



Cosmetic Science (Preparation & Evaluation of Herbal Amla Shampoo)

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Introduction

The concept of beauty and cosmetics dates back to ancient mankind and civilization. Generally herbal cosmetics are also referred to as Natural cosmetics. Herbal cosmetics are formulated, using different Cosmetic ingredients to form the base in which one or more herbal Ingredients are used to cure various skin ailments. Plants are highly used for development of new drug products for cosmeceuticals and Pharmaceutical applications.

Herbal cosmetics are the products in which herbs are used in crude or extract form. Herbal Cosmetics, referred as Products, are formulated, using various permissible cosmetic ingredients to form the base in which one or more herbal ingredients are used to provide defined cosmetic Benefits only, shall be called as "Herbal Cosmetics". Herbs do not produce instant cures. They offer a way to put the body in proper Tune with nature.

A huge number of cosmetic and toiletry Formulations have been designed and developed based upon Indian Herbs recently. Other than traditionally documented applications, some modern trials have also been using the utility of Indian herbs in Personal Care products. The demand of herbal medicines is increasing rapidly due to their skin friendliness and lack of side effects. The best Thing of the herbal cosmetics is that it is purely made by the Herbs and shrubs and thus is side-effects free. The natural content in the herbs does not have any side effects on the human body; instead provide the body with nutrients and other useful minerals.

Cosmeceuticals Are cosmetic-pharmaceutical hybrids intended to enhance health and Beauty through ingredients that influence the skin's biological texture And function Cosmetics are commercially available products that are used to improve the appearance of the skin Even though the cosmetic field is closely related to the Pharmaceutical or food industry the expectations of cosmetic product consumers and their needs are completely different.

They are more sophisticated and are looking for safe cosmetic products that actually do something beneficial to their skin.

Plants and plant derived ingredients are common and of major importance in the fields of pharmacy, food and cosmetics. Some pharmaceutical companies have begun to develop cosmetic improvement lines.

A shampoo is basically a solution of a detergent containing suitable additives for other benefits such as hair conditioning enhancement, lubrication, medication etc. Now a days many synthetic, herbal, medicated and non medicated shampoos are available in the market but popularity of herbal shampoo among consumers is on rise because of their belief that these products being of natural origin are safe and free from side effects. Synthetic surfactants are added to shampoo primarily for the foaming and cleansing action but their regular use leads to dryness of hairs, hair loss, irritation to scalp and eyes Herbal formulations are considered as alternative to synthetic shampoo but formulating cosmetics using completely natural raw material is a difficult task. There are large numbers of medicinal plants which are reported to have beneficial effects on hair and are commonly used in formulation of shampoo. These plant products may be used in their powdered form, crude form, purified extracts, or derivative form. It is extremely difficult to prepare a herbal shampoo using a single natural material that would be milder and safer than the synthetic ones, and at the same time would compete favorably with its foaming, detergency and solid content. We, therefore, considered to formulate a pure herbal shampoo using traditionally and commonly used plant materials for hair washing in India and gulf region especially in OMAN.

The pericarp of *Spindus mukaussi*, commonly known as Soapnut or reetha, fruits of *Phyllanthus emblica* commonly known as Amia, and dried pods of *Acacia concinna* (Sheekakai) have traditionally been used in Indian folklore system for centuries for washing hair. Reetha and Sheekakai produce rich lather when shaken with water due to their high content of saponins. They are also known to produce beneficial effects on skin and other organ systems. Amla fruit is rich in vitamin C and is employed in hair preparations as antidandruff agent, hair growth promoter and to strengthen hairs. The *Ziziphus spind christi* tree, known as Sidr in Arabic, is indigenous to the Middle East including Oman, and its leaves are traditionally used by women to wash, darken and lengthen hairs. It is reported to contain four saponin glycosides that help in removing excess sebum without causing adverse reactions. Saponins also exhibit antibacterial and antifungal activities that make them important ingredients of cosmetic applications.

This study was designed to formulate a herbal shampoo and to evaluate and compare its physicochemical properties with the marketed synthetic and herbal shampoo in search of a safe and effective cosmetic product.

Cosmetics

Cosmetics are constituted mixtures of chemical compounds derived from either natural sources, or synthetically created ones. Cosmetics have various purposes. Those designed for personal care and skin care can be used to cleanse or protect the body or skin. It keeps the areas on which it is applied in good condition and also protect, cleans, perfumes and changes their appearance without modifying them.

Cosmeceuticals - The name is a combination of two words "cosmetics" and "pharmaceuticals".

"Cosmeceuticals" is fastest growing segment of the beauty industry. Cosmeceuticals are cosmetic-pharmaceutical products intended to improve the health and beauty of the skin by providing a specific result, ranging from acne-control and anti-wrinkle effects, to sun protection.

The concept discovered by Dr. Albert Klingman states that "The Cosmeceuticals are topical agents that are distributed across broad spectrum of materials, lying somewhere between pure cosmetics (lipstick and rouge) and pure drug (antibiotics, corticosteroid).

Cosmeceuticals are products that have both cosmetic and therapeutic (medical or drug-like) effects, and are intended to have a beneficial effect on skin health and beauty. Like cosmetics, they are applied topically as creams or lotions but contain active ingredients that have an effect on skin cell function.

In a cosmeceutical product, the active principles are able to pass through the dermis and act deep within the dermis.

Cosmetics	Cosmeceuticals
<p>FD&C ACT defines a cosmetic product by its intended use meaning, cleansing, beautifying, promote attractiveness or altering appearance. cosmetic products only deliver their ingredient at a very superficial level into the skin.</p> <ul style="list-style-type: none"> ➤ Cosmetics do not delay your skins aging process because they work at the uppermost layer of the epidermis which is topmost layer of the skin. 	<p>Cosmeceuticals products on the other hand have pharmaceutical benefits to the skin.</p> <p>Cosmeceuticals products contain active ingredients that act on the skin cellular structure through topical application with either therapeutic, disease fighting or healing properties.</p> <p>Cosmeceuticals are more concentrated, pure and more effective giving pharmaceutical benefits.</p>

Comparative study of marketed cosmetics and cosmeceutical product

<ul style="list-style-type: none"> ➤ Marketed Cosmetic Baby Products E.g. Himalaya's herbal baby Powder • Key Ingredients Almond Oil, Khus Grass, Olive Oil, Natural Zinc ➤ Marketed Cosmetic Men's Product Eg. Parachute Lite Hair Oil contains • Key Ingredients Mineral oil(79.7% v/v), coconut oil(20% v/v), fragrance with Jasmine extract, Benzophenone-3. 	<ul style="list-style-type: none"> ➤ Marketed Cosmeceuticals baby Products E.g. Baby hug Advanced tale free Dusting powder • Key ingredients: Zinc oxide, chamomile extract, olive oil, maize starch, Rosehip witch oil, Marketed Cosmeceuticals Men'sProduct Eg. Kama Ayurveda Extra VirginOrganic Coconut Oil • Key ingredients Organic Honey, Natural Sugar, Apple Cider Vinegar, Wellness Juices & Powders.
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Regulatory status of cosmetic And Cosmeceuticals

,Cosmeceuticals - cosmetics or drugs?

,The legal difference between a cosmetic and a drug is determined By a product's intended use. Under present concept, the boundary At which a cosmetic product becomes drug is not well- defined and Different laws and regulations apply to each type of product.

The drugs and cosmetic Act 1940 defines a drug and a cosmetic As;

Drug-" All medicines for internal or external use of human Beings or animals and all substancesintended to be used for; or in The diagnosis, treatment, mitigation or prevention of any disease or Disorder in humans or animals".

Cosmetic-"Any article intended to be rubbed, poured, sprinkled or sprayed on or introduced into or applied to any part of the human body for cleansing, beautifying, Promoting attractiveness or altering the appearance and includes any Article intended foruse as a component of cosmetic"

Cosmetic and drug: Some products meet the definitions of both Cosmetics and drugs. This may happen when a product has more than one intended uses.

For example, a shampoo is a cosmetic because its Intended use is to clean the hair. An antidandruff shampoo is a drug because its intended use is to treat dandruff. Among thecosmetic/drug Combinations are toothpastes that contain fluoride, deodorants that are Antiperspirants and moisturizers with sun-protection claims.

The Claims made about drugs are subject to detailed analysis by the Food and Drug Administration (FDA) review and approval process, but Cosmetics are not subject

to mandatory FDA review.

Although there is No legal category called Cosmeceuticals, the term has found application to designate the products at the borderline between cosmetics and Pharmaceuticals.

Schedules that are applicable for Cosmetics as per D & C Act, 1940

1. Schedule M(II)

Requirement of factory premises, plant, and equipment's for the manufactureof cosmetics.

2. **Schedule Q**-List of coal tar colours permitted to be used in cosmetics and list ofcolours permitted to be used in soaps.

3. **Schedule S** - Standard for cosmetics.

4. **Schedule T** -Requirements for factory premises and hygienic conditions for Manufacture of Ayurvedic (including Siddha) and Unani drugs.

5. **Schedule U (II)** - Particulars to be shown in manufacturing records

Provisions Relating to Cosmetics

(A) IMPORT OF COSMETICS - No licence is required for import of cosmetics. But, the importer should satisfy all other Necessary requirements as in the case of the drugs which are imported without licence

The import of following classes of cosmetics is prohibited.

- i. Cosmetics which are not of standard quality.
 - ii. Misbranded cosmetic.
 - iii. Cosmetics containing Hexachlorophene.
 - iv. Cosmetics containing coal tar colour other than the one prescribed.
 - v. Cosmetics containing prescribed colours which contain more than 2 p.p.m. of arsenic or 20 p.p.m. of lead or 100 p.p.m. of heavy metals other than lead
 - vi. Cosmetics intended for use on the eye-brow or the eyelash, or around the eye containing any Coal Tar Dye Colour, Coal Tar base or Coal Tar Dye intermediate.
 - vii. Cosmetic containing mercury compounds
 - viii. Cosmetics containing any ingredient which may render them unsafe or harmful for Use.
- Cosmetics coloured with arsenic or lead compounds.

(B) MANUFACTURE OF COSMETICS FOR SALE

For obtaining a licence one has to apply in the prescribed form 31 along with the necessary fees.

Conditions for obtaining license for –

A. Manufacture of Cosmetic - A licence to manufacture cosmetics for sale against application in Form 31, is granted in Form 32, which remains valid upto 31st December, of the year following the year in which it is granted.

1. The licensee shall provide and maintain staff, premises and equipment as specified in the respective rules.
2. The licensee shall comply with the provisions of the Drugs and Cosmetics
3. The licensee shall maintain the records (Schedule U₁) of necessary details of each batch of cosmetics manufactured and of raw materials used. The said records shall be retained for a period of three years.
4. The licensee shall test each batch of raw materials as well as final products and maintain record or register of the tests performed. Such records shall be retained for a period of three years from the date of manufacture.
5. The licensee shall allow the Drug Inspector to enter with or without Notice for inspecting the manufacturing premises and to take samples of the manufactured cosmetics under a receipt.
6. The licensee shall allow an Inspector to inspect all the registers and records maintained as per the provisions under the rules.
7. The licensee shall maintain an Inspection Book in Form 35 so that an Inspector can record his views regarding inspection.

Conditions 3 and 4 mentioned above are not applicable for manufacture of soap. Procedure for testing of raw materials and the records to be maintained by a soap manufacturer shall be approved by the "Licensing Authority"

B) Sale of Cosmetic

Licence for sale of the cosmetics is not required. The dealers should sell Cosmetics Act and the rules. If required, the dealer should disclose to the inspector the name, address and other particulars of the person from whom he acquired the cosmetics.

C) Import of Cosmetic

Under the provisions of Drugs and Cosmetics Act, 1940 and Rules made there under, the manufacture of cosmetics is regulated under a system of inspection and licensing by the State Licensing Authorities appointed by the respective State Governments, while the import of cosmetics is regulated under a system of registration by the Central Licensing Authority appointed by the Central Government.

The Drugs Controller General (India) functions as the Central Licensing Authority who grants the Import Registration Certificate and regulates the import of cosmetics into India vide Gazette Notification G.S.R 763(E) under the provisions of Drugs and Cosmetics Act, 1940.

Current Good Manufacturing Practice (cGMP) Regulation for Cosmetics-

FDA ensures the quality of drug products by carefully monitoring drug manufacturers' compliance with its Current Good Manufacturing Practice (cGMP) regulations. The CGMP regulations for drugs contain minimum requirements for the methods, facilities, and controls used in manufacturing, processing, and packing of a drug product. The regulations make sure that a product is safe for use, and that it has the ingredients and strength it claims to have.

The approval process for new and generic drug marketing applications includes a review of the manufacturer's compliance with the CGMPs, FDA assessors and investigators determine whether the firm has the necessary facilities, equipment, and ability to manufacture the drug it intends to market. Code of Federal Regulations (CFR).

FDA's portion of the CFR is in Title 21, which interprets the Federal Food, Drug and Cosmetic Act and related statutes, including the Public Health Service Act.

The pharmaceutical or drug quality-related regulations appear in several parts of Title 21, including sections in parts 1-99, 200-299, 300-499, 600-799, and 800-1299

The regulations enable a common understanding of the regulatory process by describing the requirements to be followed by drug manufacturers, applicants, and FDA.

21 CFR Part 314 For FDA approval to market a new drug.

21 CFR Part 210. Current Good Manufacturing Practice in Manufacturing Processing, packing, or Holding of

Drugs.

21 CFR Part 211. Current Good Manufacturing Practice for Finished Pharmaceuticals. 21 CFR Part 212. Current

Good Manufacturing Practice for Positron
Emission Tomography Drugs.

21 CFR Part 600. Biological Products: General.

ICH GUIDELINES FOR STABILITY STUDIES

- 1) QIA(R2)- Stability Testing of New Drug Substances and Products
- 2) QIB- Stability Testing: Photostability Testing of New Drug Substances and Products
- 3) QIC- Stability Testing for New Dosage Forms.
- 4) QID- Bracketing and Matrixing Designs for Stability Testing of New Drug Substances and Products
- 5) QIE- Evaluation of Stability Data
- 6) QIF- Stability Data Package for Registration Applications in Climatic Zones III and IV

Information About Skin, Oral Cavity, Hair, Nail Related Condition.

1. Skin Related Conditions:

- Acne (Acne vulgaris) Acne, the most common skin disorder
- Atopic dermatitis (Eczema)
- Shingles (Herpes Zoster)
- Hives (Urticaria)
- Sunburn.
- Contact Dermatitis.
- Diaper Rash.
- Rosacea

2. Oral Cavity related Conditions:

- Ulcers, sores, tender areas in the mouth that won't heal after a week or two
- Bleeding or swollen gums after brushing or flossing.
- Chronic bad breath.
- Sudden sensitivity to hot and cold temperatures or beverages.
- Pain or toothache.

3. Hairs Related Condition:

- Dandruff (common scalp condition in which small pieces of dry skin flake off of the scalp)
- Hair Loss.
- Dry Hair.

- Split Ends
- Oily/Greasy Hair.
- Frizzy Hair.
- Dull Hair
- Heat Damaged Hair.

4. **Nails Related Condition:**

- Brittle nails.
- Onycholysis (Onycholysis is the painless separation of the nail from the nail)
- Paronychia. (Paronychia is an infection of the tissue adjacent to a nail, most often a fingernail. It's Caused by injury or irritation, such as a hangnail, cuticle damage or continually wet hands.)
- Psoriasis (A condition in which skin cells build up and form scales and itchy, dry patches)
- Onychomycosis (A nail fungus causing thickened, brittle, crumbly or ragged nails.)

Materials and Methods –

Preparation & Evaluation of Amla Shampoo

Shampoos are most probably used as cosmetics. It is a hair care product that is used for cleaning scalp and hair in our daily life. Shampoos are most likely utilized as beautifying agents and are a viscous solution of detergents containing suitable additives, preservatives and active ingredients. It is usually applied on wet hair, massaging into the hair, and cleansed by rinsing with water. The purpose of using shampoo is to remove dirt that is build up on the hair without stripping out much of the sebum. Many synthetic shampoos are present in the current market both medicated and non-medicated; however, herbal shampoo popularized due to natural origin which is safer, increases consumer demand and free from side effects

In synthetic shampoos, surfactants (synthetic) are added mainly for their cleansing and foaming property, but the continuous use of these surfactants leads to serious effects such as eye irritation, scalp irritation, loss of hair, and dryness of hairs. Alternative to synthetic shampoo we can use shampoos containing natural herbals. However, formulating cosmetic products containing only natural substances are very difficult. There are a number of medicinal plants with potential effects on hair used traditionally over years around the world and are incorporated in shampoo formulation. These medicinal plants may be used in extracts form, their powdered form, crude form, or their derivatives. To develop a shampoo containing an only one natural substance which would be safer with milder effect, then the synthetic shampoo is difficult and also it should possess good foaming, detergency, and solid content as such synthetic shampoo. Hence, we considered in detailing an unadulterated natural cleanser utilizing conventional technique using regularly utilized plant material for hair washing.

In the present study, herbal shampoo was formulated containing suitable ingredient such as *Hibiscus rosa-sinensis*, *Embllica officinalis*, *Acacia concinna*, *Sapindus indica*, *Eclipta prostrata*, *Aloe barbadensis*, and *Cassia auriculata* in different proportions to formulate and evaluate its physicochemical properties. The pericarp of *S. indica* Poir. (Soapnut), products of *Phyllanthus emblica* (Amla), and units of dried *A. concinna* (Shikakai) have been utilized customarily as old stories framework for purging hair. Cleanser nut and shikakai when shaken with water create rich foam due to their high saponin content it indicates frothing impact. Amla fruit and *C.*

auriculata flowers are used to promote hair growth, anti dandruff agent, strengthen hairs, and prevent hair fall. H. rosa-sinensis flower and A. barbadensis used as a conditioning agent.

METHODS

Plants

The plant materials required for the present study were obtained from in and around shreeyash collages botanical garden, and authenticated by the miss. Arundhati deoker pharmacogony professor in Dr. N.J. PAULBUDDHE COLLEGE OF PHARMACY AHMEDNAGAD

II. Preparation of extract


About 100 g of each powdered plant materials, namely H. rosa sinensis, E. officinalis, A. concinna, S. indica, A. Barbadensis. and C. auriculata, were homogenized. The powdered material was extracted with distilled water by boiling for 4h. The extract of each plant material was separated and evaporated.

Materials required	Quantity to be weighed
Soap nut extract	2.5 g
Amla extract	2.5 g
Shikakai extract	2.5 g
Hibiscus	2.5 g
Senna extract	2.5 g
Aloe vera	1g
Gelatin	q.s
Lemon juice	q.s
Rose oil	q.s

Table 1: Ingredients of the herbal shampoo

Formulation of herbal shampoo

Formulation of the herbal shampoo was done as per the formula given in Table 1. To the gelatin solution (10%), added the herbal extract and mixed by shaking continuously at the time interval of 20 min. 1 ml of lemon juice was also added with constant stirring. To improve aroma in the formulation, sufficient quantity of essential oil (rose oil) was added and made up the volume to 100 ml with gelatin

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Sr.No.	Common name	Botanical name	Parts used	Category
1	Hibiscus	Hibiscus rosa-sinensis	Flower	Conditioning agent
2	Amla	Embllica officinalis	Fruit	Anti-dandruff agent
3	Shikakai	Acacia concinna	Powder	Detergent
4	Cassia	Cassia auriculata	Leaves	Anti-dandruff agent
5	Soapnut	Sapindus indica	Fruit	Detergent
6	Aloe vera	Aloe barbadensis	Leaf	Coolent

Table 2: Description of the ingredients of the herbal shampoo



EVALUATION OF HERBAL SHAMPOO

The prepared formulation was evaluated for product performance which includes organoleptic characters, pH, physicochemical characterization, and for solid content. To guarantee the nature of the items, particular tests were performed for surface tension, foam volume, foam stability, and wetting time using standard protocol.

1. Visual assessment-

The prepared formulation was assessed for color, clarity, odor, and froth content.

2. pH determination-

The pH of the prepared herbal shampoo in distilled water (10% v/v) was evaluated by means of pH analyzer at room temperature.

3. Determination of solid content percentage –

The percentage of solid substance was determined by weighing about 4 g of shampoo in a dry, clean, and evaporating dish. To confirm the result, the procedure was repeated again. The liquid portion of the shampoo was evaporated in a dish by placing on hot plate. The percentage and the weight of the solid contents present in the shampoo were calculated after drying completely.

4. Surface tension measurement –

The prepared shampoo in distilled water (10% w/v) was evaluated for surface tension using stalagmometer in room temperature.

5. Testing of wetting –

Wetting time was calculated by noting the time required by the canvas paper to sink completely. A canvas paper weighing 0.44 g was cut into a disc of diameter measuring 1-inch. Over the shampoo (1% v/v) surface, the canvas paper disc was kept and the time taken for the paper to sink was measured using the stopwatch.

6. Foam stability test –

The stability of the foam was determined using cylinder shake method. About 50 ml of formulated shampoo (1%) solution was taken in a graduated cylinder of 250 ml capacity and shaken for 10 times vigorously. Foam stability was measured by recording the foam volume of shake test after 1 min and 4 min, respectively. The total foam volume was measured after 1 min of shaking

7. Dirt dispersion test –

To 10 ml of refined water two drops of cleanser were included and taken in a wide mouthed test tube. To the formulated shampoo, added one drop of Indian ink and shaken for 10 min after closing the test tube with a stopper. The volume of ink in the froth was measured and the result was graded in terms of none, slight, medium, or heavy.

Result of formulated shampoo

Evaluation test	Formulated shampoo
Color	Brown
Transparency	Opaque
Odor	Good
pH of 10% solution	7
Solid contents (%)	23.25
Foam volume (ml)	25
Foam type	dense, small
Surface tension (dynes/cm)	35.18
Wetting time (s)	120



Table 3: Result of the herbal shampoo

Shampoo Preparation

LIMITATION OF HERBAL SHAMPOO-

1. Natural products affect product uniformity, Quality control.
2. Seasonal variation of plant constituents.
3. Less stable, So preservatives should be added.
4. Vary in consistency from batch to

Herbals shampoos are a better choice for some of the reasons given below

- A conglomeration of modern science and traditional knowledge system to give the consumer the benefits of both. The herbs / herbal extracts have the same efficacy and results when used in modern dosage forms as that of those when used alone (As a herbalone)
- The solubilisers / emulsifiers used in the product makes it more efficient as these are known to increase the availability of the active constituents at the site of action, ex., the scalp, hair shaft etc.
- The conditioning effect that is provided by herbs is more beneficial to the hair in a system as whole whereas, the synthetic conditioners play with different types of charge inducers which may in turn damage the hair permanently.
- The cleansing action of the synthetic cleansers / shampoo aims basically to remove oil content from the hair leaving the hair dry and damaged, whereas herbal shampoos aim at delivering essential nutrients to the hair and at the same time have a mild cleansing effect to remove the unwanted oily content.
- In the anti-dandruff shampoo sector, majority of the brand use an anti-microbial agent called as "Climbazole" which acts like an anti-biotic and helps in getting rid of Dandruff temporarily. Whereas, the herbal shampoos make use of the goodness of Ginger, Neemand Tulasi like ingredients which help in removing the dandruff causing organisms.
- Repeated use of Climbazole based shampoo may render the organism resistant to it and the Dandruff may turn out to be a permanent problem. Where as herbal shampoos using Ginger like stuff contains antimicrobial constituents like Gingerols and shagols, which are known to manage the dandruff causing organisms without causing any resistance.
- Modern shampoos use Silicones to give that silky rich feel on the hair, but unfortunately these silicones though not bad for human at current times, are reported to be hazardous to the environment as they are not easily decomposed. However, the same silky rich feel is given by certain herbs like hibiscus which are from

the Nature and of course nature friendly.

□ The preservatives systems that are engaged in the modern shampoo are known to interfere with the normal biological functions of the human body and may lead to some unwanted health risks, the best example is Parabens. Hence ,the world is moving away from paraben. Herbal shampoos aim at providing a stable and robust products without the use of such parabens. Hence you see a claim such as paraben free on such shampoos.

□ Last but not the least the use of these herbal shampoo will help in generating revenue to many of the farmers atleast to earn their livelihood through whom the herbs are sourced. Which is a rare case scenario in case consumers start using the synthetic shampoos.

Benefits of Herbal Shampoos

□ 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.

□ 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.

□ 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.

□ 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.

□ 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.

□ Hair grows healthy with regular usage of herbal shampoos thus giving your hair a lustrous, shiny, and bouncy hair.

□ Herbal shampoos also keep the natural color of your hair and with regular usage, even enhance them. Along with this, they keep the hair healthy, shiny, bouncy with a well-balanced and healthy scalp.

Importance of this formulation.

- The selection of active ingredients for hair care shampoo is often based on the ability of the ingredient to prevent damage to skin as well as to improve the quality of the skin by way of cleansing, nourishing, and protecting the skin.
- It have not make the hand rough and chapped.
- It's not give any side effects or causes irritation to the eye.
- It produces a good amount of foam to satisfy the psychological requirements.
- Herbal shampoos for hair fall are devoid of harsh chemicals and toxins and are made out of natural oils, minerals, and herbal extracted compounds. The ingredients work to improve the moisture in your hair by hydrating the hair follicles and the roots of your hair. This in turn reduces the chances of hair fall due to hair breakage.
- Regular usage of herbal shampoos can do wonders for your hair. Your scalp needs to maintain a perfect balance of oil and pH levels in order to have thick, healthy, and strong hair. Natural herbs present in the shampoos remove excess oil from your scalp and help to maintain the perfect oil balance.
- Prolonged exposure to harsh UV rays and the sun can damage your hair cuticles and scalp. Natural ingredients used in herbal shampoos are filled with essential antiseptic properties that act as a shield to protect your hair and scalp from the harsh UV rays of the sun thus preventing scalp damage and hair breakage.
- Herbal shampoos for hair growth are formulated to strengthen the hair follicles by delivering essential oils and nourishment all through the roots and follicles. This, in turn, stimulates the formation of new and healthy hair roots and promotes healthy hair growth.
- Because herbal shampoos are made of extracts of natural ingredients, they are suitable for all types of hair and do not cause major allergies or side effects. The shampoos are crafted with pure and organic ingredients and are free from synthetic additives. So, there is no need to worry about any allergies with the use of these shampoos.
- The cleansing action of the synthetic shampoos removes oil content from the hair leaving the hair dry and frizzy. Whereas, herbal shampoos aim at providing essential nutrients to the hair and at the same time have a mild cleansing effect to remove the excess oil content from the hair.
- These Shampoos keep the colour of your hair intact and with regular usage, enhance the texture of your hair. While in the case of synthetic cleansers, the harsh chemicals might affect your hair and cause premature greying of hair. Along with this, they keep your hair healthy and add a great luster and bounce to your luscious locks.

DISCUSSION

□ Here we have rounded up some natural ingredients that are known to protect your hair from the harmful chemicals and make them healthy. Include natural ingredients like amla, reetha and shikakai for your haircare and forget about hair troubles.

□ Haircare is no cakewalk and who would understand it better than our generation. Exposure to pollution, bad hair products, poor diet, season, stress, there are number if factors that can take a toll on our hair and cause hair fall, hair damage etc. When it comes to haircare, we get very choosy about the products that we use to keep our hair healthy, and we should be as well. We generally start with shampoo. With various brands of shampoos available in market claiming their product to be the best, it becomes difficult to pick one. In reality, we all know that these shampoos are loaded with harmful chemicals, which are not good for our hair. Having said that, here we have rounded up some natural ingredients that are known to protect your hair from the harmful chemicals and make them healthy. Include natural ingredients like amla, reetha and shikakai for your haircare and forget about hair troubles. These three herbal fruits are known to be good for your hair when mixed together. There are many benefits of using amla, reetha and shikakai and here is why you should apply this rich combination on your hair.

□ Analyze the market opportunities of stakeholders and provide market leaders with details of the competitive landscape. Global Herbal Shampoo market competition by TOP MANUFACTURERS, with production, price, revenue (value), and each manufacturer including Herbal Essences, Suave, The Himalaya Drug Company, Herbline, Forest essentials, Lotus Herbals, Khadi, Biotique.

CONCLUSION

□ The present study was carried out with the aim of preparing the herbal shampoo that reduces hair loss during combing, safer than the chemical conditioning agents as well as to strengthen the hair growth. Herbal shampoo was formulated with the aqueous extract of medicinal plants that are commonly used for cleansing hair traditionally. Use of conditioning agents (synthetic) reduces the protein or hair loss. To provide the effective conditioning effects, the present study involves the use of shikakai, amla, and other plant extracts instead of synthetic cationic conditioners. The main purpose behind this investigation was to develop a stable and functionally effective shampoo by excluding all types of synthetic additives, which are normally incorporated in such formulations. To evaluate for good product performance of the prepared shampoo, many tests were performed. The results of the evaluation study of the developed shampoo revealed a comparable result for quality control test, but further scientific validation is needed for its overall quality.

□ Presently the entire world is endeavoring to return towards the natural herbal materials through it has a no some other side effects towards ailments. We are utilizing manufactured items for our hair, losing their magnificence, quality, strength, volume and shine. Every single manufactured item like cleanser contains a destructive substance which is in charge of damage of hair. HS is the only product which used for hair washing and also used for hair remedy on hair problem. In recent study herbal HS (HS) has remarkable properties toward hairs, Greener preparation of HS made has two sections, In first section contain, herbal extract prepared by mixtue of amla, reetha, shikakai, nagarmotha, bhringaraj, brahmi, aloe vera, lemon juice and some Ingredients. Herb extract (10%) take an amla, reetha, shikakai, nagatmotha, bhringaraj, brahmi all in dried

form in a beaker in aqueous medium, warm up to till the beginning of boil by microwave method, sieve and put for cooling, obtained herb extract. For their transparency add some lemon squeeze in it, followed by mixing up to colourless. In second section beaker contains SLES, glycerin and CAPB everyone followed by stirring gradually, Herb extract with lemon juice in it stir gradually due to avoid foaming. Preservative methyl paraben and sodium benzoate, for pearlising impact with EGMS to it. Pour an Aloevera in it, with small concentration of cocamono in it, mockup with water in it for small proportion, increasing a thickness with cocodi, obtained product HS. The formed HS is thick semi white transparent in colour, with great foam producing ability and fluidity. The pH of HS is between 6-7 at 25°C RT, formed HS is acidic in nature which is good quality. Percentage of solid contents of HS is 0.05g after dry. The cleansing action of the formed HS is 15.1. Dirt dispersion of formed HS is light. In 1% of HS it gives 46ml froth. All these are these characters demonstrates that the herbal HS is high quality for usable in daily life.

REFERENCES

- Mainkar AR, Jolly CI. Formulation of natural shampoos. *Int J Cosmet Sci* 2001;23:59-62.
- ,Aghel N, Moghimipour B, Dana RA. Formulation of a herbal shampoo using total saponins of *Acanthophyllum squarrosum*. *Iran J Pharm Res* 2007;6:167-72.
- Potluri A, Asma SS, Rallapally N, Durrivel S, Harish GA. Review on herbs used in anti-dandruff shampoo and its evaluation parameters. *Indo Am J Pharm Res* 2013;3:3266-78.
- Shinde PR, Tatiya AU, Surana SJ. Formulation development and evaluation of herbal antidandruff shampoo. *Int J Res Cosmet Sci* 2013;3:25-33.
- Prachi S, sonal D. A research article on preparation of Herbello- an herbal antidandruff shampoo. *Biological sciences IJPBS*, 2015; 5(2): 220-228.
- Santhanam J, Nadiyah F, Ghani A, Basri DF. A research article on Antifungal activity of *Jasminumsambac* against *Malassezia sp.* And *Non-Malassezia sp.* Isolated from Human skin samples. *Journal of Mycology*, 2014.
- Potluri A, Harish GB, Pragathikumar, Durraivel. A review article on Formulation and evaluation of Herbal Anti-Dandruff Shampoo. *Indian jnl of Research in Pharmacy and Biotechnology*, 2013; 1(6): 835-839.
- Snehal W, Nitin K, Vaibhav B. Original research paper on Preparation and Evaluation of Antidandruff polyherbal powder Shampoo. *Pharmacophorean international research Jnl*, 2014; 5(1): 77-84.
- Shinde PR, Tatiya AU, Surana SJ. Formulation Development and Evaluation of Herbal Antidandruff Shampoo. *International Jnl of research in Cosmetic Science*, 2013; 3(2): 25-33.
- Chandran S, Vipin KV, Augusthy AR, Lindumol KV, Shirwaikar A. Development and evaluation of antidandruff shampoo based on natural sources. *J Pharm Phototherapeutics*, 2013; 1(4): 10-4.
- Sharma RM, Shah K, Jankipatel. Evaluation of prepared herbal shampoo formulations and to compare formulated shampoo with marketed shampoos. *International journal of pharmacy and pharmaceutical sciences*, 2011; 3(4): 402-405.
- Pooja Arora, Arun Nanda, Maninder Karan. A review on shampoos based on synthetic ingredients vis-a-vis shampoos based on herbal ingredients: *International Journal of Pharmacognosy and Phytochemistry Journal of Pharmaceutical Sciences Review and Research*, 2011; 7(1): 07.
- Vimaladevi T. Text book of Herbal cosmetics, 2015; 94102.
- Ireland S., Carlino K., Gould L., Frazier F., Haycock P, Ilton S., Deptuck R., Bousfield B., Verge D., 'Antoni K., MacRae L., Renshaw H., Bialachowski A., Chagnon C., and Reddy K., *Can. J. Neurosci. Nurs*, 2007; 29(1): 14-9.

- Mainkar A.R., Jolly C.I., International Journal of Cosmetic Science, 2001;23(1): 59-62.
- Barel A.O., Paye M. and Maibach H.I., Handbook of Cosmetic Science and Technology, 2001; 423; 583-588, 773-775.
- Griffin J.J., Corcoran R.F, Akana K.K., Journal of Chemistry. 54th ed, 1977;553-554.

