

Herbal Powder Shampoo: A General Review

Ms. Prajakta V. Gaikwad¹, Ms. Samruddhi M. Gaikwad²,
Ms. Vaishnavi L. Gavhane³, Ms. Dipali B. Ghuge⁴, Aishwarya Sakhare⁵

^{1,2,3,4}Student, Amepurva Forums Nirant Institute of pharmacy

⁵Professor, Amepurva Forums Nirant Institute of pharmacy

ABSTRACT:

This study aims to develop and assess herbal shampoo powder that uses natural ingredients, with a focus on efficacy and safety. It removes debris and dandruff, encourages hair development and shine, darkens and fortifies hair of all the hair care products, shampoo is most likely the most popular. Given that human hair is a unique and treasured trait, shampoos are among the cosmetics used on a daily basis. Hair care products are further defined as preparations intended for cleaning, altering the texture, changing the color, revitalizing stressed hair, nourishing the tresses, and enhancing the appearance of well-groomed hair. Fans of specialty shampoos include those with gluten intolerance, color-treated hair, and dandruff. Allergies to wheat, a focus on using organic products, and baby shampoo for infants and young children may be less irritating. Additionally, there are animal-specific shampoos available that include pesticides or other drugs to treat parasite infestations or skin diseases. Pests such as fleas. Given that the chosen medications have been used for a considerable amount of time, either alone or in combination, the current studies will also aid in the establishment of standard formulation and evaluation parameters, which will undoubtedly aid in the standardization of the quality and purity of these kinds of powdered herbal shampoos.(1)

KEYWORDS: Herbal powder shampoo, Evaluation, Anti-dandruff, Standardization.

INTRODUCTION:

The essential component of human beauty is hair. Herbs are being used by people to clean, style, and manage their hair. Since the beginning of time. Despite the fact that hair has been styled, cut, and even dyed since the beginning of time, cleaning has not received as much attention. (2,3) A true technology for cleansing the scalp and hair has only been established in this century. In order to promote personal hygiene and body cleanliness, cake soap and sanitary facilities were first widely distributed. The specialty of branded shampoo products for the hair and scalp, available in a wide range of varieties and shapes, followed. Shampooing the hair and scalp has now become almost a universal routine. Probably the most popular hair product is shampoo.(4,5,6) nowadays, utilizing both artificial and herbal substances. There are diverse varieties of shampoos, such as powder, clear liquid, lotion, solid gel, medicinal, and liquid herbal shampoos. Fungus-containing anti-dandruff shampoo ingredients are thought to regulate dandruff. Herbal formulations are becoming more and more popular worldwide.(7) In the market, natural medicines are more widely accepted. Because it is an anti-dandruff shampoo that is safe, has few side effects, and is nutritional, having proteins hydrolyzed with vitamins and amino acids. The therapeutic use of zinc pyrithione, salicylic acid, imidazole derivatives, glycolic acid, steroids, and other substances is currently available to treat dandruff. Derivatives of coal tar and sulfur. (8) These drugs do, however, have considerable limits, either because of their lackluster clinical efficacy or because of the.

In addition to compliance problems, these medications cannot stop recurrence. Hibiscus, Hingan, Shikakai, Bhiringraj and Amla were among the natural ingredients used in the formulation of the herbal shampoo powder.(9)

Ideal Properties of Shampoo –

- To make the hair smooth and shiny.
- Produce good amount of foam
- Should not cause irritation to scalp, skin and eye.
- Should completely, effectively remove dirt.
- Impart pleasant fragrance to hair.
- Good biodegradability
- Low toxicity
- Slightly acidic (pH less than 7) since a basic environment weakens the hair by breaking the disulphide bonds in hair keratin.

Advantages of Shampoo -

- Improving hair hygiene.
- Treatin scalp condition.
- Cleansing properties.
- Treatment for dry scalp.
- Treatment for hair loss.
- Treatment for greasing or oily hair.
- Relieves itch and irritation.
- Shampoo keeps hair silky or smooth.
- Keeps your hair beautiful and blossomed.

Hair Anatomy -

The part of the hair that extends deep below the surface and occasionally into the subcutaneous layer is called the root. There are three concentric layers in both the root and the shaft.

- **Medulla** - It is located in the middle of the shaft and is primarily seen in thick hair. It is made up of two or three rows of polyhedral cells with air gaps and pigment granules.
- **Cortex** - It forms the main portion of the shaft and is situated on the periphery of the medulla. It composed of long cells that cover the pigment granules in dark hair and the air in white hair.
- **Cuticle** – It is the outermost layer of hair and is made up of a single layer of thin, flat, highly keratinized cells.(10,11)

Structure of hair -

In these circumstances, the primary focus is on the hair shaft's characteristics. The following also describes its structure. The cortex of the hair fiber is composed primarily of elongated keratinized cells that are connected to form the shaft. The cuticle that envelops the cortex is formed from a single strand of cells located in the foundation's bulb. It is five to ten cell layers thick and makes up the hair fiber's surface structure.(11,12)

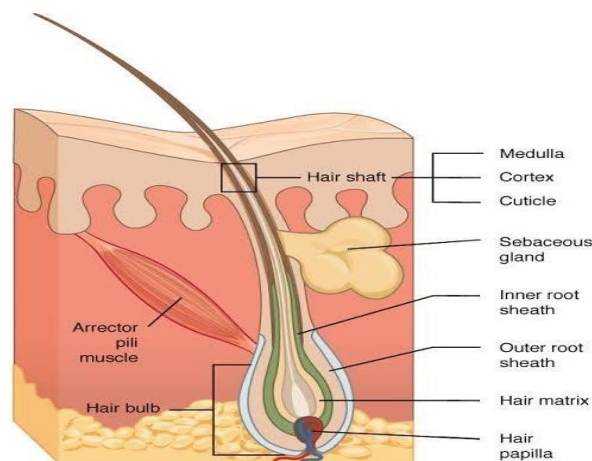


Fig.1. Structure of Hair

Parts of Hair

- Dermal papillae - The androgen receptors that make up the dermal papilla are sensitive to the DHT and are in charge of controlling the hair cycle and growth.
- Matrix - All of the active cells required for hair growth and the development of various hair components, including the outer, inner and hair shaft sheaths, are found in the matrix, which envelops the dermal papillae. The hair bulb is composed of the dermal papillae and the matrix.
- Outer root sheath - The outermost and keratinized portion of the hair is called the tricholemma, or outer root sheath. It forms an entrance for the hair follicles to the surface from after covering the entire follicle inside the dermis and passing through the epidermis.
- Inner root sheath - The cuticle, Huxley's layer and Henley's layer make up the inner root sheath. In order to stabilise the hair, the Henley's and Huxley's layer are capsular layer that anchor one another. The cuticle, the deepest layer that is closest to the hair shaft, is composed of dead, hardened cells that provide further protection for the hair shaft. This holds the hair in place and permits it to grow longer, along with capsular layer that comprise the Henley's and Huxley's layer.
- Hair shaft - The only portion of the hair follicle that fully emerges from the skin's surface is known as the hair shaft. The medulla, cortex and cuticle are the three layers that make up the hair shaft. The medulla which is not always present, is defined as an unorganised and disordered region found in the innermost section of the hair shaft. Unlike the medulla, the cortex is extremely ordered and structured. The keratin that makes up the cortex is what gives hair its resilience, strength and capacity to absorb water. The amount, distribution, and kinds of melanin granules present in the cortex, which also contain melanin, determine the colour of hair. The internal root sheath is linked to the cuticle, which is the outermost layer of protection for hair. Hair repels water thanks to a complicated structure that includes a single lipid molecule layer. (12,13)

Hair Physiology –

- Anagen (growth phase): The majority of hair grows at all times. Every hair goes through several years of this stage.
- Catagen (transitional phase): A few weeks after the hair follicle shrinks and the rate of hair growth slows down.
- Telogen (resting phase): The old hair separates from the hair follicle and hair development ceases over a period of months. The growth phase of a new hair starts, pushing out the old hair. (12,13,14)

Hair Growth Cycle -

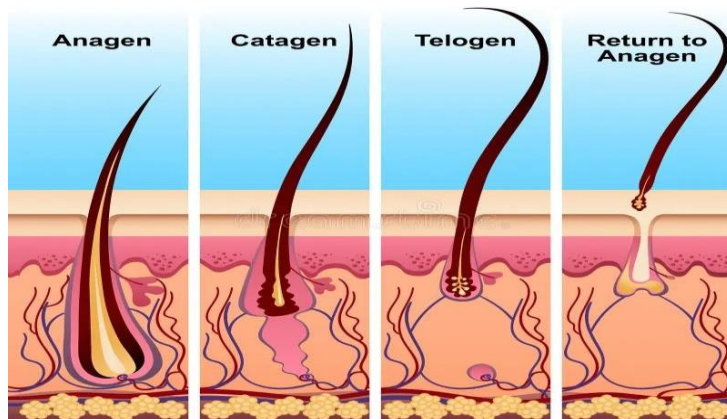


Fig.2.Hair Growth Cycle

Hair Growth -

Human scalp hair typically grows between 0.3 and 0.5 millimeters (mm) every day. The top of the head, which extends one inch above the ear, is home to over 1000000 hair follicles in a healthy scalp. It is thought to have up to 200,000 hair follicles by workers. The majority of hair is composed of the cortex, a tough, highly populated cell found in Indians. Orthocortex is essentially absent from Chinese and Japanese straight hair, although it is clearly seen in a band on Black hair that is crimped.

HUMAN HAIR GROWTH

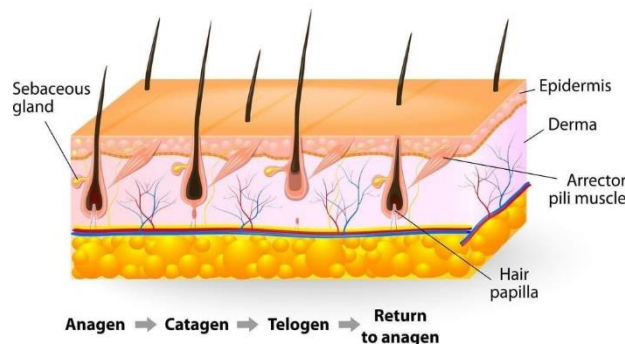


Fig.3.Human Hair Growth

More specifically, hair care products are preparations meant to clean, modify the texture, change the color, improve stressed hair, nourish the tresses, and improve the overall appearance of the hair. Specialty shampoos are targeted for those with color-treated hair, dandruff, Allergies to gluten or wheat, a focus on using organic products, and baby shampoo for babies and young children may be less irritating.

Additionally, there are animal-specific shampoos that include pesticides or other drugs to treat skin disorders or parasite infestations like fleas. Shampoo is a thick, viscous liquid that is created by mixing a co- surfactant, usually cocamidopropyl betaine, with a surfactant, usually sodium lauryl sulfate, in water. Preservative, aroma, and salt (sodium chloride), which is used to regulate the viscosity, are other crucial ingredients. Additional ingredients are typically added to shampoo formulations in order to optimize the following functions: delightful lather, light cleansing, and minimal skin and eye irritation, a thick or creamy feeling, a pleasing scent, minimal toxicity, good biodegradability, a pH of just 7, moderate acidity, no damage to hair, and the ability to heal hair damage already done.(14,15)

Material –

HIBISCUS:-

- Synonym :- *Hibiscus rosa-sinensis*, *Hibiscus cooperi* auct.
- Biological Source :- The genus Hibiscus, which belongs to the *malvaceae* family of flowering plants, is found in the mallow.
- Organoleptic Properties :- Color - white to pink, red, orange or yellow ; Odour - Aromatic.
- Chemical Constituents :- The constituents of hibiscus are, Citric acid, Mallic acid, Tartaric acid, Galactose.
- Uses :- Due to presence of antioxidant, it gives healthier hair



Fig.4.Hibiscus

SHIKAKAI

- Synonym :- *Satala*, *Virala*, *Tatphala*.
- Biological Source :- Dried fruits of the *Fabiaceae* family plant *Acacia Concinna*
- Organoleptic Properties :- Color - Dark brown ; Odour - Characteristics.
- Chemical Constituents :- The chemical constituents of shikakai are, Spinosterol, Acacia acid, Lactone, Glucose, Arabinose.

Uses

1. Shikakai gives healthy, beautiful and bouncy hair causes you to look beautiful.
2. It contains a lot of antioxidants, including D, E, and K, as well as anti-ophthalmic factor, which is vital for healthy and rapid natural hair development
3. Shikakai is employed in many shampoos and hair.



Fig.5.Shikakai

HINGAN

- Synonym :- *Hingan ,Ingudi , desert date soapberry tree.*
- Biological source :- *Balanite Aegyptiaca* is one of the most common but neglected wild plant species ,which belongs to the family *Zygophyllaceae*.
- Chemical constituents :- The chemical constituent of Hingan is saponin, linolenic acid ,stearic acid

Uses :-

1. Good source of raw material for many product (soap , shampoo, lubricant).
2. Cleansing agent.



Fig.6.Hingan

AMALA

- Synonym :- *Indian gooseberry, Amlang, Amlaki*
- Biological source :- This consist of dried as well as fresh fruit pericarp of *Emblica officinalis* Gaerth *Phyllanthus emblica* Linn which belongs to family *Euphorbiaceae*.
- Chemical constituents :- The main chemical constituent of Amla is citric acid, ascorbic acid,aspartic acid,glutamic acid

Uses :-

1. Amla is rich in vitamin c,and promote hair growth.
2. It act as natural conditioner , leaving hair soft, smooth and shiny.
3. It strengthens hair follicles, reducing hair breakage and split ends.
- 4.



Fig.7.Amala

BHRINGRAJ –

- Synonym :- *Ecilipta-alba*
- Biological :- It obtained from entire herb *Ecilipta alba* belonging to family *Asteraceae*
- Chemical Constituents :- The chemical constituents of Bhringraj is Alkaloids, Flavanoids, Glycosides, Polyacetylenes and triterpenoids, Phenolic acids, saponins, sterol, Amino acids, Proteins, Carbohydrates.

Uses :-

1. It reduces kapha.
2. Use of bhringraj in increasing hemoglobin level, strengthening of bones.
3. Act as tonic for eyes, brain, intestine, liver, spleen.
4. Bhringraj is an important Ayurveda herb, widely used in hair fall treatment, liver disorder, skin diseases etc.



Fig.8.Bhringraj

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