

Review of Herbal Hair Oil

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Abstract

Herbal formulations always have activity and comparatively lesser or no side effects with synthetic. The growth activity in a concentration range for 1-10% separately. Excellent results of hair growth were seen in formulation prepared by boiling method of oil preparation technique. Natural remedies are acceptable in the belief that they are safer with fewer side effects than synthetic one. Herbal hair oil is one of the most well recognized for hair treatment. Herbal oil not only moisturizes scalp but also reserves dry scalp and dry hair condition. It provides various essential nutrients required to maintain function of sebaceous glands and promotes natural hair growth. Were subjected to test of sensitivity, pH, odour, colour etc. In Ayurveda medicine, herbs are used as an integral part of health care system. Besides healthcare, herbs are also used for beautification of the body and for preparation of various cosmetics and colors. The aim of present study involves preparation of poly herbal hair oil using fresh leaves of various plants. The prepared herbal oils were subjected to photochemical screening. The aim of present study involves preparation of poly herbal hair oil. Using the leaves in neem. 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 profiles

Keywords: Dandruff, Cosmetic efficacy, Hair disorder, Herbal cosmetics Traditional medicine

INTRODUCTION

Recently, the number of men and women who suffered from hair loss and hair thinning is increasing disorder, and the surge for discovering natural products with hair growth promoting potential is continuous. Hair loss is the common patient complaint and a source of significant psychological and physical distress. Many factors such as metabolism, hormones, heredity and side effects of antineoplastic and immunosuppressant drugs, have been negatively affecting on healthy hairs.

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. The present work was aimed to formulate herbal oil for general purpose (application in hairs) using various herbs. The formulated hair oil contains different herbal plants which are traditionally utilized for hair growth plants used are Triphala, Nirgundi, Liquorice, Aloe Vera, and coconut oil. The

formulated herbal oil was evaluated and various parameters such as viscosity, specific gravity, pH meter. Herbal cosmetic has burgeoning demand and in the world market and are an inestimable gift of 54nature. There are wide spans of herbal product to satisfy beauty regime. The presence of number of phytochemicals and botanicals in the herbal product have dual stuff, one that they are used as cosmetics for body care and another that phytochemicals amend the biological function of human body naturally results in healthy skin hairs. Herbal hair oil not only moisturizes scalp but also converse dry scalp and dry hair condition. It bestows numerous essential nutrients required to maintain normal function of the sebaceous gland and promote natural hair growth.

The present work was aimed to formulate herbal oil for general purpose (application in hair has a several useful function in the animal world). It forms a protective cushion around the head & other delicate parts of the body. Hair oils are those embraces herbal drugs called as hair tonics. Hair oils are formulated to give the hair good shine & gloss. This is achieved by applying a thin continuous film of an oily material on the hair surface without causing stickiness. These are formulations use for cure the disorders such as baldness, greying of hairs, hair falling, and dryness of the hair. Many herbs are used in hair oil such as Kalonji, Aloe Vera, Liquorice, Alma, Ashwagandha, Nirgundi, Nagarmotha, Curryleaf, Hibiscus, Shikhakhai, Coriander, Methi etc using various herbs. Various herbs plants the different role in hair oil. Coconut oil nourishes the scalp and makes hair shiny. Tulsi is the cogent remedy for hair oil. Herbal hair oils basically extract of the medicinal plants in an oil base.

Alopecia (Hair loss):-

Alopecia is a dermatological issue that has been seen for more than 2000 years and besides, it has been typical issue in beautifiers similarly as fundamental clinical benefits practice. It is a synonym of baldness, involves absence or loss of hair, especially of the top. Alopecia is typical all through the world and has been evaluated to impact between 0.2 % and 2% of the absolute people Alopecia is perhaps the most widely recognized trichinosis in clinical, which brings about a huge effect on human soul and psychology. Over past years, the rate of alopecia has been expanded. The occurrence of alopecia is due to the nutritional imbalance caused by a combination of environmental pollution, stress, frequent dyeing and perm, drinking, smoking, diet and so on.^[8]

The age of patients with hair loss tends to be younger. 40% of patients suffered from alopecia require relevant treatment. Alopecia has likewise been seen as significant symptom of anticancer medications, immunosuppressant and numerous other medication therapies. Mental stun, enthusiastic strain, central disease, mistakes of refraction, endocrine aggravation, neurocirculation unsteadiness and hereditary inclination are additionally the known reason for alopecia.

There are numerous medicines for alopecia, including hair relocate, beautifying agents and prescription. Clinical treatment shows an extraordinary impact on improving hair development. A lot of medications that prevent salopecia by repressing the male hormone. The two famous agents, Finasteride (a synthetic 5- α - reductase inhibitor) and minoxidil (a vasodilator), are used to treat alopecia by suppressing male hormone. Nevertheless, the use of these two drugs is limited due to their server-side effect.^[8]

Composition and Hair Growth Cycle: -

Hairs can be characterized as -"improved epithelial construction framed because of keratinisation of germinative cells," hairs are the outgrowths from the follicles existing on the skin. Hair is composed of

keratin with chemical constituents such as Carbon(C), Nitrogen (N), Sulphur (S), & Oxygen (O). Hair development fluctuates from one individual to another but on average hair grows about 15-30 mm/month. It is also called as epidermal subsidiaries as they begin from the epidermis during embryological advancement. Every hair falls in following three cyclic stages.

Anagen (Growth stage): -The anagen stage can be short as 2 years to up to 8 years. Around 80 % of hair is generally in anagen stage. On a solid scalp, there are around 1,000,000 hair and 90% of the follicles are constantly in the anagen period of hair development.

Catagen (Involution phase): -

In the catagen stage, the development action increments and hair moves to the following stage, catagen stage is between 10-14 days.

Telogen (Resting phase): -

The telogen stage is a state at which the hairs move into resting state. This stage goes on for 90-100 days. All in all, 50- 100 hair at irregular is shed each day. An increment of in excess of 100 hair for each 6-constituents a condition of going bald or alopecia, but it very well may be brief.

Types of Hair Loss: -

There are various types of hair loss as discussed below. Ayurveda, a 5000-year-old back traditional system of medicine developed in India. It has classified hair loss under three categories viz.

Khalitya (loss of hairs)

Palitya (Premature hair greying) Indralupta (Alopecia areate ortotalis) Indralipta (Alopecia areataortotalis)

As per Anglo-Indian medicine system

Alopecia Areata (Primary stage) Alopecia areata is a typical immune system illness that outcomes in the deficiency of hair on the scalp and somewhere else. It as a rule begins with at least one little, round, non-scarring smooth patches.

Mild Brief Alopecia Areata: - Patient with repeated transient alopecia areata yet never changes over into alopecia totalis or universalis. 25% of alopecia cases are record by the dermatologists and it is perhaps the most widespread types of alopecia.

Mild Transient Alopecia Areata: -Patient with repeated transient alopecia areata yet never changes over into alopecia totalis or universalis.

Transient Alopecia Areata: -Patient with Alopecia areata in progressive stage and some of them changes over into Alopecia totalis /Alopecia universalis.

Temporary Alopecia Areata: - Patient with Alopecia areata in advanced phase and few of them converts into Alopecia totalis/Alopecia universalis.

Ophiasis Alopecia Areata: -Ophiasis kind of alopecia areata shows a band like going bald. It happens generally in the transient or the occipital area of the scalp, and subsequently it is harder to treat, as most medicines have a delayed action on these regions.

Alopecia Totalis:- Loss of hair from the entire Scalp

Alopecia Universalis:- Loss of hair from whole body including eyebrows and eyelashes. **Scarring Alopecia:** - Any provocative interaction (consumes, bacterial diseases, ringworm, injury) adequate to cause

permanent loss of follicles, influenced region referred as scarring alopecia.

Tricotilomania: -This kind of hair loss is referred as compulsive pulling or repetitive self- pulling by a patient himself/herself.

Traction Alopecia: - Hair style that ties hairs so tight can cause much traction at the root of hairs, and can develop traction alopecia.

Chemotherapy and hair loss: -Chemotherapy is elite therapy for malignant growth patients yet it influences typical cells and hair follicles as well. This causes going bald and known as anagen effluvium type of alopecia.

Diffuse Alopecia: - Excessive Loss of hair everywhere on the scalp without creating a patch. Hair loss due to adverse effect of the cosmetic treatments like hair colours, dye, straightening, softening, rebounding, perming etc., which contains harsh chemicals can trigger hair loss for certain people. Telogen effluvium (TE) and chronic telogen effluvium- (CTE) Dietary lacks, Crash dieting High grade fever, Anaemia, Blood loss, Hormonal imbalance and pregnancy etc. can cause telogen effluvium type of hair loss telogen word is known for latent phase of the hair.

Androgeneticalopecia: - **Androgenetic** alopecia is the most common form of hair loss in both men and women and is characterized by the loss of hairs in defined pattern. When it affects women, it results in diffuse alopecia over the mid-frontal scalp (female pattern hair loss). In men however the pattern of hair loss usually starts with a retreating hairline which then advances to thin the top of the head. The effect of androgenetic alopecia is overwhelmingly mental. While men expect age-related going bald, similar interaction in ladies is typically unexpected and unwelcome at any time.^[8]

Male Pattern Baldness: -

Hair loss resulting in thinning is referred as alopecia. When it's associated with hormones (androgens) and genetics, it's referred to as androgenetic alopecia. When androgenetic alopecia exposes a space of the scalp it is called baldness. Male pattern bald is described by a subsiding hairline or potentially going bald on the top and front of the head. Male pattern hair loss is an inherited condition, caused by a genetically determined sensitivity to the consequences of dihydrotestosterone, or DHT in some areas of the scalp. DHT is believed to shorten the expansion, or anagen, phase of the hair cycle, from a usual duration of 3–6 years to only weeks or months. This happens along with miniaturization of the follicles, and progressively produces less and better hairs. The creation of DHT is regulated by an enzyme called 5- alpha reductase. A few qualities are included, representing contrasting time of beginning, movement, pattern and severity of hair loss in relatives. The susceptibility genes are acquired from both mother and father.

Female Pattern Baldness: -

The most widely recognized type of going bald found in ladies is androgenetic alopecia, also referred as female pattern alopecia or baldness. This is viewed as hair thinning predominantly over the highest and sides of the top. It affects approximately one-third of all susceptible women, but is most ordinarily seen after menopause, although it's going to begin as early as puberty.

Ordinary hair fall is roughly 100-125 hairs each day. Luckily, these hairs are replaced. Genuine balding happens when lost hairs are not regrown or when the day-by-day hair shed surpasses 125 hairs. Hereditarily, hair loss can come from either parent's side of the family.

NEED OF WORK

Hair is one of the fundamental pieces of the body got from ectoderm of the skin, is defensive enhancement

on the body and considered adornment design of the integument alongside sebaceous organs, sweat organs and nails. As per Ayurveda, pitta, dosha is the essential driver of going bald. Ayurvedic medicine for hair loss contains herbs which will arrest hair fall and improve hair development. There are various causes for hair loss and therefore the phenomenon remains not fully understood. Plants have been generally utilized for hair development advancement since past as reported in Ayurveda.

DRUG PROFILE: -

Ngarmotha: -



Fig 1

Biological name: -Cyperus scariosus. Synonyms: -

English: Nut grass Hindi: Nagarmotha Marathi: Nagarmotha Sanskrit: Bhadramusta. Taxonomic classification

Kingdom: Plantae Clade: Tracheophytes Order: Poales Family: Cyperaceae Genus: Cyperus Species: C.scariosus.

Geographical source: Commonly found in the India

Microscopical structure: -Epidermis consists of typical parenchymatous cells with brownish pigments. Hypodermis consists of 2-3 layers of thick-walled cells. Cortex is composed of parenchymatous cells. Outer part is compact and inner part arencymatous with large intercellular spaces. Some cells in cortex region contain brownish oleoresinous matter and other starch grains. Vascular bundles are loosely distributed around the perimeter of central pith. The xylem vessels possess ligneous secondary wall thickenings.

The remainder of the rhizome vascular system is scattered in small bundles throughout the cortex. Pith is composed of parenchymatous cells containing starch grains and few filled with oleoresinous contents.

Macroscopic structure: - Rhizomes are ovoid and tunicate in shape having size about 0.8- 2.5cm, colour is brownish black externally and white internally. Surface of rhizome is rough with striations and odour is the fragrant. Taste is starchy.

Chemical Constituents: -Flavonoids, Terpenoids, Cyproten, Gurjunene, Cyperol, Cyperene, Mustskone.

Uses:-Nagarmotha controls the hair fall associated with dandruff. Regular use of nagarmotha improves hair texture, adds shine and stimulate hair growth. It is effective on split ends. Stimulate the hair growth.

Kalonji seeds



Fig 2

Biological name: -Nigella sativa

Synonyms: -English: black Cumin Hindi: Kalonji Marathi: Kalonji Sanskrit: Kalajaji Taxonomic classification: -

Kingdom: Plantae Clade: Tracheophytes Order: Ranunculales Family: Ranunculaceae Genus: Nigella Species: N. sativa

Geographical Source:-Native to Eastern Europe and Western Asia, but naturalized over a much wider area, including parts of Europe, Northern Africa and East Myanmar.

Macroscopic Structure: - Seeds are small dicotyledonous, trigonous, angular, rugulose- tubercular, 2-3 mm ×1-2mm, black externally and white inside, odour slightly aromatic and taste bitter.

Microscopic structure: -Transverse section of the seed (plate 3) is preceded by the epidermis which is formed of 3 layers of thick lignified parenchyma cells, covered by cuticle, the external layer is extended into papillae (epidermal out growths). The epidermis is followed by two layers of hypodermis. The endodermis is formed of many layers of parenchyma cells, the outer most layer of which is filled with pigmented materials. In the central region of the section found the embryo which is very small.

Chemical Constituents: - Alkaloids, Fatty acids, Proteins and Saponin.

Uses: - It nourishes the hair follicles so that they can grip the hair better which result in less hair fall.

Neem



Fig 3

Biological name: - *Azadirachta indica* Synonyms:

English: Neem Hindi: Neem Marathi: Kadulimba Sanskrit: Kakaphala Taxonomic Classification

Kingdom: Plantae Clade: Tracheophytes

Order: Sapindales Family: Meliaceae Genus: *Azadirachta* Species: *A. indica*

Geographical source: -It is found in the India, Pakistan, Malaya, Indonesia, Japan, tropical region of the Australia and Africa. In India it is found in the Maharashtra, Tamil Nadu, Rajasthan, and MP.

Macroscopic Structure: -Apex of neem leaves are ovate-lanceolate and base is unequal, colour of leaves is dark green, and texture is smooth. Its odor is typical and taste is bitter.

Microscopic Structure: -It has dorsiventral leaf, covering and glandular trichome present on both the surface. Glandular trichomes are short unicellular stalk and bicellular or unicellular head. Stomata is Anomocytic.

Chemical Constituents: -Nimbin, Nimbaene, Ascorbic acid, Nimbandiol.

Uses: -promote hair growth, conditioned your scalp, temporarily seals hair follicle, minimize greys.

Hibiscus Flowers



Fig 4

Biological name: - *Hibiscus rosa-sinensis* Synonyms: -

English: Hibiscus Hindi: Gudhhal Marathi: Jaswandi Sanskrit: Rudrapushpa Taxonomic Classification

Kingdom: Plantae Clade: Rosids Order: Malvales

Family: Malvaceae Subfamily: Malvoideae Tribe: Hibisceae Genus: - *Hibiscus* Species: -*Hibiscus syriacus* L.

Geographical Source: -Found in India, China, Japan, and Malaysia.

Macroscopic structure: - *Hibiscus rosa-sinensis* is a bushy, colour is red and taste is slightly sweet and mucilaginous. Calyx of *hibiscus rosa-sinensis* are polypetalous with 5 lobed and 5 epicalyxes, stamen is Monadelphous.

Microscopic structure: -Pollen grains are spherical, spinuous, yellow in colour. Covering or glandular multicellular trichomes are present. Stone cells and oil globules are absent. Ovals are kidney shape embedded with numerous rosette crystals. Anomocytic stomata are present.

Chemical Constituents: -Tannins, Anthraquinone, Quinine, Phenols, Flavonoids, Alkaloids, Proteins, Alkaloids and Carbohydrates.

Uses: - Nourishes and thickens the hair, Emollient, brain tonic, growth of hair, blackening of hair, lustre of hair, laxative skin diseases.

Preparation of herbal hair oil –

Method:-

Herbal hair oil was prepared by Maceration processes. The entire prescribed herbs according to the formula were infused in the oil by double boiling method. These processes ensure the absorption of active therapeutic activities of ingredient for better result.

Procedure

All herbs were collected and dried under shadow.

Herbs were weighed by using weighing balance whereas, oils were measured through pipette. Herbs were grinded in the mixer.

All the herbs were infused in the coconut oil for maceration process for 2-3 days.

As further the contents was boiled by using double boiling method, at this process all the active constituents of medicinal plant start to concentrate the oil.

Filtration was carried out through the muslin cloth.

To the filtrate coconut oil was added to make up the volume. Prepared oil was placed in the amber colour bottle.

Preparation of Egg oil:- Formula: -

Eggs – 2/3 Olive oil – 10ml Procedure:-

Take 2-3 egg in the vessel and boiled it for 10 to 15 min in water. Peel away the shells of the hard-boiled eggs.

Cut the egg to remove the hardened yolk.

Place the egg yolk on the griddle set to high heat and breaks the yolk into pieces with a slotted spatula.

Dump 5ml of olive oil over the yolk; continue the breaking of egg yolk pieces and flipping them over for 3-5 minutes.

Filter the content with help of muslin cloth.

CALCULATION:-

Specific Gravity:-

Weight of empty bottle (W₁) – 14.45Weight of the density bottle with water (W₂) - 45.42 Weight of the density bottle with sample (W₃) – 42.48Mass of liquid sample (oil)= (W₃-W₁)= 42.48-14.45 =28.03 Mass of Distilled water (W₂-W₃)=45.42 - 14.45 =30.9

Specific gravity = Mass of liquid /Mass of equal volume of water Specific gravity =28

Specific gravity of herbal hair oil =0.905 g/m

VISCOSITY

Viscosity of oil = $\frac{\rho_2 \eta_1}{\rho_1 \eta_2}$ ρ_1 = Density of water ρ_2 = Density of oil η_1 = Viscosity of water η_2 = Viscosity of oil

t_1 = mean time of flow of water from A to B t_2 = mean time of flow of oil from A to B

Viscosity of water = 0.997 Density of oil = 0.90g/ml Density of water = 0.997g/ml

Mean time for water to flow from A to B = 21.48sec Mean time for oil to flow from A to B

= 25.45sec Viscosity of oil = $[0.90 \times 25.45 / 0.997 \times 21.48] \times 0.997$

= $22.905 \times 0.997 / 21.265$

Viscosity of oil = 1.07

Saponification value=

Saponification Value = $56.1 (B - S) N/W$ Saponification value = $56.1 (19.5 - 11) 0.5 / 1.2$

Saponification Value = 187

RESULT:-

Herbal hair oil was prepared from mentioned ingredient and the various parameters like colour, odour, specific gravity (density), pH, viscosity, saponification value, Acid value and Irritation test of herbal hair oil were evaluated.

DISCUSSION:-

Herbal oil provides numerous essential nutrients required to maintain normal function of sebaceous glands and promotes natural hair growth. The utilization of herbal cosmetics enhanced many folds in personal hygiene and healthcare system. Hence, there is a tremendous clamour for the herbal cosmeceutical, individual care or personal health care industry, which is presently focusing and paying extra diligence on the development of herbal-based cosmetics. As nowadays, it is a fast-developing segment with a mammoth scope of manifold boost in coming years. Use of bioactive ingredients in cosmetic formulations have valuable effect on body features and provide nutrients, which are essential for maintaining healthy and beautiful hairs. At last, it can be concluded that, this herbal hair oil formulation has significant quality.

CONCLUSION

This research work is to evaluate the parameters of the oil and its formulation.

The oil consists of thirteen ingredients that provide necessary benefits to the hairs. The oil will be further stored in amber colour bottle.

The hair oil is used for dressing and nourishing the hairs and grace of hair, dandruff, scaly particles that cling to the root of the hair, split ends, frizzy hair, dull hair, hair loss, can be caused by a poor diet, an infection, stress, genetics, hormonal changes, nutritional deficiency, and autoimmune diseases.

FUTURE SCOPE

Hair oil is an oil-based cosmetic product intended to improve the condition of hair. Various types of oil may be included in hair oil products. These often purport to aid with hair growth, dryness, or damage. Many cosmetic products including shampoo, heat protectant, hair drops, or hair masks contain oils.



Humans produce natural hair oil called sebum from glands around each follicle. Other mammals produce similar oils such as lanolin. Similar to natural oils, artificial hair oils can decrease scalp dryness by forming hydrophobic films that decrease trans epidermal water loss, reducing evaporation of water from the skin. Oils on the hair can reduce the absorption of water that damages hair strands through repeated hygral stress as hair swells when wet, then shrinks as it dries. Oils also protect cuticle cells in the hair follicle and prevent the penetration of substances like Surfactants.

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