



A Review Article On Herbal Antidandruff Hair Mask

Shubham Kumar .^{1*}, Ms Kanchan Singh .²,

Dr. Tarun Parashar.³, Suraj Kumar Singh.¹, Rajan Kumar Singh.¹

¹Student Dev Bhoomi Institute of pharmacy & research, Dehradun

²Assistant Professor. Dev Bhoomi Institute of pharmacy & research, Dehradun

³Associate Professor. Dev Bhoomi Institute of pharmacy & research, Dehradun

ABSTRACT

One soft part of the body is the hair. Thus, we need to prepare a hair mask in order to care for them. Know that the ingredients in the hair mask will benefit the hair, they are added. The goal of using a hair mask's purpose is to purify hair follicles. There are no chemicals at all in the hair mask that results. It is made entirely of natural substances that won't harm your hair. A person's personality is shaped by their hair care habits, which also indicate good health and beauty.

A herbal anti-dandruff hair mask aids in the creation of a healthy, nourished hair and scalp free of itching. It also smoothes out your irritated, oily, and flaky scalp. Dandruff is a severe hair problem that cannot be fully resolved with pharmacological intervention. Split ends and weakening of the hair are caused by this chemical. The hair is the most fragile element of the body. Therefore, we made a hair mask to take care of them.

Key words: Herbal, anti-dandruff and hair

Introduction

A strand of hair cover otherwise called profound molding therapy, is a sort of conditioner for hair to moisturize and further develop and large hair wellbeing. Hair cover contain regular fixings which help build new hair and prevent dandruff on your scalp. A Hair veil can assist with fixing harm from styling the nearby climate, variety therapy. One important part of the body is the hair. We can drench our hair with hair cover. They are very beneficial for damaged or dry hair. Hair covers may improve the health of our scalps and strengthen our hairs. In addition, these hair veils are handmade at home. It is incredibly beneficial and lacks any obstacles.[2]

Factors which affect strand of hair in daily existence. Environmental Contamination, moistness, insufficient consideration and stress a portion of the principal reason of hair fall. A portion of the components are connected with nutrient and insufficient minerals. Maybe a portion of the components are for the most part subject of hairs. Furthermore, some natural figures cause hair to split from the shaft. It may eventually cause the hair's surface to disintegrate, which might affect baldness and long-term hair discomfort.[6] Hair veils can help maintain the moisture content of our hair. They work very well on damaged or dry hair. Hair veils can support and improve the condition of our scalp. [2]

Hair care goods are those that are used for cleansing, smoothing the surface, varying the variety, bringing life to the hair, sharing nourishment to the hair, and directing attention toward the hair. Different people have different types of hair, such as dry hair, oily hair, sleek hair, curly hair and regular hair. Dandruff is a serious and common problem in today's world. This ailment results in skin tingling when parts are pressed against the scalp.[3]

Dandruff is also caused by a yeast-like growth called *Malassezia*, which benefits from the oils that most adults have on their heads, dry skin, sensitivity to scalp products, or contact dermatitis. Different skin disorders including psoriasis and dermatitis can also cause dandruff. Dandruff results in an increased level of sebum production, which leads to baldness and open shame on the skin in various areas of the head. Redness, inflammation, chipping, and tingling of the scalp are some of its negative effects.

MECHANISM OF GROWTH OF HAIR

The process of hair development involves a laborious cycle consisting of the anagen, catagen, and telogen stages.[7] The hair is actively growing during the anagen stage, while the catagen stage is characterized by the resorption and degeneration of the hair follicle's lower portion. The telogen stage, during which the hair is dormant and resting, is the stage following which the scalp's hair follicle development resumes.

The three main phases of a hair development cycle are anagen, catagen, and telogen.

The development cycle typically lasts three to five years during the anagen stage. Ninety percent of the approximately one million hair follicles on a healthy scalp are continuously in the anagen stage of hair production. When a follicle starts to become sleepy at the end of its development period, it enters the catagen stage. The telogen stage is a three-to-four-month long state of dormancy or relaxation. An old hair falls out at the moment the sluggish stage ends. After that, a hair follicle returns to the anagen stage of the hair cycle and begins to grow new hair. It usually shoots at a rate of roughly half an inch each month, depending on the age of the individual and the number of hair follicles.[5]

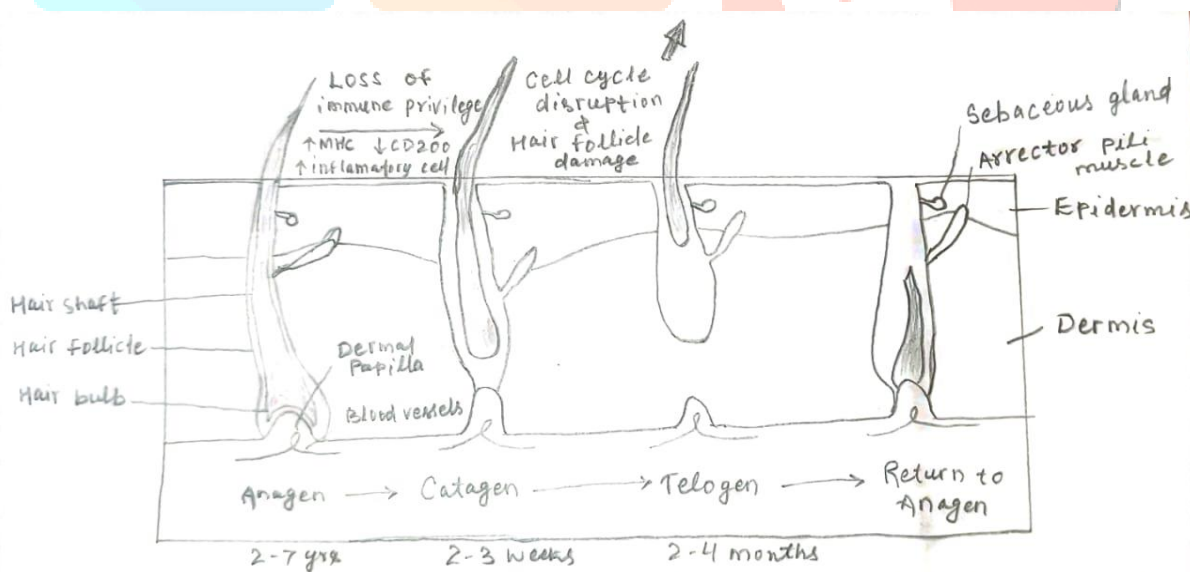


Fig1 – Mechanism of hair growth cycle

DANDRUFF A SCALP ISSUE

Definition: Dandruff, a major scalp condition, is identified by the presence of corneocytes, which result in the formation of flaky, snowwhite to yellowish scales. These scales tend to join together due to their firm adhesion, causing itching and discomfort. Studies has indicated that dandruff primarily occurs during the period between puberty and mid age, a time when the sebaceous gland are majorly more active.[10]

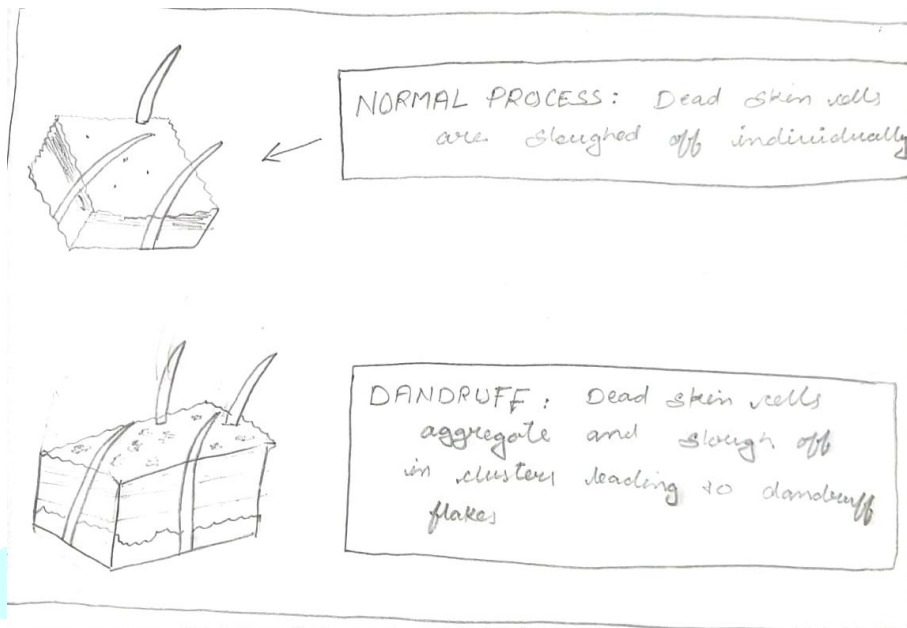


Fig 2: Mechanism of dandruff cause

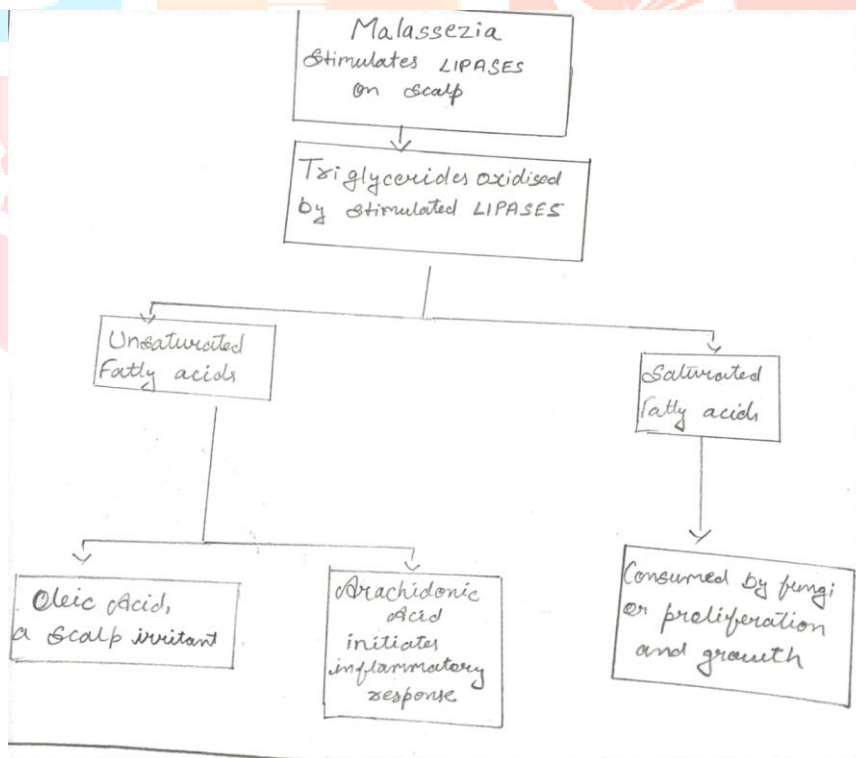


Fig 3: Explain cause of dandruff

HERBAL ANTI-DANDRUFF HAIR MASK BENEFITS

- Promote the growth of hair.
- Tidying up.
- Get rid of dandruff.
- Decrease baldness.
- Keep against going gray too soon.
- Calm the irritated, greasy, and flaky scalp.

COMPOSITES OF ANTIDANDRUFF HAIR MASK

S no.	Ingridients	Scientific name
1	Amla	Phyllanthus emblica
2	Bhringraj	Eclipta prostrata
3	Tulsi	Ocimum Tenuiflorum
4	Ginger	Zingiber officinale
5	Shikakai	Acacia concinna
6	Nagarmotha	Cyperus rotundus
7	Rosemary	Salvia Rosmarinus
8	Mint	Mentha spicata
9	Carom leaves	Trachyspermum ammi
10	Flax seed	Linum usitatissimum

1.Amla (Phyllanthus emblica)

Amla is recognized as a natural source of L-ascorbic acid and holds numerous medicinal benefits. Amla powder, derived from gooseberry, is widely utilized. It serves as a vital component in hair tonics that promote hair growth cycle and impact goodness on hair color. It strengthens and nourishes the hair roots, enhancing their shine and variety. Amla oil, when applied to the roots, it stimulates further it's growth and enhances its diversity. It is particularly renowned for its effectiveness in reducing hair thinning and loss. This attribute is attributed to its antioxidant properties, primarily due to its tannin content.[3] It additionally has calming, and antibacterial characteristics can assist with forestalling dandruff. [1]



Fig: 04 Amla

2. Bhringraj (*Eclipta prostrata*)

The popular spice bhringraj, scientifically known as *Eclipta prostrata* or *Eclipta alba*, is renowned for its effectiveness in treating liver problems and stimulating hair growth. Moreover, it serves as a beneficial remedy for various eye disorders, cough, asthma, skin conditions, and ailments affecting the upper head region. Bhringraj aids in the promotion of healthy hair growth, prevents hair loss, and slows down the onset of premature graying of hair..[17] It is a healing spice known for its ability to stimulate hair growth. This popular Ayurvedic remedy activates and promotes hair development, which may have been hindered by dandruff. It enhances blood circulation to the scalp, preventing scalp irritation and dandruff-related issues while having no impact on hair growth itself. It protects the scalp from dandruff-induced irritation, allowing unhindered hair growth. Additionally, it aids in the removal of scalp oil, unclogging pores, eliminating microorganisms, and promoting hair growth. It effectively addresses dandruff while providing hydration to the hair. Moreover, its antibacterial and antifungal properties contribute to the treatment of scalp conditions like psoriasis and dandruff, while also providing antioxidant benefits. *E. alba* has long been recognized for its hair-promoting properties in traditional medicine.[16]



fig:05 Bhringraj

3. Tulsi (*Ocimum Tenuiflorum*)

For thousands of years, holy basil, also known as tulsi, has been utilized in religious artwork. It enhances blood circulation, calms the scalp, alleviates irritation and dandruff, and stimulates the growth of new hair. It is applied as a paste to prevent dandruff and maintain a healthy scalp foundation.[3] Numerous biological actions of *O. sanctum*, including as antibacterial, antifungal, antiseptic, anti-stress, anti-cancer, and antioxidant activity, have also been studied. Consequently, *O. sanctum* may find application as a natural remedy for dandruff.[11] Tulsi's detoxifying qualities enable it to remove any toxins that may be in the blood. It's possible that tulsi can guard against radiation poisoning. Additionally, there have been indications that Tulsi has anti-cancer effects. It has been suggested that consuming tulsi leaves on a daily basis can provide cancer prevention.[21]



Fig:06 Tulsi

4. Ginger (*Zingiber officinale*)

Ginger is a great hair nourisher that leaves your hair feeling silky, glossy, and easy to comb through. It is rich in essential oils and minerals. Reduces inflammation, dryness, and flaking in scalp. Its natural antimicrobial and anti-inflammatory properties help to keep the scalp clear and healthy. Its antimicrobial or antibacterial qualities aid in the fight against issues with the skin and scalp. Ginger juice has anti-itching and anti-dandruff properties that help strengthen the health of the scalp.[3] The well-known and frequently utilized ginger extract (*Zingiber officinale* L.) has pleiotropic qualities that include antibacterial, hypoglycemic, anti-inflammatory, antioxidant, and anticancer effects.[20]



Fig:07 Ginger

5. Shikakai (*Acacia concinna*)

Shikakai is a useful anti-dandruff product because of its unique capacity to cleanse the scalp without irritating it. It is particularly helpful in the fight against persistent dandruff brought on by too much oil on the scalp. When used regularly, it helps lessen dandruff and eliminates extra oil from the scalp. One of the most effective ayurvedic medicines for hair-related issues, particularly hair loss, is shikakai. Shikakai aids in encouraging hair development by clearing the scalp of debris and extra oil. This is as a result of its astringent quality.[21]



Fig:08 Shikakai

6. Nagarmotha (Cyperus rotundus)

Nut grass is the popular name for nagarmotha. It is mostly used for disorders of the scalp. It works well to manage dandruff. This is due to the fact that nagarmotha effectively combats the fungus that causes dandruff, which is a fungal condition. Using nagarmotha on a regular basis enhances the texture, gloss, and growth of hair. It also successfully stops premature graying of the hair and hair loss.[21]



Fig:09 Nagarmotha

7. Rosemary (Salvia Rosmarinus)

There are various ways that rosemary can be good for hair! It's thought to promote hair development and enhance the scalp's general health. Some people treat hair loss or thinning hair naturally with rosemary oil or infusions. It is believed to increase scalp circulation, which may stimulate hair growth. Furthermore, the antibacterial qualities of rosemary can help maintain a clean scalp and ward against dandruff. Additionally, some people discover that rosemary gives their hair more smoothness and gloss. Just remember to dilute the strong rosemary oil before applying it to your scalp.



Fig:10 Rosemary

8. Mint (*Mentha spicata*)

Mint leaves can likewise be utilized in hair items. Mint-implemented shampoos and conditioners are very famous on the grounds that mint leaves affect the scalp. They can assist with invigorating blood flow and advance a better scalp, which can add to more grounded and better hair. Mint leaves are much of the time utilized in hair items for their purging properties and their capacity to mitigate an irritated scalp. In this way, in the event that you're searching for a cooling and renewing hair experience, items with mint may merit an attempt.



Fig:11 Mint

9. Carom leaves (*Trachyspermum ammi*)

Carom departs, otherwise called ajwain leaves, have different applications for hair also! They are accepted to have antimicrobial and antifungal properties, which can help in keeping a sound scalp. Certain individuals utilize a glue produced using carom passes on to treat dandruff and scalp contaminations. Moreover, carom departs are known for their supporting properties and can help in advancing hair development and forestalling going bald. You can make a hair veil by crushing carom departs and blending them in with different fixings like yogurt or coconut oil. It's generally really smart to do a fix test prior to giving any new fixing a shot your hair or scalp.



Fig:12 Carom leaves

10. Flax seed (*Linum usitatissimum*)

Flax seeds have various advantages for hair! They are wealthy in omega-3 unsaturated fats, which can assist with feeding the hair follicles and advance sound hair development. Flax seeds are in many cases used to make a Do-It-Yourself hair gel that can give regular hold and sparkle without the utilization of cruel synthetic substances. Moreover, the high satisfied of cell reinforcements in flax seeds can assist with shielding the hair from harm brought about by free revolutionaries. Certain individuals additionally integrate flaxseed oil into their hair care routine to saturate and condition the hair. In general, flax seeds are an extraordinary normal fixing to integrate into your hair care routine.



Fig:13 Flax seed

Method of Preparation

1. All of the materials were first ground into a fine powder and then turned into powder form.
2. Use the digital balance to precisely weigh each powder that is needed, one at a time.
3. A homogenous mixture is created by combining all the fine ingredients together.
4. The fine powder needs to be filtered via sieve number 10 and obtain enough fine powder.
5. The powder mixture was gathered, kept in an appropriate container, and utilized to perform the evaluation parameter.

Evaluation criteria

A. Organoleptic evaluation –

By employing sensory organs like the nose or eyes, this assessment examines the visible characteristics of the drug or product, such as color, odor, texture, and overall appearance.

B. Physicochemical Evaluation –

a) pH: A calibrated digital pH meter set to constant pH was used to measure the pH of the formulation's 1% aqueous solution.

b) Loss During Drying: Weigh out 1.5 grams of the medication in powder form and transfer it to a thin, even porcelain plate. Bake at 100°C or 105°C to dry it out. There is no more than 0.5 mg difference in two following weight readings. Weigh after cooling in desiccators. Usually, the weight loss is reported like dampness.

c) Ash content: Total Ash value: Weigh and add approximately 2-4 grams of the ground, air-dried material (of silica or platinum) to a crucible that has previously been burned and tared. Evenly layer the material, then light it by gradually increasing the temperature to 500–6000C until it turns white, indicating that carbon is no longer present. Weigh in a desiccator after chilling. Should this technique fail to yield carbon-free ash, allow the crucible to cool down and moisten the residue with approximately two milliliters of water or a saturated ammonium nitrate solution. After letting it dry in an ice bath, put it on a hot plate and ignite it to keep the weight constant. After allowing the residue to cool for half an hour in the proper desiccator, weigh it as soon as you can. Calculate the milligrams of total ash per gram of air-dried material.

C. Phytochemical Evaluation –

To find out which phytoconstituents were in the goods and how they affected the body, a number of experiments were performed. Every plant has distinct phytochemical properties with a range of beneficial effects.

a) Detection of carbohydrates:

● Molisch's Test-

Two or three millilitres of aqueous extract, add a few drops of an alcohol-based alpha-naphthol solution, shake, and then add H₂SO₄ from the test tube's sides. The intersection of the two liquids will produce a violet ring.

● Fehling's Test

Mix 1 ml each of Fehling's A and B solutions, and bring to a boil for 30 seconds. Add the test solution in the same volume. To heat up, take a five to ten-minute bath in boiling water. PPT appears yellow at first, then turns brick red.

b) Detection of alkaloids:

● Hager's Test:

Hager's reagent yields yellow ppt when 2-4 milliliters of filtrate are used.

● Mayer's Test:

A creamy ppt is produced by adding a few drops of Mayer's reagent to two to three milliliters of filtrate.

c) Detection of volatile oil:

When volatile oils are present, 2 to 4 grams of sudan III alcoholic solution-treated hair mask turn crimson.

d) Detection of protein:

To 3 ml of T.S., add 4% NaOH and a few drops of 1% CuSO₄ solution. The hue shifts to violet or pink.

e) Foam test-

To conduct a foam test, agitate a dry powder or medication extract forcefully in water. Long-lasting, stable foam was seen.

D. Rheological Evaluation –

- a) **Tapped Density** – "Tapped density" is an enhanced bulk density that can be achieved by mechanically tapping a container containing the powder sample. The measuring cylinder or vessel is mechanically tapped for one minute after the powder volume or mass is first observed, and readings of the volume or mass are taken until there are no noticeable variations in the volume or mass. The grams per milliliter unit of measurement was used.

$$\text{Tapped Density} = \text{Mass} / \text{Tapped Volume}$$

- b) **Bulk density** -It refers to the relationship between the mass and bulk volume of a powder. To determine the bulk density, the powder is dried and then poured into a 50 ml measuring cylinder until it reaches the 50 ml mark. The cylinder is subsequently dropped onto a hard wooden surface every two seconds, from a one-inch height. The quantity of powder is measured, and its weight is recorded. This process can be repeated to obtain average outcomes.

$$\text{Bulk density} = \text{Mass} / \text{Bulk volume}$$

- c) **Angle of repose** - It's defined as the maximum angle that can exist between the horizontal flow and the surface of the powder pile. Placed on a level platform is a cylindrical tube with apertures at both ends that is filled with the required amount of dried powder. After that, the funnel should be raised to form a mound. The radius and height of the heap are measured and recorded. The angle of repose (θ) for the aforementioned approach can be found using the formula. The value of θ is $\tan^{-1}(h/r)$.

Where θ – Angle of repose

h – Heap height

r – Base radius

- D) **Hausner's Ratio** – Tapped Density / Bulk Density is Hausner's Ratio.

- **Carr's index** –

$$\text{Carr's Index} = \frac{\text{Tapped Density} - \text{Bulk Density}}{\text{Tapped Density}} \times 100$$

Conclusion

Many plant medications with established efficacy in hair care preparation are presented in this study. Dandruff can be easily removed from the hair with a herbal hair mask. The scalp's skin is nourished in part by the hair mask. This research was conducted using conventional wisdom. Cosmetics with a herbal base are well-liked because they are non-toxic. Regular application of this mask eliminates oil from the scalp, resulting in hair that is healthy and free of dandruff. This hair mask keeps the scalp healthy and free of dandruff while also nourishing the skin.

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