

Review on Preparation and Evaluation of Herbal Hair Tonic

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Abstract: *These days, people are interested in hair preparation and conditioner materials such as hair tonic, shampoos, hair gel, hair tonic spray, conditioners formulations containing herbal extracts. Hair tonic is a product used to style or fashion the hair. The objective of this study involves preparation of herbal hair tonic with aid of the using coconut oil, hibiscus, aloe vera, amala, tulsi, reetha, jojoba oil, rosemary oil and its evaluation for antibacterial, antifungal and strengthness of activity. The final instruction of these ingredients is formulated in batches with alternate in concentration. Every formulation is tested right effects for antifungal, antibacterial and strengthness of hair activity. The formulation having different concentration were characterised for proximate analysis such as acid insoluble ash, good consistency properly spreadability, Ph, water, soluble ash, insoluble ash, homogeneity, appearance. Hair is crown for the everyone because functions for hair providing protection, warmth, beauty and the support. Loss of hair is a universal most serious problem for everyone. That has been estimated to affected between 0.2 and 2% the world population. This study aimed involves preparation of herbal hair tonic from virgin coconut oil extract of a mix of nine herbs which is important or beneficial as herbal hair tonic.*

Keywords: Antibacterial activity, herbal formulations, hair tonics, tulsi oil, coconut oil, amala, evaluation, aloe vera, antifungal activity

I. INTRODUCTION

Hair play an important role in human life. Which consist of the several elements that are useful for a person's appearance and beauty, therefore are called as 'crown'. Hair is one of the vital part of human body. Which is derived from ectoderm of the skin. Hair is protective appendages on the human body and considered accessory structure of the integument along with sebaceous gland, nails, and sweat gland. They are also called as the epidermal derivatives. The medical term for hair loss is 'Alopecia'. The alopecia means complete or partial loss of hair, wool. The alopecia can be temporary and permanent. Alopecia create is a disease that happens when the immune system attacks hair follicles and cause of hair loss. The problem associated with include such as lack of hair, unruly hair, hair loss, conditioning of hair, dandruff in hair, thinning of hair, dullness of hair etc. The hair can be triangular in shape, circular, flattened, also hair can vary texture, diameter, shape, color etc. The main use of hair to regulate body temperature. The herbal formulation is always have attracted considerable attention because of their comparatively lesser and good activity or nil side effect with synthetic drugs. Hair tonic term is used for some hair preparation this term is used in therapeutics. Hair tonic is one kind of reporting of hair and retexturing the hair. These days, people are interested in hair preparation and conditioner materials such as hair tonic, shampoo, conditioner formulation containing herbal extract for prevention for hair loss. There are no. of factor that caused hair loss and badness Either you do not take proper diet, vitamins or nutrients that is important for hair growth some serious illness can also cause that's why the excessive hair loss and baldness The hair oil is the hair care preparation used for the prevention and treatment of hair The hair oil is promoted, the luxurious growth of hair. The medicinal plant is use for the oil base. The people and especially women is very conscious about hair. They applying usually coconut oil to promote hair growth. The natural products are mainly used such as tea tree oil carrier of a jojoba oil, rosemary oil, essential oil. The hair tonics make hair healthier. The herbal hair oil contains Tulsi, Heena, aloe, neem, rosemary, jojoba oil. Tulsi helps in prevention of hair loss tulsi helps to reduce stress promotes hair growth, reduces itchiness also provide healthy hair and scalp The Chemical Constituent in Tulsi is rosmarinic acid oleanoic acid, eugenol, carvaryl, linalool. The Heena is promotes growth prevent dandruff, silky hair, nourish hair. The jojoba oil is preventing hair loss, splits ends, dry and frizzy hair, nourished hair the jojoba also contains

natural forms of vit E. This vitamin works with your skin trusted source as an antioxidant. The aloe reduces hair fall, control dandruff, itching, hair fall control, shiny hair's etc. The chemical constituent of aloe are aloniosid A,B capaloresinotonnol with P-cowmeric acid etc. These hair tonics are available in market work as growth promotes hair conditioner hair cleansing agent, antidandruff as well as treatment of alopecia and dandruff.

II. HAIR GROWTH PROMOTING AGENTS AND IT'S PHARMACOGNOSY

1. Coconut Oil
2. Tulsi
3. Aloe
4. Neem
5. Rosemary
6. Jojoba Oil
7. Fenugreek

1. COCONUT OIL



Synonym:-

- Coconut oil, coconut butter.

Biological source: -

- Coconut oil is the expression of the oil from the dry and sunny endosperm of coconut, *cocos nucifera* L.

Family: -

- Palmae.

Geographical source: -

- Coconut is widely distributed throughout the world.
- It is widely cultivated in African and South Asian countries.
- A large amount of oil is produced in India, Malaysia, China and other countries.

Chemical components: -

- It is a mixture of triglycerides and saturated fatty acids.
- The oil contains about 95% saturated fatty acids with 8 and 10 carbon atoms.
- Caprylic acid, 2% cupric acid, 50 to 80% lauric acid and 1% myristic acid

USES: -

- Used to strengthen hair from the roots and stimulate good hair growth.
- It is used as a dietary product

2. Tulsi



Synonym: -

- Holy basil.

Biological source: -

- Tulsi consists of fresh and dried leaves of *ocimum sanctum* linn.

Family: -

- Labiatae.

Geographical source: -

- It is a highly branched plant found throughout India.
- Tulsi is generally grown in gardens and also near temples.
- Propagated by seeds.

Chemical components: -

- Tulsi leaves contain a pleasant bright yellow volatile oil (0.1-0.9%).
- Contains 70% eugenol, 3% curvacral and 20% eugenone methyl ether.

USES: -

- Tulsi has many potential uses for hair disorders.
- It is used as antibacterial, antiviral, antifungal

3. ALOE:-



Synonym: -

- Aloes.

Biological source: -

- Aloe is a dried juice obtained from the transversely cut leaves of various species of aloe *barbendensis* miller, baker's aloe *perryi*, cape aloe.

Family: -

- Liliaceae.

Geographical source: -

- It is native to eastern and southern Africa and is cultivated commercially in the West Indies, Iceland, and the northern coasts of South America.

Chemical components: -

- The main source of glycosides, it also contains barbaloin, aloe resin emodin. Other ingredients of the drug are aloetic acid, aloesone, choline, choline alcohol salicylate, etc.

Uses:-

- Aloe is used in skin cosmetics as a protective agent.
- It is anti-wrinkle, anti-inflammatory, has good moisturizing properties etc.

4. Neem



Synonym: -

- Kadunem.

Biological Source:-

- Neem consists of almost all parts of the plant that are used as dried *Azadirachta indica*.

Family:-

- Meliaceae.

Geographical source: -

- India is native to *Azadirachta*.
- Also cultivated in Nepal, Pakistan, Bangladesh and Sri Lanka.
- Neem is a fast-growing tree that can reach a height of 15 to 20 m, rarely up to 38 to 40m.
- It is evergreen.

Chemical components:-

- Consists of azadirachtin, nimbiin, nimbidine, nimbidol, sodium nimbinat, gedunin and quercetin.

Uses:-

- It is used as an antilimintic, antifungal and antidiabetic.
- Used as a hardening agent

5. Rosemary



Synonym:-

- Rosemary essential oil.

Biological Source: -

- Distilled from the flowering tops of the leafy branches of *Rosmarinus officinalis*.

Family: -

- Lamiaceae.

Geographical source: -

- The plant is native to southern Europe and the oil is produced mainly in Spain and North Africa.

Chemical components :-

- Fresh material yields about 1-2% volatile oil content 0.8 to 6% esters and 8 to 20% alcohols.
- The main ingredients are 1-8-cineolborneol, bornyl acetate, monoterpene hydrocarbons.

- Rosemary leaves also contain the triterpene alcohols alpha and beta amyrin, rosmarinic acid, caffeic acid, roofficerone, chlorogenic acid, etc.

Uses: -

- The oil is mainly used in the perfume industry.
- The oil is also used for gastrointestinal disorders

6. Jojoba Oil



Synonym: -

- Simmondsia chinensis.

Biological Source: -

- Juice produced from the seed of the jojoba plant.

Family: -

- Simmondsiaceae.

Geographic Source: -

- Found in southern Arizona, southern California, And northwestern Mexico.

Chemical Components:-

- The main components of jojoba carrier oil are gadoleic acid, erucic acid, oleic acid, palmitic acid, vitamin E, stearic acid, behenic acid and jojoba complex.

Uses :-

- It is use for acne, sunburn.
- It is also used topically to promote hair growth in bald people

7. Fenugreek



Synonym: -

- Methi, Methika.

Biological Source: -

- Methi consists of the dried and mature seeds of Trigonella foenum Greek.

Family: -

- Legumes.

Geographical source: -

- The plant grows wild in North India and is cultivated as a herb throughout India. It also grows in southern and eastern Europe. Pakistan, Morocco, etc.

Chemical constituents:-

- Saponin glycosides = diosgenin, trigogerin, yamogenin, gitogenin.
- Crown derivatives = trigocoumarin, trigophorin.
- Alkaloids = trigonelline, choline, protein, etc.

Uses: -

- It is used as a tonic, chalking, aromatic, combinative.

III. MATERIAL AND METHODS

The present work was aimed to preparation & evaluation of herbal hair tonics tulsi (leaf), henna (leaf), aloe vera (fresh fruit), amala (fruits), fenugreek (seeds) etc.

All these herbs are use for nourishment of hair, care for hair related problems.

Preparation of extracts = Take a fresh leaves of osmium Sunetun was washed under the top water and the kept for the 36 hrs. After the drying process leaves cut into small pieces 10 gm of small pieces as weighed and these pieces then fed to the stirred type batch reactor with 150 ml of methanol. Then the speed of agitation was kept at 500, 700, 1000 rpm extracted sample known interval of time was collected.

Herbal hair tonic formulation :-

For the formulation of herbal hair tonic Tulsi oil & Jojoba oil are used as the active constituents coconut oil is used of base of formulation.

Jojoba oil is easy to mix with Tulsi oil hence firstly the both oil are mixed together in a separate beaker in the another beaker coconut oil is add and then mixture of Jojoba and tulsi is added in beaker containing coconut oil. Coloring and perfume is added for increasing the attractiveness and fragrance of formulation. Finally, it is stirred unmechanical Sheaker for proper mixing & consistency of formulation.

Formulation table:-

Table No.1 Formulation-

Ingredient	F1	F2	F3	F4	F5	F6
Tulasi Oil % v/v	0.1	0.2	0.3	0.4	0.5	0.6
Jojoba Oil %v/v	0.4	0.5	0.6	0.7	0.8	0.9
Coconut Oil q.s (ml)	9	9	9	9	9	9
Coloring Agent	q.s.	q.s	q.s	q.s	q.s	q.s
Perfume	q.s.	q.s	q.s	q.s	q.s	q.s

Evaluation of herbal hair tonic

Any other cosmetic product, this products should also be evaluated for the contents estimation & their identification.

These are the some other tests are as follows -

Antifungal activity :-

Jojoba oil, tulsi oil and essential oil were found to be the best. Jojoba oil has antimicrobial and antifungal properties. Jojoba oil does not kill all types of bacteria. Coconut oil is antifungal, it is powerful against - Henna has an antifungal effect that is used to treat fungal infections.

Viscosity:-

Viscosity is measured using a Bookfield digital viscometer at 600 rpm [8]

PH formulation:-

The vegetable hair oil was determined using a digital pH meter. Weigh 1 ml oil into a test tube. Add 9 ml of water.

Appearance:-

The appearance of the formulation was judged by its color, aroma and its consistency.

Hair Strength:-

Jojoba oil is rich in vitamins and minerals that nourish the hair, including vitamins C, B, E, copper and zinc. Because it strengthens the hair, jojoba oil prevents hair loss and promotes hair thickness.

Removal:-

The ease of removal of the applied formulation was examined by washing the applied part with tap water.

Saponification Index:

It represents the number of milligrams of potassium hydroxide to Saponify 1 g of fat under certain conditions. It is a measure of the average molecular weight of all the fatty acids present.

Number of moles = mass of oil / Relative atomic mass

formula,

Saponification index = $28.05 \times b - a / \text{Weight}$.

Where,

b = Blank Reding. a = Sample Reding.

Acid Value:-

Take 10 g of solute to the correct weight in 50 ml of the mixture. From Equal volumes of alcohol and ethereal solvent, the flask was connected Cool and heat slowly until the sample dissolves completely. to this 1 ml of phenolphthalein add and & titrated with 0.1N NaOH until slightly pink colors appear after mixing for 30 sec [9].

Acid value = $n \times 5.61 / W$

where, n = the no of me of NaOH required W = the wt of substance.

Spreadability :

The spreadingability is determined by a modified wood block and glass slide apparatus. The device consisted of a block of wood with a fixed glass slide and a scroll. One slide was attached to another slide by a string. To determine the extension, the excess cream was placed on a fixed slide. The modern glass slide with the fixed slide on it was placed on the fixed glass slide and a 1 kg weight was placed on it for 5 minutes. 50 g of weight was added to the slide and the time taken for the slide to separate was noted.

$S = W \times L / t$

Now,

S = diffusion Capacity.

W = weight attached to upper blade. L = blade length

IV. RESULT

This research work was conducted to create a herbal topical hair tonic. Most of the research team have already proved the antibacterial & antifungal, hair growth stimulating properties oil, castor oil, clove oil when applied to hair. Therefore the formulation development was undertaken so as to provide these pharmacological activities on topical administration. All the ingredients in this formulation are oil in nature. Phase separation is not an issue. The homogeneous formulation with acceptable consistency is created. Therefore the result of antimicrobial & antifungal study revealed that overall activity of the formulation was comparable to or even better.

V. FUTURE PROSPECT

There are many products on the market that are ready to be used as a combination of one or more medicinal herbs. These products are used as hair tonic, hair growth, Promoters, hair Conditioner, anti-dandruff etc. marketers and for the treatment of alopecia & lice infection. Preparation are available in the form of tonic, creams, dye, powder, conditioners, hair sprays etc. The amla, Tulsi, coconut oil, fenugreek, Methi are very beneficial for hairs. There is a renewed interest in synthetic products due to their loss or zero side effects. Beauty Salons & many cosmetic companies also use Soaps, herbal Shampoo & beauty products made from many different plants to treat hair scalp problems. The use of natural

products in considered Safe & allergy free. Chemical products are harmful for hairs but natural product are beneficial. Like rosemary oil stimulate hair growth, and reduce breakage by providing nutrients like proteine and vit. Hair tonics can help control oillines, reduce drandruff. natural products stimulate hair growth. In future natural product for hair care and promote hair growth & reduce hairfall

VI. CONCLUSION

Microbiological tests were performed on the formulation through out the development process all the final formulation were assessed for parameter like texture, consistency, spreadabiliy, Skin irritation. All these introduction fulfilled in the experiment. The pH values of resulting formulation wear near of ph range of skin and within the Indian. Standard specifications then antibacterial and antifungal activity of formulation f6 significant activity when combine with standard. The use of plant based product source for antifungal and antibacterial chemical has successfully demonstrated

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