Formulation and evaluation of poly herbal hair oil to treat Dandruff

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Abstract: A study on evaluation of antidandruff activity and safety of fenugreek Seed. This study was an open, non-comparative, non-randomized, Phase III clinical trial, approved by Institutional Ethics Committee. Twenty-five patients of both sexes, from the age group of 20-45 years, Who were clinically diagnosed as suffering from mild to moderate Dandruff, and who were willing to give informed consent were enrolled In the study. Patients with severe hair fall due to endocrine disorders, Patients with scanty hair and those with severe scalp skin infection Were excluded from the study.A study was conducted in which dandruff Has an altered stratum corneum ultrastructure that is improved with Application of fenugreek seed.A study was conducted to know the health benefits of trigonella Foenum-graecum and in which researcher states that there has been Resurgence in the consumption and demand for medicinal plants. Medicinal plants are finding use as Pharmaceuticals, Neuraceuticles, Cosmetics and Food supplements. Even as Traditional source of Medicinal and they continue to play pivotal role.

Keywords: Hair, Herbal oil, Stability studies.

Introduction:
Hair is one of the vital parts of the body considered to be protective Appendages on the body and accessory Structure of the integument Along with sebaceous glands, sweat glands and nails. Hair loss is a Dermatologic Disorder, and the surge for discovering natural products With hair growth promoting potential is continuous. Each Hair grows in Three cyclic phases viz., anagen (growth), catagen (involution) and Telogen (rest). The anagen phase Can be as short as 2-6 years. In the Catagen phase, the growth activity increases and hair moves to the next Phase, Catagen phase is between 2-3 weeks. The telogen phase is a State at which the hairs move into resting state. This Phase lasts for 2-3 Months. In general, 50 to 100 hairs are known to be shed everyday and An increase of more than 100 constitutes a state of hair loss or alopecia. Hibiscus consists of calcium, phosphorus, iron, vitamin B1, Riboflavin, Niacin and vitamin C, used to stimulate thicker hair growth and Prevents premature graying of hair. Brahmi contains alkaloids whichEnha

Chemical constituents:
• Fenugreek seed:
Trigogenin, neotrigogenin, diosgenin, yamogenin, gitogenin, 4-Hydroxyisoleucine, vitexin, isovitexin, saponaretin, Homoorientin, vicenin-1, vicenin-2 and two flavonoid glycosides Quercetin and luteolin and steroidal saponins .Have been isolated from seeds.
• Hibiscus flower:
Hibiscus contains β-sitosterol, stigmasterol, taraxeryl acetateAnd three cyclopropane compounds and their Derivatives. Flowers contain cyanidindiglucoside, flavonoids and vitamins, Thiamine, riboflavin, niacin and Ascorbic acid.
• Aloe vera:
Vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic Acids and amino acids.
• Amla powder:
This herb has many bioactive compounds including apigenin, Gallic acid, ellagic acid, chebulinic acid, quercetin, chebulagic Acid, corilagin, isostrictinin, methyl gallate, luteolin and so on.
Materials and methods:

1. Fenugreek:

![Fig 01](image)

Fenugreek seeds are a rich source of iron and protein — two essential nutrients for hair growth. They also contain a unique composition of plant compounds, including flavonoids and saponins.

2. Amla Powder:

![Fig.no.2](image)

Amla powder is dried amla fruit, ground into a fine powder. A thin paste can be made by combining amla powder in water. Apply the paste in the hair roots and scalp to provide nourishment to the hair. Leave it on for 15-20 minutes before washing off with a mild cleanser or running water.

3. Curry leaves powder:

![Fig.no.3](image)
Curry leaves are rich in antioxidants, vitamin C, and Iron that help strengthen the hair roots and prevent hair loss. Curry leaves and coconut oil for hair are therefore extremely beneficial and prevent hair loss, hair thinning, premature greying of hair, and hair damage.

4. Hibiscus flower powder:

![Hibiscus Flower Powder](image)

Proponents claim that hibiscus can also help: Stop hair loss, make your hair look healthy and lustrous, prevent premature greying, thicken hair, and add volume. Treat dandruff, condition against frizz, dryness, and breakage, prevent split ends.

5. Onion:

![Onion](image)

Onion juice has sulphur that is said to prevent thinning and breakage of hair. Lesser hair thinning and breakage will ensure thick hair growth.

6. Coconut oil:

![Coconut Oil](image)

Coconut oil could help you grow your hair longer, moisturize your hair, and reducing breakage. Protecting your hair from protein loss and damage when wet. Protecting your hair from environmental damage like wind, sun, and smoke.
7. **Henna powder:**
Henna also helps reduce premature graying of hair, because it’s loaded with tannins, a plant compound found in teas that contributes to their rich coloring. Henna contains vitamin E, which helps to soften hair.

![](image)

8. **Eucalyptus oil:**
Advocates of using eucalyptus oil to apply to hair suggest that it: Stimulates hair follicles. Improves hair health. Promotes hair growth. Relieves itchy scalp. Treats head lice.

![](image)

9. **Aerial roots of Banyan tree:**
Banyan Aerial root (Jata) which is very effective in hair fall control and makes hair strong from roots. Banyan (Bargad) tree symbolizes strength and longevity, in ancient Indian science of Ayurveda, Banyan roots have immense medicinal properties in hair care.

![](image)
10. Aloe vera:

![Aloe vera image]

Aloe vera contains vitamins A, C, and E. All three of these vitamins contribute to cell turnover, promoting healthy cell growth and shiny hair. Vitamin B12 and folic acid are also contained in aloe vera gel. Both of these components can keep your hair from falling out.

**Formulation Table:**

<table>
<thead>
<tr>
<th>Sr.no.</th>
<th>Ingredients</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fenugreek seeds Powder</td>
<td>30 gm</td>
</tr>
<tr>
<td>2.</td>
<td>Amla powder</td>
<td>20 gm</td>
</tr>
<tr>
<td>3.</td>
<td>Curry leaves powder</td>
<td>20 gm</td>
</tr>
<tr>
<td>4.</td>
<td>Hibiscus flower powder</td>
<td>15 gm</td>
</tr>
<tr>
<td>5.</td>
<td>Onion juice</td>
<td>5 ml</td>
</tr>
<tr>
<td>6.</td>
<td>Coconut oil</td>
<td>50 ml</td>
</tr>
<tr>
<td>7.</td>
<td>Eucalyptus oil</td>
<td>50 ml</td>
</tr>
<tr>
<td>8.</td>
<td>Henna powder</td>
<td>15 gm</td>
</tr>
<tr>
<td>9.</td>
<td>Aerial roots of Banyan tree powder</td>
<td>15 gm</td>
</tr>
<tr>
<td>10.</td>
<td>Aloe vera gel</td>
<td>25 ml</td>
</tr>
</tbody>
</table>

**Table no.1**

**Method of preparation:**

- All herbs & essential oil obtained from a local market.
- Herbs are weighed by using a weighting balance whereas, oils are measured through a pipette.
- The oils and herbs are mixed together in a vessel.
- The above mixture is then allowed to boil on low flame with continuous stirring. So, as to avoid the adherence of the medicinal plants to the bottom of the vessel.
- At this step, moisture of the medicinal plant commenced to evaporate so it is agitated frequently and carefully to ensure that the mixture does not stick at the bottom of the vessel.
- The herbs are taken out from time to time to know the condition and stage of mixture of oils.
- As further heating to the content, the oil starts to form a froth. This is the condition where all the active ingredients of medicinal plants start to concentrate in oil.
- In the next step, the mixture is filtered through muslin cloth.
- The collected strain is final herbal hair oil product.

**Evaluation of Herbal Hair Oil Preparation:**

The prepared herbal hair oil was subjected to general characterization, physical evaluation.

**General characterization:**

The general characters like color and odor was evaluated manually.
•Physical evaluation:
The physical evaluation parameters were determined are pH, colour, odour, irritancy.

<table>
<thead>
<tr>
<th>Sr. no.</th>
<th>Parameters</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Colour</td>
<td>Blackish brown</td>
</tr>
<tr>
<td>2.</td>
<td>Odour</td>
<td>Characteristic</td>
</tr>
<tr>
<td>3.</td>
<td>PH</td>
<td>5.67</td>
</tr>
<tr>
<td>4.</td>
<td>Skin irritation</td>
<td>No irritation</td>
</tr>
</tbody>
</table>

Table .no.2

Primary skin irritation test:
The prepared formulation was assessed for primary skin irritation test on our forearm, little amount was applied on the test site. The test site was observed for erythema and edema for 3 to 4 hrs.

Stability studies:
Prepared herbal hair oil was observed for stability condition. The herbal hair oil was kept aside and observed for 1 to 2 weeks intervals.

Medicinal uses of herbal oil:
Herbal hair oils are natural oil products with essential properties to treat hair problems like thinning of hair and dry or flaky scalp. These oils are used not only for moisturizing purposes but also to promote hair growth, improve circulation of blood in the scalp, prevent dandruff and add volume to the hair shaft.

Benefits of herbal hair oil:
Skin Conditions and Pain Relief Due to the healing properties that comes in herbal oils, it is effective to be used on a variety of skin conditions. In situations such as dry skin, dermatitis, dandruff, cuts, burns, bruises or minor wounds can all benefit from the herbal oil treatment.

How to apply herbal hair oil:
1. Apply oil on your scalp and massage with fingertips using a circular motion.
2. Apply the oil left on your palms to your hair.
3. Cover with a towel or shower cap and leave on overnight.
4. The next day, shampoo hair while dry. Rinse thoroughly.
5. Condition as normal. You can also use coconut oil as a conditioner.

Conclusion:
Overall, the formulated herbal oil provides many nourishing value to hair such as vitamins, minerals, and essential oils. The finished product is within the limits. In conclusion, oil is beneficial to prevent hair from damage and loss caused by pollution and dull hair. And provide an alternative source from hazardous chemicals. This research provides guidelines on the use of herbal ingredients on the preparation of Herbal Hair oil having minimal or no side effects. The Hair oil is medicinally important in treatments of various other diseases. For evaluating the Herbal Hair Oil various parameters are employed and the results also compared with standards.

Result and discussion:
Herbal hair oil is one of the most well recognized hair treatments. Herbal hair oil not only moisturizes scalp but also reverses dry scalp and dry hair condition. It provides numerous essential nutrients required to maintain normal function of sebaceous glands and promotes natural hair growth. The herbal hair oil was prepared from the above-mentioned ingredients and was subjected to the qualitative chemical analysis for identification of various plant constituents. The various parameters such as Colour, Odour, pH and irritation test of herbal hair oil was evaluated. The prepared herbal hair oil also shows anti-dandruff activity. Hair oil showed good activity.

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