synthetic ingredient from herbal shampoo formulation and substitute them with a safe natural ingredient.

❖ HAIR SCALP ANATOMY-

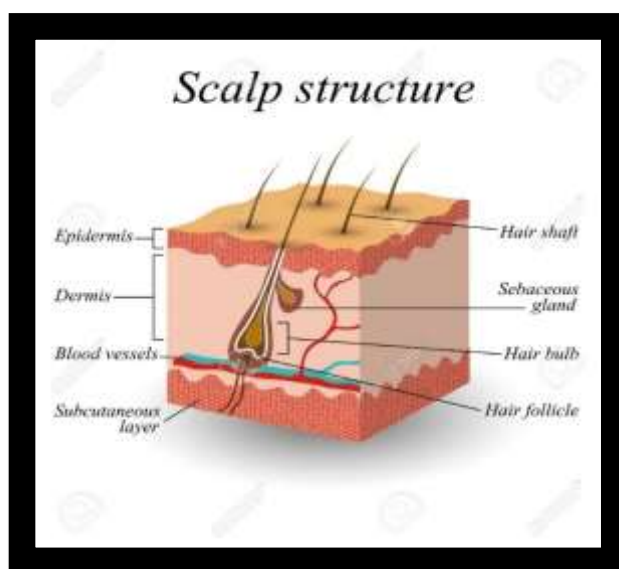


FIGURE: - HAIR SCALP ANATOMY

Hair grows out of follicles located in the junction between the deep layers of dermis and the hypodermis. These follicles are also known as Hair bulb. Blood flow is supplied by a small vessel that passes through the inside of the hair shaft, thus providing the hair with all the vital elements it needs to remain healthy such as amino acids, mineral salts or vitamins.

- The hair shaft is surrounded by glands, the most important being the sebaceous gland, which produces.
- Hair structure is made up of 95% keratin, a fibrous helicoidal protein (shaped like a helix) that forms part of the skin and all its appendages (body hair, nails)
- Keratin is synthesized by keratinocytes and is insoluble in water, thus ensuring impermeability and protection for the hair

The hair cortex also contains melanin. Made by specialized cells named melanocytes, melanin is the pigment responsible for the hair color. The melanocytes inject pigments into keratinocytes of the new hair shaft. The color lasts during the hair cycle, from the genesis to the end, when the hair falls

❖ *Hair Types:*

Type 1: Straight hairs, which reflects the most sheen and also the most resilient hair of all of the hair types. It is hard to damage and immensely difficult to curl this hair texture. Because the sebum easily spreads from the scalp to the ends without curls or kinks to interrupt its path it is most oily hair texture of all.

Type 2: Wavy hairs, whose texture and sheen ranges somewhere between straight and curly. Wavy hairs are also more likely to become frizzy than straight hair. While type of waves can easily alternate between straight and curly styles, type 3 and 4 wavy hair is resistant to styling

Type 3: Curly hairs known to have an 'S' shape. The curly pattern may resemble a lowercase 's' uppercase 'S', or sometimes an uppercase 'Z' or lowercase 'z'. The hair type is usually voluminous, 'climate dependent' and damage – prone. Lack of proper care causes less defined curls.

Type 4: Kinky hair, which features a tightly coiled curl pattern (or no discernible curl pattern at all) that is often fragile with a very high density. This type of hair shrinks when wet and because it has fewer cuticle layers than other hair types it is more susceptible to damage.

❖ *HAIR GROWTH CYCLE:*

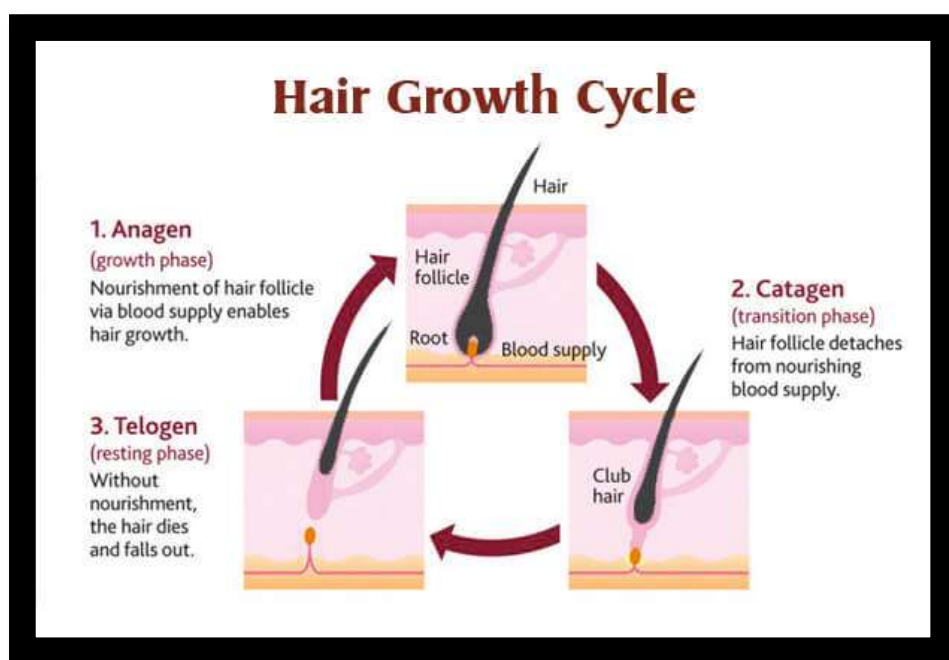


Figure- Hair growth cycle

1. Anagen: Anagen is the period of growth. Cell division occurs quickly, and the older dead cells are pushed outside the hair bulb, where they keratinize and the baby hair begins to grow.

- The anagen phase lasts about three years. Each hair grows by half an inch on average.

month. 85% of hair follicles are in the growth phase at any given time.

2. Catagen: Catagen is the transitional or resting phase. When the hair stops growing, it

- enters the catagen phase and remains there for about a month At this point, growth has begun.

- to contract However, the hair does not fall out and remains firm for a period of time. At any given point in time,
- On average, 1% of hairs are dormant.

3. Telogen: The third and final phase is also referred to as the shedding phase. The shedding of adult hair occurs at this time. About three months are spent in this phase. The hair follicle enters the anagen phase, often known as the growth phase, once the hair has fallen out. Each and every time

- 10% or so of hairs are in this stage.

❖ **Classification of shampoo:**

1. Based on appearance

- Powder shampoo
- Gel shampoo or solid shampoo
- Cream shampoo
- Oilshampoo
- Miscellaneous antidandruff shampoo or medicated shampoo.

2. Based on Origin

- Herbalshampoo
- Egg shampoo

Based on Use or Function

- Conditioning shampoo
- Antidandruff shampoo
- Therapeutic shampoo
- Baby shampoo
- Balancing shampoo
- Clarifying shampoo

- **Synthetic shampoo:-**

Shampoo is a hair care product that is used to clean hair. It typically takes the form of a viscous liquid. Shampoo is occasionally sold in solid bar form. The proper way to use shampoo is to apply it to damp hair, massage the shampoo into the scalp, and then rinse it out. Some people might use hair conditioner after shampooing.

❖ **Disadvantages of syntetic shampoo:**

- It fades the texture and shine.
- It can make your hair dry and frizzy.
- It dries out the scalp.
- You may also experience dandruff.
- You can experience breakage.
- It causes more split ends.

❖ **Advantages of synthetic shampoo:**

- Shampoo makes water more effective at removing dirt, debris, and smells like sweat or cigarette smoke.
- Oil can also be removed by shampoo.
- Sebaceous glands secrete an oil called sebum that gives the hair its oil and keeps the hair nourished.
- Hair that has been moisturised is less prone to break or look dry and unruly.

❖ **Herbal shampoo :-**

A herbal shampoo, also referred to as a natural shampoo, is created without the use of toxic chemicals and instead uses natural ingredients including essential oils and plant and flower extracts. These shampoos do not affect your hair or scalp, even when used frequently.

❖ **Disadvantage of herbal shampoo:-**

1. Degrading hair quality
2. Even irritation of skin scalp issues
3. Hair Loss: SLS causes hair loss as it attacks the hair follicles.
4. Harmful effects of sodium lauryl sulphate.

❖ **Advantages for herbal shampoo:**

1. Herbal shampoos for hair fall are made out of natural ayurvedic ingredients, natural oils, minerals, and herbal extracted compounds. These ingredients work on to improve the moisture in your hair by hydrating the follicles and roots of your hair. This in turn reduces the chances of hair fall, loose, dry, and damaged hair.
2. Herbal shampoos for hair growth are made to strengthen the hair follicles by giving essential oils and nourishment all through the root and follicles. This, in turn, promotes hair growth and stimulates the formation of new and healthy hair roots.
3. Regular usage of Herbal shampoos can do wonders for your hairs. Our scalps need to maintain a perfect balance of oil and pH levels in order to have beautiful, healthy, and strong hair. By using Herbal shampoos, you can get the perfect oil balance.
4. Herbal shampoos are made out of natural and essential antiseptic properties that prevent our hair and scalp from the harsh UV rays of the sun thus preventing skin infections.
5. Ayurvedic Herbal shampoos are made of natural ingredients suitable for every type of skin. So, there is no need to worry about any skin allergies with the use of herbal shampoos.
6. Hair grows healthy with regular usage of herbal shampoos thus giving your hair a lustrous, shiny, and bouncy hair.

INGREDIENTS AND THEIR USES OF HERBAL SHAMPOO:-

SR.NO.	INGREDIENTS	BOTANICAL NAME	PARTS USED	FAMILY	PURPOSE TO USE
1	Neem leaves	Azadirachta indica	Leaves	Mahogany	PROMOTES TO HAIR GROWTH
2	Fenugreek seed	Trigoella Foenum Graecum	Seed	Legumes	PROMOTES HAIR GROWTH
3	Amla	Phyllanthus Emblica	Fruits	Phyllanthaceae	HELP INHANCE HAIR STRUCTURE AND INC HAIR GROWTH
4	Shikakai	Acacia concinna	Beans	Fabaceae	SHINE TO HAIR AND SOFT SMOOTH AFTER HAIR WASH
5	Ritha or soap nuts	Sapindus mukorossi	Fruits	Indain soapberry	DETERGENT
6	Rose oil	RosacentifoliaL.	PETALS		FOR SOAKING
7	Aonla	Emblica Officinalis	Fruit	Euphorbiaceae	Antioxidant
8	Brahmi	Centela asiatica	Whole plant	Apiaceae	Provides Nourishment
9	Chauldhua	Glycomis arborea	Leaves	Rutaceae	Healing wounds
10	Dandal	Xylosma longifolia	Leaves	Flacourtiaceae	Antioxidant and Antidermatophytic

11	Gum tree	Eucalyptus globulus	Leaves	Malvaceae	Stimulates the hair follicles
12	Gaot weed	Ageratum conyzoides	Tender shoot and leaves	Asteraceae	Dec in hair fall
13	Bhandari	Artabotryshexapetalus	Leaves and flow	Annonaceae	Used as perfume
14	Indain-catmint	Anisomeles Indica	Leaves	Lamiaceae	Used as folk medicine
15	Indain Hog Plum	Spondias Pinnata	Leaves and fruits	Annacardaceae	Antioxidant,antimicrobial
16	Khul-Khuri	Hydrocotyles ibthorpoides	Whole plant	Apiaceae	Healing wounds due to dandruff
17	Patchouli	Pogostemon Parviflorus	Tender shoot	Laminaceae	Antioxidant activites
18	Lemon	Citrus limonia	Leaves and fruit peel	Rutaceae	Nourishes the scalp and bosts shine
19	Lime	Citrus aurantifolia	Leaves and fruit peel	Rutaceae	Antibacterial,antifungal,antioxidants
20	Mangnolia Tree	Maglonia Hodgsoni	Flower	Maglonaceae	Keeps puffiness into hair
21	Mandarin	Citrus sinensis	Fruit peel	Rutaceae	Oil do's hair good
22	Marigold[maroonred]	Tegetesaficana	Leaves	Asteraceae	Inc hair growth
23	Gumma	Leucas aspera	Leaves	Lamiaceae	Used in scabies eruptions
24	Moss rose	Portulaca Oleraceae	Whole plant	Portulacaceae	vermifuge
25	Moyna	Meyna laxiflora	Leaves	Rubiaceae	antioxidants
26	Mugwort	Artemisia vulgaris	Leaves	Asteraceae	Gives perfect glow contains vit E
27	Nisnda	Vitexnegundo	Tender shoot and Leaves	Verbenaceae	antimycobacterial
28	Nutgall Tree	Rhuschinensis	Leaves	Annacardaceae	Used as dye coloring agent
29	Oyster plant	Acanthus mollis	Leaves	Acanthaceae	Demulcent and detergent properties
30	Pink –Sorrel	Oxalis debilis	Whole plant	Oxalidaceae	Long flexuous hairs
31	Pommelo	Citrus maxima	Leaves	Rutaceae	Contains amio acids helps healthy hair cells
32	Red bottle brush	Callistemon citrinus	Shoot	Myrtaceae	Helps in silky hairs
36	Water Hyssop	Bacopa monneiri	Leaves	Scrophularaceae	Strengthens the hair

INGREDIETS USED-

Neem leaves:



Figure- neem leaves

Biological Source

Murraya koenigii (L.) Spreng or its common name curry leaf tree is a small strong smelling perennial shrub commonly found in forests as undergrowth.

Family: Rutaceae.

Chemical constituent-azadirachtin**Use in herbal shampoo-**

The oils from the curry leaves were found to contain mostly which it is added. Curry leaves are packed with fiber, calcium, phosphorus, carbohydrates, copper, minerals, iron, magnesium and vitamins like nicotinic acid and vitamin A, vitamin B, vitamin C, vitamin E, anti-oxidants.

Curry leaves are rich source of iron and folic acid. Curry leaves are useful for hair because they are high in beta-carotene and protein content, which are instrumental in preventing hair loss and hair thinning. Proteins are necessary for hair growth because hair is made of protein and is also vital for hair development.

Fenugreek seeds:

Figure : Fenugreek seeds

Biological name

Fenugreek (*Trigonella foenum graecum*) is an annual plant belongs to the family Leguminosae.

It is the famous spices in human food. The seeds and green leaves of fenugreek are used in food as well as in medicinal application that is the old practice of human history.

Volatile content

Names - Chemical constituents of fenugreek

Alkaloids - Trimethylamine, Neurin, Trigonelline, Choline, G

Biological Source- Entianine, Carpaine and Betain

Amino acids - Isoleucine, 4-Hydroxyisoleucine, Histidine, Leucine, lysine tryptophan,

Saponins - Graecunins, fenugrin B, fenugreekine, trigofenosides A–G

Chemical constituent-**Trigonelline**

Use in herbal shampoo-

Fenugreek seed contains vitamins like vitamin B1, B2, B6, & vitamin B9 and less than B 2% of vitamin B3, minerals like iron, copper, manganese, magnesium, phosphorous, zinc, k calcium and less than 2% of selenium and other constituents like carbohydrates, proteins, fats and dietary fibers.

This kitchen ingredient is an age- old remedy for when your hair is losing volume while it stimulates the blood flow to the scalp.

Amla fruit:



Figure : Amla fruit

Biological source: Emblica, Indian goose berry, amla. This consists of dried, as well as fresh fruits of the plant *Emblica officinalis* Gaerth (*Phyllanthus emblica* Linn.), belonging to family.

Chemical constituent-ascorbic acid

Use in herbal shampoo-

Euphorbiaceae. It is a small- or medium-sized tree found in all deciduous forests of India.

Cultivated throughout India and nearby countries, amla has gained a following throughout the world as a "superfruit." It's no surprise — a 100-gram serving of fresh amla berries contains as much vitamin C as 20 oranges.

Amla, also known as Indian gooseberries, grows on a flowering tree of the same name. The small berries are round and bright or yellow-green. Though they are quite sour on their own, their flavor can enhance recipes they're added to.

Reetha or soap nuts: -



Figure : Reetha nuts

Biological source-

Sapindus mukorossi, also known as Reetha, is a species of tree in the family Sapindaceae. The fruit is commonly known as Indian soapberry or washnut, and like other species in the genus *Sapindus*, it is called soapberry.

Chemical constituent-saponins, sugars and mucilage.

Use in herbal shampoo-

The major constituents of *Sapindus mukorossi* fruit are saponins (10%-11.5%), sugars (10%) and mucilage. Saponins are secondary plant metabolites with divergent biological activities. Reetha is a herbal medicinal plant that has powerful detoxifying properties mentioned in Ayurveda. Reetha grows on the hills of the Himalayas, and each tree delivers around 35 kg. The roots and bark of Reetha are usually bitter and astringent, but they possess excellent medicinal properties such as expectorant and anthelmintic.

In Ayurvedic scripture, it is mentioned that Reetha is a perfect medicine used for treating skin disorders and psychiatric disorders. There are different names of Reetha, such as Soap nut, Wash nut, and Soapberry.

In Ayurveda, it is known as *Arishtak* and commonly known as "Soap nut tree" in India.

Shikakai bean**Figure : shikakai beans****Biological Source:**

Senegalia rugata, commonly known in India as Shikakai, is a spiny climbing shrub native to China and tropical Asia, common in the warm plains of central and south India.

Family: Fabaceae.

Chemical constituent-, spinasterol, acacic acid, lactone.

Use in herbal shampoo:

One of the most commonly-used natural ingredients, this plant has been used as a hair cleanser in most parts of India since time immemorial. Shikakai contains vitamin C and D, along with other properties that make it ideal for hair care. Shikakai scientifically known as *Acacia concinna* is a shrub like tree grown in Central India. It has been used since centuries as cleanser for hair and body. Due to presence of saponins in its bark, it lathers moderately when shaken with water. It is rich in vitamin C and also Vitamins A, D, E and K.

Rose oil: -**Figure : Rose oil****Biological source:**

Rosa alba L. belongs to the family Rosaceae. This species is widely cultivated in Europe, Asia, North America, and Northwest Africa due to its fragrance, ornamental, and medicinal values. It is commonly known as white oil-bearing rose, white rose, white rose of York, backyard rose, and sufaid gulab.

Chemical constituent-Geraniol**Use in herbal shampoo-**

linalool, phenyl ethyl alcohol, farnesol, stearoptene, α -pinene, β -pinene, α -terpinene, limonene, p-cymene, camphene, β -caryophyllene, neral, citronellyl acetate, geranyl acetate, neryl acetate, eugenol, methyl the most common chemical compounds present in rose oil: citronellol, geraniol, nerol, eugenol, rose oxide.

An extremely popular oil, rose essential oil is known for its medical and cosmetic benefits. It is very good for your skin and lightens scars as well as the signs of ageing. It can help combat depression and stress. It is very good for your digestive system and also helps maintain the health of your liver.

Aonla-



Fig Aonla

Use in herbal shampoo: Emblica, Indian goose berry, amla. This consists of dried, as well as fresh fruits of the plant *Emblica officinalis* Gaerth (*Phyllanthus emblica* Linn.), belonging to family Euphorbiaceae. It is a small- or medium-sized tree found in all deciduous forests of India.

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Chemical constituent-Ascorbic acid

Brahmi-



Fig-brahmi

Use in herbal shampoo-

When you apply Brahmi to your hair on a regular basis, it reduces dryness, itchiness and flakiness. Thus, your hair starts to look healthy and nourished at all times.

This small herb helps in reducing hair fall to a considerable amount and also boosts hair growth at the same time.

Chemical constituent-Bacoside A

Chauldhua-



Fig-chauldha

Use in herbal shampoo-

Ethnopharmacological relevance: *Glycosmis arborea* Roxb, syn. *Glycosmis pentaphylla* Retz, (Rutacea) is a shrub found all over India, have been used for the healing of wounds of livestock in Indian folk medicine.

Chemical constituent- *Tinospora cordifolia*.

Dandal-



Fig dandal

Use in herbal shampoo-

The various parts of medicinal plants like bark, leaves, flowers, fruits, stem, roots, and even the whole plant are used in the treatment of an illness are a rich source of several biologically active components such as alkaloids, flavonoids, phenols, saponins, steroids, tannins and terpenoids 5, 6. The study phytochemicals is very important for finding out new sources of ingredients and also for the discovery of some new potential compounds 7 *Xylosma longifolia* is a small-sized tree belongs to the family Flacourtiaceae and is distributed throughout in China, Northeast India, Pakistan, sub-tropical Himalaya and Vietnam 8-11. Important therapeutic uses and are extensively use for several purposes in the indigenous medicinal system.

The plant is highly prescribed for several disorders in the indigenous medicinal system in Assam and Manipur. The plant has been reported for intoxication, liver ailments, ringworm, piles, stomach pain, scabies, acne, gastritis, dysentery, killing lice, dizziness, hoarseness, regulation of blood circulation, insomnia, restlessness, cough, kidney stone, physical injuries, anxiety and also exhibit antispasmodic, anti-oxidant, antifungal or anti-dermatophytic and anti-tubercular properties.

Chemical constituent- 3-methoxy-4-hydroxyphenylpropane.

Gum tree-



Fig-gum tree

Use in herbal shampoo-

Eucalyptus oil is both a prevention and a cure for dandruff.

It has unique antifungal and antiseptic properties that prevent any yeast-like fungus from developing and settling on the scalp. Use it with a suitable carrier oil and you won't have to worry about your dandruff problems anymore.

Chemical constituent- arabinose, xylitol, galactose and uronic acid .

Goat weed-



Fig-goat-weed

Use in herbal shampoo-

Ageratum conyzoides Linn, (*A. conyzoides*) commonly known as Billy Goat Weed, is a widely available annual herb which belongs to the family Asteraceae, tribe Eupatoriae. It has long-standing medicinal use in the tropical and subtropical regions especially in Africa, Asia and South America where the scalp were also used to measure the decrease in hair loss. Change in hair color over a 12-week period was determined by comparing photographs of the scalp at baseline and at 12 weeks. Participants monitored hair quality evaluation and quality of life impact using self-assessment questionnaires.

It has been traditionally used for skin disorders, gastrointestinal complaints, headache, rheumatism, pneumonia and wound healing . The plant possesses antimicrobial, antioxidant, anti-inflammatory and analgesic pharmacological activities and has allelopathic properties useful in horticulture.

Chemical constituent- saponin, flavonoid, tannin, essential oil and polyphenol

Bhandari-



Fig-bhandari

Use in herbal shampoo-

Artabotrys odoratissimus is a plant of Annonaceae family and *Artabotrys* genus. It is a large woody climber or half-scandent shrub originated in South China, Burma (Myanmar), The Philippines and India. Its flowers are axillary, solitary, or in clusters of two or three, greenish yellow in color when ripe and give a strong smell resembling that of ripened jackfruit. Hence its name in Bengali is 'Kanthali champa' (jackfruit-champa). It flowers almost all the year round but more during the summer and the rains. It is unsuitable for small gardens because of its huge size. It needs pruning to keep it in shape. Propagation is from seeds or layers. Health Benefits of Ylang – Ylang essential oil Yang-Ylang Essential Oil refers to the essential oil extracted from the flowers of Ylang-Ylang Tree, an inhabitant of tropical rain forests of some island nations of Asia-Pacific, namely Indonesia, Philippines, Java, Sumatra, Comoro and Polynesia. This oil is also sometimes known as Macassar Oil. The term Ylang-Ylang means “Flower of Flowers” and it is truly justified. Its medicinal properties were known to the natives of these islands since long, but were eluded from the modern world.

Chemical constituent- alkaloids, anthraquinones, butyrolactones, flavonoids.

Indain hog plum-



Fig indain hog plum

Use in herbal shampoo-

Plant parts of the genus *Spondias*, as from the skin, roots, fruit, and leaves, have a variety of benefits and have been used as a traditional medicine in various countries. In terms of ethnomedicine, *S. pinnata* has anti-bacterial activity and inhibits lime impact. Traditionally, it is also used to treat leprosy, diabetes, diuretics, inflammation of the eye, antithirst, antioxidants, antimicrobials, thrombolytic agents, laxatives.

Chemical constituent- esters, alcohols, ketones, aldehydes, acids, hydrocarbons, phenols

Indain catmint-



Fig. indain catmint

Use in herbal shampoo-

Anisomeles indica (Lamiaceae) is a camphor-scented perennial woody shrub. It is found growing wild along borders of settled areas at low and medium altitudes. It is used in folk medicine in the treatment of diverse conditions such as inflammatory skin diseases, liver protection, intestinal infections, abdominal pain and immune system deficiencies. Aerial parts of the plant are valued as stimulant, expectorant, diaphoretic and insecticide. Leaves are considered useful in chronic rheumatism, psoriasis and other chronic skin eruptions. Bruised leaves are applied locally in snake bites.

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Chemical constituent- nepetalactone.

Khul-khuri-



Fig. khul-khuri

Use in herbal shampoo-

A paste made from the plant is applied externally to wounds and boils. A decoction of the plant is used in the treatment of abscesses, boils, bruises, cirrhosis, colds, coughs, hepatitis, hepatoma, influenza, itch, jaundice, sinusitis and sore throat. It is a Chinese herbal drug for hepatoma.

Chemical constituent- epicatechin, pterosupin

Patchouli-



Fig. patchouli

Use in herbal shampoo-

Most of the plant parts have been used for the treatment of various ailments. Phytochemistry reveals that the plant is a rich source of various biologically active compounds. Pogostemon extracts exhibited numerous pharmacological effects like **anticancer, anti-inflammatory, antimicrobial and antioxidant activities**.

Chemical constituent- β -patchoulene and patchouli alcohol

Lemon-



Fig. lemon

Use in herbal shampoo-

Citrus Shampoo is an invigorating, clarifying shampoo that **nourishes the scalp and boosts shine** with natural and organic plant ingredients, aloe, jojoba, coconut oil, and chamomile, leaving hair silky smooth. Infused with energizing essences of orange, bergamot, and grapefruit.

Chemical constituent- flavonoids and also other compounds, such as phenolic acids, coumarins, carboxylic acids, aminoacids and vitamins.

Lime-**Fig. lime****Use in herbal shampoo-**

It is widely used because of its **antibacterial, anticancer, antidiabetic, antifungal, anti-hypertensive, anti-inflammation, anti-lipidemia, and antioxidant properties**; moreover, it can protect heart, liver, bone, and prevent urinary diseases.

Magnolia tree-**Fig. magnolia tree****Use in herbal shampoo-**

Calming: Formulated from various compounds including beta-caryophyllene, Magnolia Oil possesses potent anti-inflammatory properties. When used on the skin, Magnolia Essential Oil helps to **reduce redness, puffiness and leaves the appearance of skin more even and luminous**.

Chemical constituent- eucalyptol, linalool, limonene, β -eudesmol, β -elemene, β -pinene, and caryophyllene.

Mandarin-**Fig. mandarin****Use in herbal shampoo-**

They contain great benefits for the kidneys, reducing cellulite, retaining skin elasticity, and provide antiseptic goodness for your scalp. From the grapefruit, to the clementine, to the orange, **citrus oils will equally do your hair, body, and skin good**

Chemical constituent- limonene.

Plant parts of the genus Spondias, as from the skin, roots, fruit, and leaves, have a variety of benefits and have been used as a traditional medicine in various countries. In terms of ethnomedicine, *S. pinnata* has anti-bacterial activity and inhibits lime impact

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Marigold-



Fig. marigold

Use in herbal shampoo-

One of the many benefits of marigold oil for hair is increased growth. There are many hair oils that you must have tried by now but trust us, marigold oil works wonders! It has certain proteins that boost hair growth and regrowth, both. Applying this oil on your scalp twice a week would make your hair grow faster with visible results in just a couple of weeks.

Chemical constituent- trans-lutein.

Gumma-



Fig. gumma

Use in herbal shampoo-

Externally, in Indian medicine, it is used for **scabies, and chronic skin eruptions**. Diseases caused by animal bites, skin eruptions.

The plant is used traditionally as an **antipyretic**. Medicinally, it has been proven to possess various pharmacological activities like antifungal, antioxidant, antimicrobial, antinociceptive and cytotoxic activity.

Chemical constituent- Dronapuspi.

Moss-rose-



Fig. moss-rose

Use in herbal shampoo-

portulaca oleracea has been used as a folk medicine in many countries, acting as a **febrifuge, antiseptic, vermifuge**, and so forth . It exhibits a wide range of pharmacological effects, including antibacterial,antiulcerogenic,anti-inflammatory , antioxidant , and wound-healing properties.

Chemical constituent- phenyl ethylalcohol .

Moyna-



Fig. moyna

Use in herbal shampoo-

Meyna laxiflora Robyns. Family Rubiaceae commonly known as manakkarai (Tamil), muyna, muduna (Hindi, Bengali) and gobergally (Kannada) is a spinescent or unarmed shrub or a small tree found in Western UP, West Bengal, North-east India and Deccan peninsula. Leaves are ovate to elliptic; flowers in lax cymes, greenish white; drupes are subglobose, green to brown. Seeds are albuminous with a membranous testa. Different parts of the plant were used in the treatment of boils, dysentery, diphtheria etc. Antioxidant activity of the Meynalaxiflora fruit pulp has already been reported. Free radicals are generated as part of the body's normal metabolic process and play a dual role in our body as both deleterious and beneficial species. Excess production of reactive oxygen species (ROS) and a decrease in antioxidant levels, this may leads tissue damage and causes different diseases. Antioxidant plays a major role to protect our body from disease by reducing the oxidative damage to cellular component caused by ROS.

Chemical constituent- carbohydrates, starch, proteins, tannins, saponins and alkaloids.

Mugwort-

Fig. mugwort

Use in herbal shampoo-Mugwort essential oil soothes the redness and other irritation on the skin.

It fights acne issues and gives a clear and perfect glow.

It nourishes, hydrates, and protects the skin, and makes an excellent ingredient that gives the skin.

Mugwort oil benefits lie in hair care, skincare, and aromatherapy. Mugwort oil is an essential oil that has been extracted by Steam Distillation technique and is also known as Artemisia. It has healing properties that make it an excellent fit for sensitive, dry skin and acne-prone skin types. **Mugwort oil for the skin** is packed with Vitamin E and other antioxidants that protect the skin, nourish, and hydrate it. These antioxidants are also outstanding for aging skin and deal with fine lines, wrinkles, and premature aging. Is Mugwort good for skin? Mugwort oil is packed with Vitamin E and powerful antioxidant properties that make this oil beneficial for the skin.

Chemical constituent- germacrene D.

Nisinda-

Fig. nisinda

Use in herbal shampoo-

Vitex negundo belonging to the family verbanaceae has been reported to possess many medicinal properties according to indigenous system of medicine. The present work deals with antimycobacterial and antimicrobial activity of vitex negundo leaves. The different solvent extracts of the leaves prepared were studied for their antimycobacterial activity by Conventional proportion method and Nitrate reductase assay method.

Chemical constituent- Leaf – p-cymene, cis-Ocimene

Flower – n-heptane

Dry fruit – α -Copaene

Nutgall-

Fig. nutgall

Use in herbal shampoo-

Rhus hirta, also known as Rhus typhina, is commonly referred to as **staghorn sumac and lemonade tree**. It grows throughout eastern North America as a shrub with bright red terminal conic fruit clusters covered in red tart hairs. Uses has hair dye colouring agent.

Chemical constituent- tannin mainly gallotannic acid which is official tannic acid.

Oyster plant-

Fig. oyster plant

Use in herbal shampoo-

Acanthus contains tannins and mucilage, lending important medicinal qualities. The qualities most useful in hair care, making it a boon as an added extract, are its astringency as well as its emollient, demulcent and detergent properties. Astringents dry up excess oils on the scalp and help deter oily build up and greasiness. This makes products with acanthus extract especially good for oily scalp conditions or hair that suffers from build-up of chemical products.

Pink-sorrel-



Fig. pink-sorrel

Use in herbal shampoo-

Pink-sorrel is a plant growing in small clumps. The stem is underground and bulbous. It has a bunch of leaves, carried by a long petiole with long flexuous hairs.

They are purple in color and are radiating at the end of the axis.

Chemical constituent- flavonoids, phytosterol, phenol, tannins, isovitexine, vitexine, and volatile oils

Pommelo-



Fig. pommelo

Use in herbal shampoo-

Pomelo contains several essential amino acids that help to build healthy skin cells and also suppress any redness and swelling that tends to develop on skin exposed to harsh environmental states. Its high flavonoid content provides antioxidants traits to assist in combating free radical damage, diminish acne, scars and dark spots and lessen skin irritation.

Chemical constituent- Limonene, β -pinene, β -myrcene and α -terpinene

Red-bottel brush-



Fig. red-bottel brush

Use in herbal shampoo-

The flowers of this plant are quite different from those of other plants. Its flowers look like bottle-washing brushes, with silky soft hairs growing outwards. Its body is presented in a bright red appearance, so it is called crimson bottlebrush.

Chemical constituent- Callistemon viminalis .

Water-hyssop-



Fig. water-hyssop

Uses in herbal shampoo-

It is considered a good source of nutrients like vitamins and minerals. It also has antioxidant properties. Due to these nutrients, Brahmi oil **strengthens the hair roots, as well as can be helpful in their growth.**

Chemical constituent- Myrtenyl acetate.

CONCLUSION

The world is also moving towards herbal medicines for health care, health food, and cosmetic. India is a rich heritage for cultivation and production of herbal products. The present paper shows us herbal products are easily available and have no or minimum side effect, as compare to synthetic cosmetic. So, use herbal products and live a healthy lifestyle.

Summary and conclusion:

This study aimed at preparing stable formulas shampoo rich with curry leaves extract that contains low surfactants to reduce the risk of chemicals. Results showed that all ingredients used to formulate the shampoo were found to be safe and the physicochemical evaluation showed ideal results. Stability studies showed a stable homogenous appearance during six months of storage at different temperatures (4-8oC, 40oC and at ambient temperature).

However, formula gave optimum stability, especially the stability of curry leaves, ritha, amla, mugwort, nutgall, moyna, lime, patchouli, lemon, khul-khuri, indain-catmint, bhandari, dandal, brahmi, aonla, shikakai , extract. Further research is required to improve its quality especially on the conditioning performance.

The herbal shampoo preparation was formulated based upon traditional knowledge and emphasis was to formulate a stable and functionally effective. The formulated shampoos were not only safer than the chemical conditioning agents, but also greatly reduce the hair loss during combing as well as strengthen the hair growth. The pH of the shampoos was adjusted to scalp ph., to retain the acidic mantle of scalp.

It was found to be harmless, more effective and economical.

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