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Review Article

A Formulation and Evaluation of Herbal Hair Oil

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ABSTRACT

The main objective of current study is to create and access herbal hair oil using fresh components of different plants. Herbal formulations always have lesser or no side effects comparative with synthetic. Testing was done on the phytochemicals, physical attributes, general features and chemicals of the manufactured herbal hair oil. In conclusion, the prepared herbal hair oil is utilized to promote hair growth, fir supplementation of vitamins and minerals, prevention dandruff, split ends and alternative choice from hazardous chemical sand Selenium in silkworm extracts and their potential clinical applications in BC therapy.

INTRODUCTION

The traditional procedure in india involves making hair oils and mixing them with other drugs that encourage hair growth. Herbal oil it was introduced to used hair oil every day , and people still adhereb to this coustom today . The right herbs should be added to the oil to enhance the flavours of the other ingredients. Hair oil are the hair care preparations used for the prevention and treatment of baldness or other ailments , aggregation of hair. Hair oils are the hair care preparations used for the prevention and treatment of baldness or Other ailments, aggression of hair. They also promote the luxurious growth of hair. Hair oil containing herbal drugs are used as hair tonic.²

The herbal hair oil formulation has significant quality and it provides various essential nutrients used to maintain the normal functions of the sebaceous glands and promote the hair growth naturally.



Fig: Herbal ingredients³

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Herbal hair oils are a popular hair treatment that contain plants extracts, antioxidant, and nutrients that can help with a variety of hair issues:

- **Hair growth**: Herbal hair oils can promote hair growth by increasing blood circulation in the scalp, which brings oxygen and nutrients to the hair roots.
- **Dandruff**: herbal hair oils can help prevent dandruff.
- **Dry scalp**: herbal hair oils can moisturize and reverse dry scalp and dry hair.
- **Hair loss**: Herbal hair oils can help prevent hair loss.
- **Premature gray hair**: Regular uses of herbal hair oils can help prevent premature gray hair.
- **Hair strength**: which can help prevent breakage and hair loss.
- **Shine**: herbal hair oils can add shine and glow to hair.
- **Stress relief**: herbal hair oils can help relieve stress.

There are a different type of evaluation test for hair oil such as:

- Acid value test.
- Viscosity and organoleptic parameters.
- Saponification test.
- PH
- Refractive index

➤ Specific gravity etc.

Objective:

Herbal hair oil is the one of the most well recognized hair treatment. The primary goal of this study is to prepare and evaluate herbal hair oils made from fresh components of various plants.

They promote hair growth, improve elegance of hair and prevent hair fall. Hair oil is not only promote hair growth they also provide necessary moisture to the scalp rendering in beautiful hair To provide natural goodness of hair.

- To save you the dandruff, split ends and dull hairs.
- Fight towards hair fall.
- Relaxing massage for healthy scalp.
- To study the formulation, preparation and evaluation of polyherbal hair oil.
- Manage frizzy hair.⁴

Hair:

Hair is a protein filament that grows from follicles found in the dermis. Hair is one of the defining characteristic of mammals. The part beneath the skin, called the hair follicle, or when pulled from the skin, the bulb or root, or, this organs is located in the dermis and maintains stem cells, which not only re-grow the hair after it falls out, but also are recruited to re-grow skin after a wound.

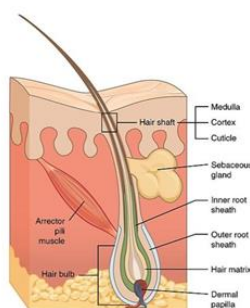


Fig : Anatomy of hair shaft and bulb¹

1. The best part of hair bulb, root and shaft.
2. Healthy hair growth occurs at the rate of 0.35 mm/day, which sums to approximately 0.5 in months or 6 in year.

3. Hair follicle cycle through three primary phases:

- Anagen phase.
- Catagen phase.

- Telogen phase.



Fig: Human Hair Growth Cycle

Hair Oil: ⁵

Hair oils are hair care products. Hair oiling can be beneficial for your hair in several ways. It helps nourish and moisturize the scalp, which can promote healthier hair growth and Hair care products are defined as the formulations Which are used for the purpose of cleansing, modifying the hair texture, providing Nourishment to the hair and maintaining the healthy appearance of hair. Hair Oil are hair care formulation applied to the hair for the treatment of hair disorder Such as baldness, greying of hair, hair fall, dry hair and also helps in providing Nourishment to hair.

Hair oiling has been a part of hair care routines in several cultures. Dating back all the way to Ancient India, the centuries-old Indian science of Ayurveda involves hair oiling as one of its wellness methods. ⁶

Different types of herbal hair oils available in Market's :

1. Coconut Hair oils.
2. Amla hair .
3. Jasmine hair oil.
4. Bhringraj hair oils.
5. Cantharidine hair oil. etc.



Fig: Hair oil

Benefits:

We live in polluted world which is not hair friendly .that is when herbal hair oils comes into practice. Herbal oils are blend of coconut oil, rose petals, aloe vera, amla, jasmine flowers , almond and other herbs. Encourages the growth of natural hair.

There benefits are as follows : ³

- Natural hair Oil also provide strong protection against UV rays.
- It gives hair its natural sweetness.

- Hair oil is a great way to tame frizzy hair and prevent Hair loss.
- Vitamins and micronutrients found in herbal oil serve as Sustenance for hair.
- The problem of premature grey hair can be resolved by Regularly using hair oil.
- It provides natural goods to hair. Herbal oils contains vitamin and micronutrients which act as a food fir hair.
- Regular use of hair oil of hair oils cure problem of premature gray hair.
- Can strengthen your hair.

- Some can promote hairs growth.
- Protect from heat damage.
- Can make hair shine and can soften hair.
- Presents a radiant radiance, Reduction of stress.
- Help to maintain the color of hair Maintain the hair health.

Material (Ingredients) Used In Manufacturing Herbal Hair Oil :

Sr no.	Ingredients
1.	Coconut oil
2.	Rose petals
3.	Aloe vera
4.	Amla
5.	Ginger
6.	Curry leaves

The preparation of Herbal hair oil, coconut oil, rose petals, aloe vera, amla, ginger and curry leaves this ingredients are used in Formulation of herbal hair oil.

AIM And Objective:

AIM : Formulation and evaluation of herbal hair oil .

Objective:

- To promote the hair growth and hair smoothness of the hair.
- To provide an alternative source from hazardous chemicals.
- To prevent the dandruff , split ends, and dull hairs.
- To supplements the hair with vital nutrients such as vitamins and minerals.
- The Prevention and treatment of baldness or other ailments, aggression of hair.

Plan Of Work :⁷



The plan of work is having following points




- Sampling
- Data collection
- Tools of analysis.

History:⁵

The history of herbal hair oils can be traced back to ancient India and the Ayurvedic tradition of sneha , which is the Sanskrit word for “ to oil” or “to love”. It originated more than 5,000 years ago and continue to benefit the mind, body and soul. When you massage oil into your hair , you do not just strengthen your tresses , but also indulge in self care hair oil has been a part of hair care routine in several cultures.

Herbal Ingredients :⁸

Sr. No.	Constituent	Biological Source	Family	Uses	Image
1.	Coconut Oil	Coconut tree (Cocos nucifera),	Arecaceae	Use as vehicle, promote hair growth and moisture.	
2.	Aloe vera	Aloe barbadensis miller plant	Liliaceae	Boost hair growth, Aloe promotes scalp health.	

3.	Ginger	Rhizome of the Zingiber officinale plant	Zingiberaceae	Help in strengthening and improving hair quality	
4.	Rose Petals	Rosa rubiginosa	Rosaceae	A natural cleanser and conditioner for the hair scalp.	
5.	Neem leaves	Azadirachta indica tree	Meliaceae	Promote Hair growth from the follicle	

Herbal ingredients are used in herbal oils because they are natural and can promote hair growth without causing negative side effects:

Herbal hair oil is a blend of various plant extracts, essential oils, and natural ingredients designed to nourish and rejuvenate the hair and scalp. Unlike chemical-based hair products, herbal hair oils harness the power of nature to address common hair issues such as dryness, dandruff, and hair loss. These oils are often enriched with vitamins, minerals, and antioxidants that promote overall hair health.

- **Natural :** Herbal products are made from plants and plant extracts, and are free of hazardous and synthetic chemicals.
- **Nutrients :** Herbal ingredients provide the body with nutrients and minerals. For example, herbal hair oils can contain vitamins, minerals, and important oils.
- **Side effects :** Herbal products are generally considered to be skin friendly and free of side effects. Synthetic drugs for hair loss can cause adverse effects like burning, itching, and headaches.
- **Hair growth :** Herbs and herbal medications have been shown to promote

hair growth. Herbal hair oils can help keep the scalp hydrated, prevent dandruff, and offer shine. ⁹

- **Vitamins and micronutrients:** These provide the nutrients your hair needs to grow.
- **Minerals:** Herbal hair oils provide important minerals for your scalp.
- **Improved blood circulation:** Some herbal ingredients may promote better blood circulation in your scalp, which can contribute to healthier hair growth.

Method Of Preparation:¹⁰

- 1) The different ingredients used in the formulation of herbal hair oil.
- 2) Take Accurately weighed all the dried and fresh herbs and leaves. Firstly, Take a 50gm pieces of fresh aloe vera leaf.
- 3) Boiled in 75ml of water .
- 4) Slice it and grind it into a paste.
- 5) Add paste on pan on low heat.
- 6) Mix in 5-10 table spoon coconut oil.
- 7) 50gm powder of dried ginger and add it to the mixture.
- 8) FInnally , add 15-20 neem leaves. Was boiled in 75 ml of water and filtered.

- 9) Let it all cool for 5-6 minutes. After that , filter it with the help of a steel stainer.
- 10) Fill in the jar Cover the jar, give it a few shakes, and put it in a cool place . inside your house. Herbal oil is ready for use.
- 11) Apply the oil 2-3 time's in a week
- 12) Result 2-3 week's .



Fig: Herbal hair oil

Evaluation Of Herbal Hair Oil : ¹¹

The prepared oil where then subjected to physical and biological evaluation .

Physical Evaluation:

The formulated herbal oil was evaluated for parameters In physical evaluation parameters like specific gravity , pH, acid value, refractive index, viscosity, organoleptic parameters and saponification value are conducted.

1. Specific gravity :

Initially empty specific gravity bottle was weighed. Then the same specific gravity bottle was filled with water and again weighed. Later specific gravity bottle was replaced with hair tonic and weighed again. Weights are noted and thus specific gravity of hair oil was calculated.

2. PH :

pH of the herbal hair oil was detected using pH meter. The obtained pH value is noted down.

3. Acid value :

The acid value of an oil is determined by titrating a solution of the oil in diethyl ether with an alcoholic solution of sodium or potassium hydroxide.

4. Refractive index :

To determine the refractive index of herbal hair oil, you can use a refractometer:

1. Adjust the refractometer's temperature
2. Spread the oil sample on a clean prism
3. Read the index of refraction from the telescope scale
4. Wash the prism with hot water.

5. Viscosity :

Use a viscometer to measure the viscosity . It is the process of calculating a liquid's flow resistance; the higher the viscosity , the larger the flow resistance. The viscosity was measured Using an Ostwald viscometer.

6. Organoleptic parameters :

Organoleptic parameters for evaluating herbal hair oil include:

- Color: Detected by the naked eye
- Odor: Detected by smell
- Skin irritation: Apply the oil to the skin and expose it to sunlight for five minutes to check for inflammation
- Grittiness: Rub the oil on the skin to determine if it's gritty
- Sedimentation: Let the oil sit overnight and check for sedimentation

7. Saponification value :

1. The saponification value of herbal hair oil is measured by the following procedure:
2. Weigh 1 mL of oil accurately into a 250 mL conical flask
3. Add 10 mL of a 2:1 ethanol: ether mixture to the flask
4. Add 25 mL of 0.5 N alcoholic KOH to the flask
5. Let the flask sit undisturbed for 30 minutes
6. Cool the flask
7. Titrate the cooled solution against 0.5 N HCl using phenolphthalein as an indicator.
8. Perform a blank titration without the oil sample
9. Calculate the amount of KOH used in milligrams.
10. Saponification value were determined and the Formulations were subjected to biological evaluation.

Phyto Chemical Screening of Herbal Hair Oil:

The synthesized herbal oil was subjected to qualitative chemical analysis.⁶

Biological Evaluation :

Primary Skin Irritation Test:

The prepared formulations were assessed for primary skin irritation test. Health human volunteers were selected for the study. The hair of each volunteer of 1 cm² was shaved which could accommodate three test sites.. It was cleaned with surgical spirit. The quantities of formulations were applied over the respective test sites were observed for erythema and Edema for 48hrs after application.¹²

RESULT AND DISCUSSIONS:

To the most of hair treatments herbal hair oil is mostly used. Herbal hair oil moistures the dry scalp as well as reverses dry scalp and also dry hair condition. Herbal hair oil provides numerous essential nutrients required for normal functioning of the sebaceous gland as well as to promote neutral hair growth. The herbal hair oil were prepared with combination of coconut oil, Rose

petals, Aloe vera, Amla ginger, and curry leaves as the base of the monograph analysis was performed according to WHO guidelines.¹³

CONCLUSION¹¹

One of the most well-known hair treatments is herbal hair oil. Herbal Oil not only hydrates the scalp, but also helps to heal dry scalp and hair. It contains various vital nutrients that support regular sebaceous gland activity and encourage natural hair growth. This oil will help in maintaining good growth of hair, turning grey hair to black, protects from dandruff and results in lustrous looking hair.

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