



FORMULATION AND EVALUATION OF SOME HERBAL HAIR OILS

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ABSTRACT

The formulation and evaluation was carried out of five different plants from different families. The herbal plants selected were *Hibiscus*, *Emblica*, *Ixora*, *Murraya* and *Allium cepa*. These herbal plants were selected as the hair oil obtained from have lesser or no side effects for human applications. The present investigation involves preparation and testing of oil prepared from different herbal medicinal plants. The evaluation was carried out with crude drugs which prepared by boiling method. The formulated herbal oil was evaluated by using various parameters such as colour, physical appearance, odour, pH, Skin irritation, Sensitivity test, solubility test in alcohol and petroleum ether and also in distilled water. The colour of hair oil was found recorded yellow to redish brown. The physical appearance was greasy liquid, The odour was pleasant. The variation in pH value was noted. The oil has shown organoleptic properties. The oil was not soluble only in distilled water but found soluble in alcohol and petroleum ether.

KEYWORDS: Formulation, Evaluation, Herbal hair Oil, *Hibiscus*, *Ixora*, *Emblica*, *Murraya*, *Allium cepa*.

INTRODUCTION

The concept of beauty and cosmetic is since ancient time civilization. Herbal cosmetic is one of the most effective areas of cosmetic technology. Indian women are renowned for having long, glossy and healthy hair, it is not unexpected that hair care is a major component of their self-care routines. In the text on Ayurvedic medicine, the Charka Samhita, stresses the need of oiling the scalp and hair in order to preserve healthy hair and stop hair loss. It was advised to oil your hair every day using suitable herbs that suited other ingredients and this practice has persisted to this day. Herbal cosmetics have burgeoning demand and in the world market and are an inestimable gift of nature. There are wide spans of herbal cosmetic products to satisfy beauty regime. Because of the growing interest in herbal cosmetics among people and readily available and their effectiveness. It shows minimal adverse effects, herbal cosmetics are in high demand. Herbal hair oil is an integral component of herbal cosmetics. Herbal hair oil is increasingly widely utilized and preferred for many hair conditions as it encouraging hair growth, give the scalp the essential moisture that results in gorgeous hair, so herbal herbal cosmetics are very popular and their use in hair care routines has increased in recent years. The herbal cosmetics are prepared with coalition of bioactive ingredients. Herbal formulations are known for their use

since ancient times with minimal side effects and enhanced activity due to their origin. Hair plays a vital role in the personality of human. Herbal formulations always have activity and comparatively lesser or no side effects over the with synthetic one.

Today the common hair problems in humans are baldness, alopecia, hair fall, gray hair, dryness, and most common dandruff.^[1] The medicinal plants are the precious gift of nature which plays vital role in healthcare sector for developing nation and potent source of therapeutic molecules to heal various diseases in the. The herbal formulations always have lesser or no side effects as compared to synthetic. In India, the custom involves mixing different medications that promote hair growth with hair oils. The herbal ingredients provide essential nutrients such as vitamin, antioxidant, protein, terpenoids, and many essential oils to maintain normal function of sebaceous glands.^[2] The hair is an epidermal derivative which is one of the vital parts increasing the overall elegance of the body. Hair fall, dandruff, lice, spilt ends, grey hair are few problems involved with hair faced by human.^[3]

Considering importance of hair oil and oil yielding herbs and its medicinal properties, present investigation is Attempted to formulate and evaluate different kinds of

hair oil extracted from different herbal plants.

MATERIAL AND METHODS

Study site

The study site is Amravati city located in the state of Maharashtra India. It is located at Latitude approximately 20.93° N and Longitude approximately 77.75° E. Average elevation from sea level is 343 meters.

Collection of sample

The healthy samples of *Hibiscus rosa-sinensis*, *Phyllanthus emblica*, *Ixora coccinea*, *Murraya koenigii*, *Allium cepa*. Were collected from fruit and vegetables shops. The seeds of and *Trigonella foenum-graecum* and *Nigella sativa* were collected from a grocery shop in local city, Amravati. The ready made powder of *Bacopa monnieri*, *Eclipta prostrata*, and fruits of *Terminalia bellirica* were collected from Barsaiya ayurvedic store, from Sarafa Bazar, Amravati.

Hibiscus

It is a flowering plant from the family Malvaceae. It is a tropical shrub or small tree with large and variously coloured showy flowers. It is commonly grown as an ornamental plant as it bears white, red, pink, yellow coloured flowers. It grows as bushy, evergreen shrub or small tree growing 2.5–5 m (8–16 ft) tall and 1.5–3 m (5–10 ft) wide. The stem is aerial, erect, green, cylindrical, and branched. Its leaves are simple and petiolate, with alternate phyllotaxy.

The formulation includes 5-6 hibiscus flowers, 2 gm fenugreek seeds, 2 gm black caraway, 1.5 gm baheda, 2.5 gm brahmi and 3 gm false daisy, 25 ml mustard oil, and 75 ml coconut oil. All the herbs are grinded in the mixture. The boiled mixture was subjected to filtration through muslin cloth. The volume was made up to 100 ml. The mixture was kept in bottle.

Emblica

It is commonly called as Indian gooseberry or Amla or Malacca tree. It is acidous from the family Phyllanthaceae. Tree is small to medium in size, reaching 1–8 m (3 ft 3 in – 26 ft 3 in) in height. The branchlets are not glabrous or finely pubescent, 10–20 cm (3.9–7.9 in) long, usually deciduous; the leaves are simple, subsessile and closely set along branchlets, light green, resembling pinnate leaves.

The preparation was made by weighing 15 gm Indian gooseberry, 2 gm fenugreek seeds, 2 gm black caraway, 1.5 gm baheda, 2.5 gm brahmi and 3 gm false daisy, 25 ml mustard oil, and 75 ml coconut oil. All the herbs are grinded in the mixture. The content was mixed thoroughly and boiled. It was then subjected to filtration through muslin cloth. After filtration 75 ml coconut oil was added to the filtrate to make up the volume 100 ml. It was then stored in a glass bottle.

Ixora

It is commonly called as Jungle geranium or flame of the woods or jungle flame or pendkuli. It is from the family Rubiaceae. It is a common flowering shrub. It shows dense, multi-branched evergreen shrub with 1.2-2 m in height. It possesses glossy, leathery, oblong leaves are about 10 cm long and small tubular, scarlet flowers in dense rounded clusters.

The preparation of hair oil was made by weighing 5 gm Ixora, 2 gm fenugreek seeds, 2 gm black caraway, 1.5 gm baheda, 2.5 gm brahmi and 3 gm false daisy, 25 ml mustard oil, and 75 ml coconut oil. All the herbs are grinded in the mixture. They were mixed the above content in 25 ml of mustard oil. The boiled mixture was subjected to filtration through muslin cloth. After filtration total volume was made up to 100 ml. The oil was stored in a glass bottle.

Murraya

It is commonly called as Curry leaves. It is from the family Rutaceae. It is semi deciduous, aromatic and small spreading branches shrub or tree with strong woody stem but slender. It is dark green to brownish in colour the tree is 4–8.7m tall.

The formulation of sample were made by weighing 5 gm Curry leaves, 2 gm fenugreek seeds, 2 gm black caraway, 1.5 gm baheda, 2.5 gm brahmi and 3 gm false daisy, 25 ml mustard oil and 75 ml coconut oil. All the herbs were grinded and mixed. The mixture was boiled mixture and subjected to filtration through muslin cloth. After filtration 75ml Coconut oil was added to the filtrate and total volume of 100 ml were made and it was stored in a glass bottle laced in bottle.

Allium cepa

It is commonly called as Onion. It belongs to the family Amaryllidaceae. The onion vegetative axis is a rosette shoot with a short, squat stem due to the lack of intermodal elongation. The vegetative stem is heart shaped in longitudinal section.

For the preparation weight of Onion (15 gm), Fenugreek seeds (2 gm), Caraway (2 gm), Baheda (1.5 gm), Brahmi (2.5 gm), False daisy (3 gm), Mustard oil (25 ml), Coconut oil (75 ml) were measured and weighed. The herbs are grinded. The mixture was boiled and subjected to filtration through muslin cloth. After filtration oils were added to the filtrate to make 100 ml volume. The filtrate was stored in a glass bottle.

Evaluation test for oil

The Prepared herbal hair oil was estimated for product performance which includes physico-chemical parameter. The Organoleptic properties like Colour, odour, skin irritation, sensitivity was determined manually.

The pH meter was calibrated solutions of pH 4 and pH 7. The electrode was bathed in hair oil for a few minutes

until the pH returned to normal. The prepared formulation was assessed for primary skin irritation test on our forearm, little amount of formulation was applied on the test site. The test site was observed for erythema and edema for 3 to 4 hrs. In sensitivity test the prepared herbal oil was applied on 1 cm skin and exposed to sunlight for 4-5 min.

RESULT AND DISCUSSION

In this study, dried portions of different medicinal plants were taken to prepare herbal hair oil for formulation for hair growth promoting action. The herbal oil has shown promising effect on hair growth stimulation. Herbal hair oil not only moisturize crown but also reverses dry crown and dry hair condition. Hair oils can be made in a variety of ways, including direct boiling, paste and cloth processes. The evaluation of formulation is the next major step after preparation. The major goal of study is to develop and test herbal hair oil for hair growth improvement.^[4]

It is observed that colour of Hibiscus hair oil become pale-yellow and that of Ixora Yellowish brown. The color of Gooseberry was become reddish brown. The physical appearance of greasy was recorded in all the three plants oil. The odour of oil was pleasant. The pH of oil has shown above 8.10 which is alkaline or basic nature. The maximum pH value was shown by Ixora oil. If the oil applied skin irritation was not felt. The sensitivity test was non sensitivity. The oil prepared become soluble in alcohol and petroleum ether. The oil was not soluble in distilled water (Table 1). The presence of number of photochemical in the herbal products have dual stuff, one that they are used as cosmetics for body care and another that photochemical amend the biological functions of human body naturally results in healthy skin and hairs.^[5] Herbal hair oil not only moisturizes scalp but also converse dry scalp and dry hair conditions. It bestows numerous essential nutrients required to maintain normal functions of the sebaceous gland and promote natural hair growth.^[6]

Table 1: Physical and chemical tests of different hair Oil.

S.N.	Parameters	Hibiscus	Emblica	Ixora
		Observations		
1	Colour	Pale yellow	Redish brown	Yellowish brown
2	Physical appearance	Greasy liquid	Greasy liquid	Greasy liquid
3	Odour	Pleasant	Pleasant	Pleasant
4	pH	8.98	8.10	9.07
5	Skin irritation	No-irritant	No-irritant	No-irritant
6	Sensitivity test	No sensitivity	No sensitivity	No sensitivity
7	Solubility test in Alcohol	Yes	Yes	Yes
8	Solubility test in Distilled water	No	No	No
9	Solubility test in Petroleum ether	Yes	Yes	Yes

If formulation and evaluation is done then various parameters were examined. like pH, organoleptic properties such as colour, odour, sensitivity. By observing the results it can be concluded that the herbal hair oil formulations have significant quality. The Indian goose berry, the most important medicinal plants in Indian traditional systems of medicine (Ayurveda, Unani and Siddha). The fruit of Gooseberry is widely used in the Indian system of medicine due to its diuretic and laxative property. It is antipyretic and used as hair tonic. Pytochemical studies indicate that it contain tannins, alkaloids, polyphenols, vitamins and minerals. It possess potent free radical scavenging, antioxidant, anti-inflammatory, anti-mutagenic, immune modulatory

activities, which are efficacious in the prevention and treatment of various diseases like cancer, atherosclerosis, diabetes, liver and heart diseases. Each drug was tested for their hair growth activity in a concentration range for 1-10% separately. Based on these results mixture of crude drugs, they were tested for hair growth activity.^[8] The Ixora hair oil has a golden yellow colour. It is greasy liquid with a pleasant fragrance. It has a pH of 8.67. indicating it is mildly basic. The oil has undergone skin irritation and sensitivity tests, both of which returned negative results. In solubility tests, the oil is soluble in alcohol and petroleum ether, but not in distilled water. Indicating its specific chemical its specific chemical composition.

Table 2: Physical and chemical tests of different hair oil.

S.N.	Parameters	Murraya	Allium cepa
		Observations	
1	Colour	Golden yellow	Deep brown
2	Physical appearance	Greasy liquid	Greasy liquid
3	Odour	Pleasant	Pleasant
4	pH	8.67	8.35
5	Skin irritation	No-irritant	No-irritant
6	Sensitivity test	No sensitivity	No sensitivity
7	Solubility test in Alcohol	Yes	Yes

8	Solubility test in Distilled water	No	No
9	Solubility test in Petroleum ether	Yes	Yes

The oil of different concentrations was characterized for proximate analysis including moisture content, total ash, acid insoluble ash, water soluble ash, water insoluble ash, sulphated ash. The formulations were also subjected to chromatographic determination and chemical tests to determine the presence of active constituents in the drugs.

The Curry leaves can be used with effective result to treat burn, bruises and skin eruption. It can be used in preventing premature greying of hair. A volatile oil, curry leaf oil, produced from the plant has uses in the soap industry. The formulated herbal oil was evaluated by using various parameters such as Organoleptic properties, pH etc. and the value obtained from it are found to be similar to that of the standard values like there is no sedimentation, no grittiness and shows satisfying organoleptic properties and the results were determined and are reported in this work.. The curry leaves are leafy vegetable used in flavouring foodstuffs. The major constituents identified were the volatile oil. The physical and chemical properties shows variation.^[9] The color become golden yellow, physical appearance is greasy. The odour is pleasant. The pH was 8.67. The oil does not feel irritant and it was non sensitive. The curry oil was found soluble in alcohol and petroleum ether but not in distilled water. The Onion hair oil has a deep brown colour. It is greasy liquid with a pleasant fragrance. It has a pH of 8.35. indicating it is mildly basic.[Table 2]. The oil has undergone skin irritation and sensitivity tests, both of which returned negative results. In solubility tests, the oil is soluble in alcohol and petroleum ether, but not in distilled water. Indicating its specific chemical its specific chemical composition.^[10] The Natural beauty preparation based on corrective formulation provides cosmetic value and may be used as a safe addition to replace synthetic ingredients.

CONCLUSION

In India, herbal cosmetics are used by more than 70% of the population for health care. Herbal cosmetics have been more popular in the personal care industry and there is a high demand for them in everyday life. The shape of teeth, hair that shines and skin that glows are all important aspects of a beautification and physical appearance. The herbal medicines are absorbed into the scalp more quickly and functions as a natural hair nourishes that reducing hair loss and promoting hair growth. The hair tonic is useful for curing headaches and relieving disorders related to stress and tension. The formulated hair oil is medicinally important in treatments of hair disorder and malfunctioning. The formulation was proven to be safe for human use. The herbs can be used to beautify physical appearance of human with various cosmetic preparations and dyes. The herbal hair oil obtained from Hibiscus, Emblica, Murraya, Onion, Ixora are useful for hair growth and nourishment. The herbal

oils can be prepared by boiling method. The herbal cosmetic preparation has a property of anti-hair loss, anti-dandruff effect, improves blood circulation of the scalp and hair roots. It reduces hair pigmentation, anti-fungal effect, reduces hair greying. So, hair oil plays an important role in hydrating and nourishing. It gives protective barrier around the hair shaft, sealing in moisture and preventing evaporation. Massaging of hair oil into the scalp can exfoliate and reduce hair fall as of rich in fatty acids and vitamin E. Regular use of hair oil can help prevent hair breakage, split ends and detangle hair. The herbal oil contain contain protein, beta-carotene, iron, vitamins, amino acids etc. which strengthen hair fibres. The herbal hair oil has cooling effect and thus relieves headaches and stress. The herbal oil gets absorbed into the scalp with in a shorter period of time and thus acts as nourishment to hairs. So, it acts as natural hair nourisher, helping in hair growth by the reduction of hair fall. The herbal hair oil formulation has significant quality and good activity than the synthetic oils. The utilization of herbal cosmetics enhanced many folds in personal Hygiene and healthcare system. There is a tremendous Glamour for the herbal Cosmeceuticals in Personal health care industry, which is presently focusing and paying extra careful and persistent work or effort on the development of herbal based cosmetics. More research and development is needed in the area of herbal cosmetics to show efficacy and create a safety profile for herbal cosmetics. It is necessary to perform sufficient safety testing in accordance with current regulatory rules and requirements. As nowadays, it is a fast developing segment with a huge scope of manifold boost in coming years. Uses of bioactive ingredients in cosmetic formulations have Valuable effect on body features and provide nutrients, which are essential for maintaining health and beautiful hair.

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