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Design and Characterization of Herbal Hair Oil

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ABSTRACT
Soft , shiny and smooth hair not only adds beauty but is also an indicator of well-being. Self-grooming **is** necessary to reflect the good influence of one's personality which everyone engages in by using various cosmetic products. Genetics, stress, hormonal fluctuations, chemical exposure, improper diet, pollution, irregular hair care, anxiety etc., hair problem affects men and women alike. . Medicinal and aromatic herbs have been used by humans since ancient times as an essential hair care remedy. Apart from being used as medicine, herbs also contribute to the preparation of cosmetics nowadays. Apart from being used as medicine, herbs also contribute to the formulation of cosmetic products nowadays. Herbs contain many phyto-components that provide many benefits when added to cosmetic products for skin, hair, nails, teeth, eyes, etc. In the present study, we have formulated a polyherbal oil, the herbs are said to contribute to the health and overall hygiene of the hair. We have combined oil, coconut oil, curry leaves powder, gooseberry and hibiscus powder. Herbal water extract was prepared by mixing all the powders and combined with oil base. The formulation was evaluated by experimental paradigms including organoleptic, and physicochemical evaluation, phytochemical screening of extracts. The overall results of the build were satisfactory. It was concluded that the combination of herbal powders and oils are beneficial to deal with hair problems.

I. INTRODUCTION

Hair is a keratinous fiber that emerges from the epidermis. It is composed primarily of dead, keratinized cells. Hair fibers originate from epidermal penetration of the skin called hair follicles that facilitate hair growth.

In ancient texts like Ayurveda, hair loss is called Shiroroga Me = Kalidhya of the type of disease of the head and scalp. It describes the importance of applying oil to the head and more than a cosmetic habit under the concept of Shiro Abhiyanka / Dinacharyas.

Herbal Hair Oil supports these follicles by promoting hair growth. Making hair oil helps to deal with various hair problems like alopecia, gray hair, split ends, dandruff, hair fall.

Compendiums called Charak Samhita and Sushruta Samhita provide insights into obtaining these medicinal herbal extracts.

Herbal hair oils are health-giving formulas. They mostly include amla oil, coconut oil, almond oil, olive oil, and jojoba oil. Boiled sesame oil along with herbs powder mixture.

A] Plant material

Powder of curry leaves, hibiscus, gooseberry and Til and coconut oil were procured from that approved source.

Curry leaves

Curry plant (Murraya koenigii) is an important leafy vegetable that belongs to the Rudaceae family and is native to India and Southeast Asia. Curry leaves are many natural flavoring agents Corresponding Curry leaf (Murraya koenigii) is a green leafy vegetable native

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to India. Curry leaves are a natural flavoring agent with many health benefits.

They have many medicinal properties that include anti-diabetic, antioxidant, antimicrobial, anti-inflammatory, anti-cancer and hepato-protective properties. Hence, neem is effective in preventing bacterial infections and can be considered as an alternative to antibiotic treatment regimens. They have many medicinal properties such as anti-diabetic, anti-oxidant, antimicrobial, anti-fungal, anti-inflammatory, anti-cancer and hepato-protective properties.

Various significant pharmacological activities of the plant include cardiovascular activity, anti-diabetic and cholesterol lowering property, antimicrobial activity, ulcer activity, antioxidant property, cytotoxic activity, anti-diarrheal activity, phagocytic activity. The chemical composition of fresh leaves of Murraya koenigii contains volatile oil. Carbazole alkaloids and triterpene isolated from stem bark and roots of Murraya koeniki.

Hibiscus

Hibiscus is commonly known as Azalea, Jaswant. It contains fresh flowers and leaves of Rosa sinensis, family Malvaceae.

Hibiscus flowers contain cyaniding, D-glucoside, flavonoids and vitamins, thiamin, riboflavin, niacin and ascorbic acid (vitamin C).

Being a rich source of flavonoid and amino acids, Hibiscus provides hair with various micronutrients like fiber, protein, carbohydrates, which stimulate hair growth by activating dormant follicles. As it contains good amount of vitamin C, A and iron, it exhibits antimicrobial and antioxidant properties. Thias powder herb is believed to have been used in earlier times as an anti-dandruff agent and to treat alopecia. Additionally amino acids help increase the production of keratin, the primary building block of hair. According to Ayurveda, excess body heat is the cause of hair loss, and saffron helps to deal with it due to its cooling action.

Amla

Amla is also known as Indian Gooseberry, Amalika or Emblica. It is caused by Emblica officinalis L., a fresh fruit pericarp of a plant of the family Euphorbiaceae.

Amla, also known as the queen of Ayurvedic rejuvenating herbs, is rich in vitamin, C (ascorbic acid). Fruits also contain flavonoids, lipids, tannins, calcium, phosphorus, iron, and contain gallic acid, calotannin, and ellagic acid.

The fatty acids in amla promote hair strength and shine, while the tannins and calcium provide protection against photo and heat damage. Vitamin C in gooseberry increases collagen production, which adds length and volume to hair.

Til oil

The oil, also known as sesame oil, ginger oil, penny oil, is extracted from the seeds of the herb Sesame indicum L. (Pedaliaceae) cultivated in India, China, Japan, Caribbean islands and tropical countries.

The seeds contain 45-50% fixed oil, the main components being glycerides of oleaginous and linoleic acids and minor portions of palmitic, stearic and arachidic acids. Also contains 5% of sesamol called oleCn and phenol. In addition, it contains sesamin, sesamolinol and sesamolin.

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These compounds make the oil a rich source of antioxidants, which have many benefits such as protection against UV rays. Also, it fights against hair and scalp infections, removes dandruff, removes harmful pollutants and toxins.

Til oil acts as an emollient, so its use in medicine helps to soothe the skin and make the hair strands smooth and soft. It contains the same types of healthy fatty acids that are added to shampoos, skin creams, and makeup. According to Ayurveda, by massaging the oil on the scalp, it improves the blood circulation and ensures that the scalp remains free due to its anti-microbial properties. Dirt, pollution and impurities.

Coconut oil

Coconut oil or cobra oil is obtained from the dried solid part of the coconut endosperm, Cocas nucifera L. Family Palme. It contains triglycerides of lauric and myristic acids and small amounts of caproic, caprylic, oleic, palmitic and stearic acids.

The fatty acids in coconut oil lighten the skin. The lauric acid and caprylic acid in coconut help prevent bacterial and viral infections. It is used as a moisturizer for both skin and hair, creating a healthy appearance. These tremendous benefits take the formula to the next level.

Formulation

Sr.no	Ingredients	Quantity
1	Curry Leaves	15g
2	Hisbiscus flower powder	10g
3	Amla powder	10g
4	Til oil	15ml
5	Coconut oil	35ml

Procedure

• Poly Herbal Hair Oil (50 ml) is prepared by boiling all the prescribed herbs with suitable oil as per the specific formula of coconut and dill. This process helps to better absorb the bioactives of the herbs used in the formulation.
• All items are weighed accurately.
• Herbs are then added to the oil base.
• The mixture was heated on low flame with constant stirring to prevent the material from sticking.
• The moisture in the plant material started to evaporate so that the mixture does not stick to the bottom surface of the pan.
• Heating causes the oil to foam so that all the active ingredients of the plant material are concentrated in the oil.
• The resulting mixture is filtered through muslin cloth and the strain collected is polyherbal hair oil.

The prepared poly herbal hair oil was evaluated using various parameters which are mentioned below:

1) Organoleptic properties: Color was observed by visual inspection and color was assessed olfactoryl

2) Phytochemical screening of poly herbal hair oil preparation:

Qualitative chemical analysis of the poly herb oil was performed to identify significant bioactivities such as alkaloids, flavonoids, tannins, terpenoids, saponins, glycosides and phenols.
• Alkaloids – Dragendraff's test
• Flavonoids – Shinoda test
• Tannins and phenolics – Ferric chloride test
• Terpenoids -Zalkowski test
• Saponins - foam test
• Glycosides – Borntrager's test

3. Determination of pH: The formulated hair oil was evaluated for Ph using a digital Ph meter.

4.Viscosity: Determined by Ostwalds viscometer.

5. Specific gravity : Determined by specific gravity methods

6. Saponification value: A reflux mixture of 2 g of oil and 25 ml of 0.5M ethanolic KOH was titrated against 0.5M HCL with phenolphthalein as an indicator.

7. Refractive index: The refractive index is determined using a refractometer.

8. Skin Irritation Test (Patch Test): Applied to 1cm area of sensitive skin ie skin behind ear and back of left hand. The patch site is observed for any reaction, irritation, edema, or erythema for 24 hours. Similarly conducted 3 times.

9. Stability studies: The oil was stored at room temperature and observed for different time intervals of 1,2,4, and 6 months respectively for stability conditions.

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II. RESULT AND DISCUSSION

Table 1: Physical evaluation of Poly herbal Hair Oil.

Sr.No	Parameters	Observations
1	Colour	Brown
2	Odour	Characteristic
3	pH	4.8-5.0
4	Viscosity	0.00510 centipose
5	Specific gravity	1.017
6	Saponification value	198.07
7	Refractive index	1.130
8	Skin Irritation	No irritation

Table 2: Phytochemical Screening of Poly Herbal Hair Oil.

Sr.No	Name of the test	Results
1	Alkaloids test	+ve
2	Flavonoids test	+ve
3	Tannins and phenolics	+ve
4	Terpenoids	+ve
5	Saponins	+ve
6	Glycosides	+ve

(+ve indicates positive)

III. CONCLUSION

As people believe that natural products have less or no side effects, there is an increased demand for herbal products over synthetic products. Keeping the same in mind, current research work aimed at formulating and evaluating poly herbal hair oil using til oil, coconut oil, curry powder, gooseberry and hibiscus powder. The formulation was evaluated by various parameters and the results were within acceptable limits and satisfactory. It aims to combine the many benefits of herbs to create a good blend of terpenoids, flavonoids, vitamins and various essential nutrients that help maintain health. Hair Control This work was conducted to develop a poly herbal hair oil, which was claimed to have antimicrobial activity, which provided a combination of suitable phyto-constituents promising antimicrobial activity due to the integration of various herbs.

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