

NATURAL SOLUTIONS FOR HAIR CARE: A SYSTEMATIC REVIEW OF HERBAL HAIR OIL

Sigilipelli Nikitha^{*1}, Dr. Ravi Prakash Degala², Singampalli Priyanka³, Settipogu Ashok Kumar⁴, Reddy Murali Krishna⁵, Sabbavarapu Lavanya⁶, Sayyed Hamdunnisha⁷, Satti Renuka⁸

^{1,3,4,5,6,7,8}B. Pharmacy Scholars (IV Year), Pydah College of Pharmacy, Patavala, Kakinada, Andhra Pradesh, India.

²Associate Professor, Department of Pharmacy Practice, Pydah College of Pharmacy, Patavala, Kakinada, Andhra Pradesh, India.

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*Corresponding Author

Sigilipelli Nikitha

B. Pharmacy Scholars (IV Year),
Pydah College of Pharmacy,
Patavala, Kakinada, Andhra Pradesh,
India.



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ABSTRACT

Hair plays a vital role in the personality of human and for their care we use lots of cosmetic products. Herbal formulations always have activity and comparatively lesser or no side effects with synthetic. This study aimed at reviewing the importance of polyherbal hair oil for the treatment of common hair problems such as baldness, alopecia, hair fall, gray hair, dryness, and most common dandruff. The various herbal ingredients are used in the formulation are: Amla, Almond, Garlic, Mehendi powder, Neem, Castor oil, Arendal oil, Curry leaves, Coconut oil. All ingredients provide essential nutrients such as vitamin, antioxidant, protein, terpenoids, and many essential oils to maintain normal function of sebaceous glands. The concept of beauty and cosmetics is as ancient as mankind and civilization. So, they use various beauty products that have herbs to look charming and young. Herbal cosmetics are now-a-days widely used by the common people because of concept of fewer side

effects and with a better safety and security profile.

KEYWORDS: Cosmetics, Herbs, Herbal hair oil, evaluation, formulation, viscosity, acid value, saponification value, physiochemical parameters.

INTRODUCTION

Hair plays an important role in human life. In India the traditional process is the preparation of hair oils put together with various hair growth promoting drugs. Indian women are known for their long, shiny and healthy hair, so it is not surprising that hair care features prominently in their self-care rituals. The Charka Samhita [the definitive book on ayurvedic medicine] describes the importance of oiling the hair and scalp to maintain good hair health and prevent hair loss. The daily hair oiling was recommended with appropriate herbs filled to suit others constituents and this practice also continues until today.

Hair is an epidermal derivative which is one of the vital parts increasing the overall elegance of the body. Hair fall, dandruff, lice, split ends, grey hair are few problems involved with hair faced by human. To overcome these, human takes many measures by applying many cosmetics for each. Hair oil is one among them used to solve almost all of these problems. Hair care cosmetics are now added with herbs and they are well recognized compared with synthetic ones. Herbal hair oil is more preferred and is used in many ailments of hair. They promote hair growth, improve elegance of hair and prevent hair fall. Hair oil not only promotes hair growth they also provide necessary moisture to the scalp rendering in beautiful hair.

Natural hair oils are the hair care products which are rich in vitamins, minerals and fatty acids which are the vital elements in the human cells and these elements are also present in the skin and hair of our body. Hence, while we are applying the natural hair oils, we are allowing these vital nutrients to absorb well into the scalp and hair thus it helps for a healthy regeneration of the scalp and a strong and healthy hair growth.





Hair care products are those formulations which are used for cleansing, modifying the texture of hair, changing of the color, giving life to the stressed hair, providing nourishment to the hair and giving the healthy appearance to the hair. Hair oils are the hair care formulations applied for treatment of hair disorders such as baldness, aggression of hair, discoloring of hair, hair falling and dryness of hair.

Herbal hair oils help strengthen your hair and enhance its texture. It also supplies much more moisture to the scalp which helps to get rid of dandruff. It smoothens the hair and gives a perfect shine. Oiling the hair increases the blood circulation in the scalp and hence repairing from the damaged hair. The plant parts which used are highly enriched with flavonoid, polyphenols, saponins, tannin, vitamins, proteins and mineral, rich in oleic acid etc. And these constituents help in the hair growth and also give many benefits for hair.

OBJECTIVES

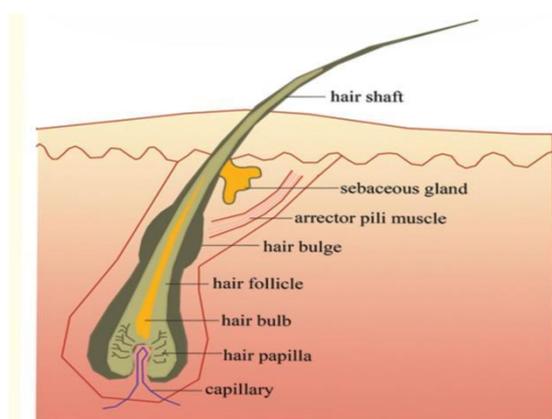
Herbal hair oil is one of the most well recognized hair treatment. It provides numerous essential nutrients required to maintain normal function of sebaceous glands and promotes natural hair growth.

- To promote hair growth
- Fight against hair fall
- Control frizzy hair
- Natural goodness of hair
- To identify the good combination of herbs which will give maximum effect

ANATOMY OF HAIR

The hair follicle is one of the characteristic features of mammals serves as a unique mini organ. In humans, hair has various functions such as protection against external factors, sebum, apocrine sweat and pheromones production and thermoregulation. The hair follicle

serves as a reservoir for epithelial and melanocyte stem cells and it is capable of being one of the few immune privileged sites of human body. Hair follicle development is related to the interactions between epithelial and mesenchymal cells. Many genes play substantial role in this interaction and also in hair follicle cycling.



TYPES OF HAIR

Hair is generally classified into four main types: Straight [Type 1], Wavy [Type 2], Curly [Type 3], and Coiled [Type 4], based on texture and curl pattern. Each main type is further broken down into subtypes (e.g., 1a, 1b, 1c for straight) to describe varying degrees of curl tightness and strand thickness, which helps in choosing the right care products and styling methods.

Type 1: Straight

- **1a:** Very fine, thin, and sleek.
- **1b:** Straight with a slight bend and a bit thicker than 1a.
- **1c:** Straight, but coarser and thicker, with a bend that can react to humidity.

Type 2: Wavy

- **2a:** Fine, loose waves with a defined “S” shape.
- **2b:** Wavy hair with a more defined, tighter “S” shape, which can be prone to frizz.
- **2c:** Well-defined “S” shaped waves that can be coarser and more prone to frizz

Type 3: Curly

- **3a:** Loose curls and spirals.
- **3b:** Tight and springy curls.

Type 4: Coiled

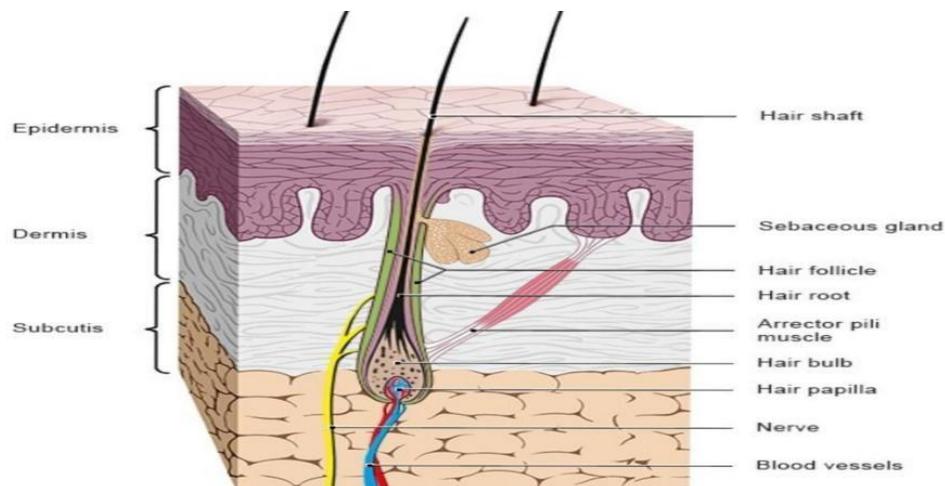
- **4a:** Loose coils.
- **4b:** Coils that have a zig-zag pattern.



HAIR STRUCTURE

Each hair has a hair shaft and a hair root. The shaft is visible part of the hair that sticks out of the skin. The hair root is in the skin and extends down to the deeper layers of the skin. It is surrounded by the hair follicle (a sheath of skin and connective tissue), which is also connected to a sebaceous gland.

Each hair follicle is attached to a tiny muscle (arrector pili) that can make the hair stand up. Many nerves end at the hair follicle too. These nerves sense hair movement and are sensitive to even the slightest draft. At the base of the hair, the hair root widens to a round hair bulb. The hair papilla, which supplies the hair root with blood, is found inside the bottom of the hair bulb. New hair cells are constantly being made in the hair bulb, close to the papilla.



MATERIALS AND METHODS

COLLECTION OF PLANT MATERIAL

The polyherbal hair oil was prepared by collecting various plant materials like Amla fruits, curry leaves, henna leaves, neem leaves from herbal garden and almond, garlic, castor oil, Arendal oil, and coconut oil were procured from local market.

FORMULATION OF HERBAL HAIR OIL.

INGREDIENTS	QUANTITY(%)
Coconut oil	60%
Till oil	15%
Almond oil	2%
Cedarwood oil	2%
Castor oil	3%
Curry Leaves	1%
Moringa Leaves	4%
Raw Garlic	4%
Jasmine	2%
Betel leaf	3%
Fenugreek	2%
Pumpkin seeds	2%

PROCEDURE FOR PREPARATION OF HERBAL HAIR OIL

- Accurately weigh all the dried and fresh such as, Fenugreek seed, Moringa leaves, Raw garlic, Curry leaves, Betel leaves.
- Herbal product was mixed in coconut oil, till oil, Almond oil, Castor oil, The above content was boiled for 30 mins.
- Boiled mixture was subject for filtration through muslin cloth. After filtration coconut oil was added to the filtrate to make up the volume.
- Finally, flavouring agent was added to the oil and was placed in a bottle.

EVALUATION OF HERBAL HAIR OIL

Sensitivity test

The prepared herbal hair oil was applied on 1 cm skin of hand and exposed to Sunlight for 4-5 min.

Acid value

Preparation of 0.1 molar solution: Weighed 0.56 g KOH pellets and dissolved in 100 mL of distilled water and stirred continuously. The prepared 0.1 molar KOH solution was filled in the burette. Preparation of sample: Measured 10 mL oil and dissolved in 25 mL of ethanol

and 25 mL of ether mixture and shaken. Added 1 mL of phenolphthalein solution and titrated with 0.1 molar KOH solution.

Saponification value

Accurately weighed 1 mL of oil into a 250 mL of conical flask and 10 mL of ethanol: ether mixture (2: 1) was added. To this flask 25 mL of 0.5 N alcoholic KOH was kept the flask for 30 min. and the flask was cooled. The cooled solution was titrated against 0.5 N HCl using phenolphthalein indicator. Similarly the blank titration was performed without taking oil (sample). Amount of KOH in mg used was calculated.

pH

The pH of herbal hair oil was determined using pH meter.

Viscosity

The viscosity was determined using Ostwald's viscometer.

Specific gravity

Take the specific gravity bottle, rinsed it with distilled water, dry it in oven for 15 minutes, cool, closed it with cap and weigh it (a). Now fill the same specific gravity bottle with the sample and closed it with cap and again weigh it (b). Determine the millilitre by subtracting the weight (b-a).

CONCLUSION

This research provides guideline on the use of herbal ingredients on the preparation of herbal hair oil having minimal or no side effects. All the parameters showed that they are within the limits and since all the advantages, this oil will help maintaining good growth of hair, turning grey hair to black, products from dandruff and results in lustrous looking hair.

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