

## Formulation and evaluation of Hair oil from Aerial Roots of Banyan Tree

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### **Abstract: -**

Hair loss problem is of great concern to both males & females & the main problems associated with hair loss are hair fading, dandruff & falling of hair. The main purpose of formulation of this hair oil is to overcome the problem of hair like falling of hair, dandruff and so on. For preparation of hair oil we select the roots of Ficus Bengalese's and coconut oil. The roots of Ficus Bengalese's is very beneficial for hair growth and decrease the hair loss. IN this roots the protein, flavonoids, phenolic content, glycoside are present which give the benefit to hair. After formulation of hair oil evaluation test can be performed in which acid test, colour Odour, pH, viscosity was determined successfully. From the evaluation test we concluded that this herbal oil give positive effects to hair. And oil have a significant quality.

**Keywords:-** Roots of Ficus Bengalese's, hair oil, evaluation,

### **I. Introduction:-**

Ficus Bengalese's Linn, commonly known as banyan tree is considered to be a sacred tree in India. It is a large evergreen tree distributed all over India from sub Himalayan region to the deciduous forest of Deccan and South India.(1) It is an evergreen tree, grows up to 30 meters, with spreading branches and many aerial roots. Preliminary phytochemical investigation of roots of Ficus Bengalese's indicated the presence of carbohydrates, flavonoids, amino acids/ proteins, steroids, saponins and tannins 6, 13.(2) The bark leucopelargonidin-3-O-X-L rhamnoside, leucocynidin, 3-O-X-D galactosyl cellobioside, glucoside- $\beta$ -glucoside, 20-tetratria conthene-2-one, 6-hepatatria contene-10- one, pentatricentan -5-one,  $\beta$ -sitosterol-  $\alpha$  -D-glucose.(3,4) Ficus Bengalese's root extract and its compound are used increasing hair growth and decreasing hair loss. Methods of producing the extracts and isolating the compounds are also disclosed. The aerial root portion optionally comprises an aerial root tip. The method typically involves preparing a crude extract of an aerial root portion of a Ficus plant, optionally the aerial root tip, and fractionating the crude extract with at least one solvent to obtain various fraction. (5) There are various causes of hair fall such as Family history (heredity), Hormonal changes and medical conditions, Radiation therapy to the head, Hairstyles and treatments also diet is most important factor for hair fall. To overcome this problem we prepared the hair oil from the roots of banyan tree. It is very safe, effective and easy to use.

### **Need of investigation:-**

Hair loss, also known as alopecia or baldness, refers to a loss of hair from part of the head or body. Common types include male- or female-pattern hair loss, alopecia areate, and a thinning of hair known as telogen effluvium. Hair fall are mostly occurs in female due to various reasons like poor nutrition, in pregnancy, hormonal imbalance, poor diet, medication environmental factors etc. So prevention must be taken such as Ask your doctor about medications and supplements you take that might cause hair loss. Protect your hair from sunlight and other sources of ultraviolet light. (6)

### **Sign and symptom of hair loss:-**

1. Gradual thinning on top of head. This is the most common type of hair loss, affecting people as they age.
2. Circular or patchy bald spots: - Some people lose hair in circular or patchy bald spots on the scalp, beard or eyebrows
3. Sudden loosening of hair: - A physical or emotional shock can cause hair to loosen.

Causes: - Hair loss is typically related to one or more of the following factors:

1. Family history (heredity). The most common cause of hair loss is a hereditary condition that happens with aging. This condition is called androgenic alopecia, male-pattern baldness and female-pattern baldness.

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2. Hormonal changes and medical conditions. A variety of conditions can cause permanent or temporary hair loss, including hormonal changes due to pregnancy, childbirth, menopause and thyroid problems.
3. A very stressful event. Many people experience a general thinning of hair several months after a physical or emotional shock. This type of hair loss is temporary.
4. Medications and supplements. Hair loss can be a side effect of certain drugs, such as those used for cancer, arthritis, depression, heart problems, gout and high blood pressure.(7)

### **II. Material and Method:-**

For formulation of hair oil the material like roots of ficus and some solvents such as aluminium chloride, chloral Hydrate, dichloromethane, ethyl acetate, toluene, methanol used.

**Plant material:** - The fresh aerial roots of Ficus Bengalese's Linn were collected in and around of Nootan college of pharmacy campus in KavatheMahankal.

#### **Preparation of Powder extract. :-**

The fresh aerial roots collected, were dried in oven at 60°C for 4-6 hours to make them moisture free and ground using an electric grinder. The resultant powder was passed through sieve no. 60 and was examined microscopically by mounting in chloral hydrate solution and phloroglucinol solution.(8,9) About 40gm of powder used for successful soxhlet extraction by using solvent like petroleum ether (60-80 C), toluene, dichloromethane, ethyl acetate, methanol and water respectively and the percent yield of all the extracts determined. This extraction is carried out for determining the active component present in ficus root. Extracts was conducted using standard tests for alkaloids, flavonoids, phenolic, glycosides, and carbohydrates. An ethyl acetate rich extract containing flavonoids in more amount so it is prepared. (10)

#### **Preparation of hair oil:-**

The roots of ficus Bengalese's was mixed into the coconut oil. This mixer keep aside for 8 to 10 days. After 10 days this roots are boiled into coconut oil for 20 to 30 min. After that keep it at room temperature for cooling.when this oil become cool then filter it by using soft cloth or filter paper. This oil is packed into well closed container oil is ready to use.

Another method is make Powder of equal quantities of the aerial roots of banyan and the lemon peel. Boil powder in coconut oil and apply. In the case of baldness powder the aerial roots of the banyan tree and lotus roots and use them the same way. (11)

#### **Evaluation test:-**

**Organoleptic Property:** - Colour: Detected by naked eyes

**Odour:** - Odour detected by nose.

**1. Sensitivity:** Applied to the skin and exposed to the sunlight for 5 minutes to check for any irritation over skin  
Grittiness: Rubbed to the skin and observed

Sedimentation: Keep the whole preparation aside for overnight and check for sedimentation

**2. pH Determination :-** Take a pH paper and dip into the formulated hair oil and check for the colour change.

**3. Viscosity Measurement:** - The viscosity of prepared herbal hair oil was estimated by Ostwald's Viscometer at a room temperature. The viscosity of prepared herbal hair is measured.

**4. Acid Value:** - 10 ml of oil was added with 25ml of ethanol and 25ml of ether. Phenolphthalein was added as indicator and titrated with 0.1M Potassium hydroxide solution

n = Number of ml of 0.1M KOH

w = Wt. of oil

**5. Specific Gravity:** - Specific gravity of the prepared oil was determined using specific gravity bottle.

**6.skin irritation :-** Oil was applied on hand and exposed to sunlight for 5mins to check for any irritation over skin

### **III. Result:-**

<b>Evaluation parameter</b>	<b>Inference</b>
Sensitivity test	Non sensitive
pH	6.4
Acid value	4.5
Specific gravity	0.94
Viscosity	0.93

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Colour	Pale yellow
Odour	Aromatic
Grittiness	Smooth

**IV. Conclusion:-**

This hair oil provides nutrients which is required for hair growth. This oil is very beneficial for decreasing hair loss and promoting hair growth. Regularly use of (at least 6 months) use of this oil provide beneficial effects. The formulated hair oil will help in maintaining good growth of hair, not only that it also provides turning grey hair to black, protects from dandruff, reduces stress etc. This oil was prepared and evaluated by various parameters like pH, viscosity, acid value etc. Overall this herbal oil have significant quality.

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