

## Formulation and Evaluation of Nagarmotha hair oil

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### Abstract: -

Herbal Formulation than Synthetic drug have Less Side effects than synthetic drug so herbal formulation has attracted considerable attention. The largely Chemical Compound of the herbs are essential oils flavonoids, terpenoids, cyperacea. The major chemical components of this herb are essential oils. flavonoids, terpenoids, sesquiterpenes, cyproten, cyperene, aselinene, rotundone, valencene, cyperol, gurjunene, transcalamenene, cad\Alene, cyperoutundone, mustskone, isocyperol, acyperone etc. The study investigation of oil isolation from Cyperus rotundus and chemical composition of essential oil of roots of C. Rotundus commonly known as nagarmotha in India in ayurveda C.Rotundus rhizome are considered aromatic, astringent, analgesic, diuretic, carminative stimulant, antitussive, sedative, antibacterial, anti helminthic, anti-inflammatory, Anti- rheumatic. The goal of the present study is preparation of & evaluation of poly herbal have hair of using Emblica of cinalis [amia] Alovera. I Botanical Name - Aloe barbadensis miller], Almond Botanical Name - Prunus dulcis rose) Jasmin [ Botanical Name- Jasminum [olives]. C.rotandus commonly called as Nagarmotha Purple Nut sedge, or Nut Cyperaceae family. Brass Is a perineal grass that belongs to cyperceae family.

**Keywords:** -Hair, Polyherbal, oil, evaluation.

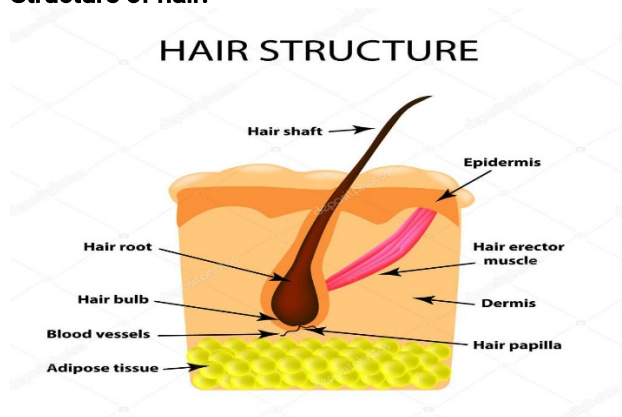
### I. Introduction: -

Cyperus. Rotundus-  
Family: - cyperceae  
Humans completely depend on mother nature

as if the primary source of numerous medicines for thousands of years.

In Asian country's C. rotundusrhizomes are used in the treatment of stomach and bowel disorder, hair disorder & inflammatory disease have been widely investigated. There are phytochemical surveys of C.rotundus that contain flavoinds, tannis, glycoside, Monoterpenes, terpenoids, starch, carbohydrate, protein, Separated Amino acid, essential oil, Saponins. Nagarmotha is also called purple nut. sedge or Nut-grass is a common perineal weed with slender, rhizome bulbous at the base & arising singly from the tubers which are about 1-3 cm long. Hair is one of the most important parts of the body derived from ectoderm of the skin. The hair follicle has the unique ability like nail to regenerate itself.

### Structure of hair: -



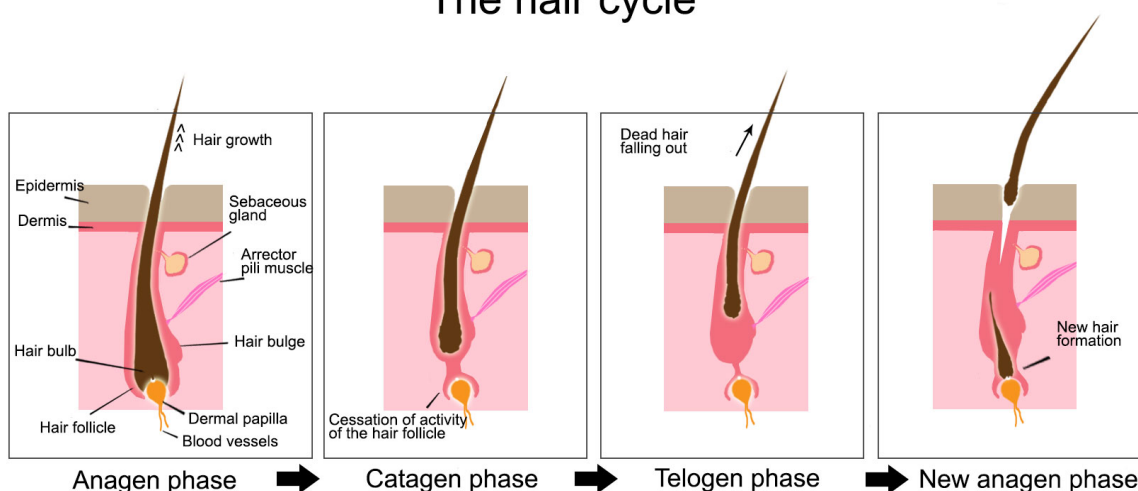
### Hair Growth Cycle: -

The growth and loss of hair like a

simple process may seem but the hair growth cycle is actually composed Four distinct phase. This stage of hair growth has been studied in great depth to better understand low hair grows & what might be done to hair loss prevent or treat premature hair loss. The First three

phases &telogen - anagen, catagen cover the growth & matinal. ion of hair & the activity of the hair follicles that produce individual hairs During the final or exogen, phase, "old" hair sheds through usually new hair is getting ready to take its Place [figure]

### The hair cycle



**TABLE 1: VERNACULAR NAMES OF CYPERUS ROTUNDUS**

English	Coco grass, Nut grass, Nut sedge, Purple Nutgrass, Purple Nutsedge
Hindi	Nagarmotha, korehi-jhar, motha, mutha
Sanskrit	Chakranksha, CharukesaraAbda, Ambuda
Urdu	Saad kuf
Arabic	Soad, Soadekufi
Bengali	Nagarmotha, Moothoo, Musta
Burma	Vomonniu,
Gujrat	Nagaramothaya
Malya	Muahkezamin

**Table 2: Taxonomic Classification of Cyperus Rotundus**

Taxonomic Rank	Taxon
Kingdom	Plantae
Division	Angiosperms
Class	Liliopsida

Subclass	Commelinids
Order	Poales
Family	Cyperaceae
Genus	Cyperus
Species	Rotundus
Common Names	Nutgrass, Nagarmotha

### Benefits of nagarmotha

- 1] Nagarmotha controls hair fall and reduces dandruff.
- 2] Regular use of nagarmotha oil enhances hair texture, adds shine and stimulates hair growth.
- 3] Reduce dandruff and removes excessive dryness.
- 4] Nagarmotha helps to Control hair loss associated with dandruff.
- 5] It also prevents hair fall and premature greying of hair.
- 6] Effective on split ends.
- 7] Repairs damage hair.
- 8] Stimulates hair growth
- 9] Provides Volume to hair.
- 10] Treats and moisturizes dry scalp.

### Therapeutic uses of Cyperus Rotundus

Anti-Inflammatory Activity  
 Analgesic Activity  
 Anti-Convulsant Activity  
 Anti-diarrhoeal Activity  
 Anti-Microbial Activity  
 Anti-Cancer  
 Anti-Oxidant

### Phytochemistry of Cyperus rotundus: -

rotundus contains several phytochemical constituents of p various classes like fat, gum resins, carbohydrates, essential oils alkaloids, saponins, flavonoids, terpenoids, mono-and sesquiterpenes, albuminous

### Steroidal:

glycoside, sitosterol-(6'- hentriacontanoic)- $\beta$ -dgalactopyranoside, sitosterol, stigmaterol, sitosterol glucoside, stigmaterol glucoside, chrysoeriol, kaempferol, luteolin, quercetin, rutinand khellol -D-glucopyranoside are known steroids which are present in Cyperus rotundus

### Flavonoids: -

Flavonoids like vitexin, orientin, cinaroside, quercetin 3-O-B-D-glucopyranoside, and myricetin 3-O-B-D-glucopyranoside, isnagin, khellin, ammiol, isorhamnetin, and triclin, luteolin 3-methyl ether, Luteolin 7, 3`-dimethyl ether, Luteolin 5, 3-dimethyl ether, luteolin4-glucoside, Luteolin 7-diglucoside, triclin 5-glucoside, kaempferol are present in Cyperus rotundus. A novel falavonol derivative is discovered in this plant named as cyperaflavoside (myricetin 3,3',5'- trimethyl ether 7-O-B-D-glucopyranoside)

### Sesquiterpenes

C. rotundus possess diverse skeletons of sesquiterpenes such as patchoulane, rotundane, eudesmane, guaiane, cadinane and caryophyllene types. Patchoulane type sesquiterpenes such as patchoulane-1 (cyperene-3, 8-dione), patchoulane-2 (14-hydroxy cyperoutundone), patchoulane-3 (14-acetoxy cyperoutundone), patchoulane-4 (3 $\beta$ -hydroxy- cyperenoic acid), patchoulane-5 (sugetriol-3, 9- diacetate) is present in Cyperus rotundas. Whereas eudesman-6 and 7 are known to be present in this plant. Other eudesmaneare present in this plant. Two novel sesquiterpenes named isocyperotundone (1) and 1,4-epoxy-4-hydroxy-4,5-seco-guain-11-en-5-one (2) are reported to be present in this plant

## II. Methodology:

### Formulation of Nagarmotha hair oil

The various ingredients used in the formulation of Nagarmotha hair oil. Accurately weight dried roots of Nagarmotha roots and other herbs such as, aloe vera, Amla, almond oil, Coconut oil, Jasmin oil, Cedarwood oil. Where grinded in the mixture and was mixed in 6 ml of almond oil. The above content was boiled for

15 min. and was filtered through muslin cloth. The filtrate almond oil was added to make up the volume (6 ml). Finally small amount of

colour and flavouring agents was added to the oil and it was placed in Umber coloured bottle.

**Ingredients used in Nagarmotha hair oil**

Sr. No	Ingredient	Quantity
1	Nagarmotha Powdered	10gm
2	Almond oil	12ml
3	Aloe vera Gel	8gm
4	Amla powered	8gm
5	Jasmine oil	4ml
6	Coconut oil	8ml

**Formulation and evaluation of nagarmotha hair oil:**

**1]Sensitivity test:**

The formulated nagarmotha hair oil was subjected to the physical and biological evaluation

**2]Sensitivity test:**

• The prepared Nagarmotha hair oil was applied on 1 cm skin of hand and exposed to sunlight for 4-5 min

**3]Acid value:**

• Preparation of 0.1 molar solution weighed 0.56g KOH pellets and dissolved in 100 ml of distilled water and stirred continuously. The prepared 0.1 molar KOH solution was filled in a burette preparation of sample: measured 10 ml oil and dissolved in 25 ml of ethanol and 25 ml of ether mixture and shaken. Added 1 ml of phenolphthalein solution and titrated with 0.1 molar KOH solution.

**4]Saponification value:**

• Accurately weighed 1ml of oil into a 250 ml of conical flask and 10 ml of ethanol: ether mixture was Added to this flask 25ml of 0.5n alcoholic KOH was kept the flask for 30 minutes and the flask was cooled.

• The cooled solution was titrated against 0.5 N HCL using phenolphthalein indicator similarly the blank titration was performed without

taking oil. Amount of KOH in mg in calculated.

**5] PH:**

The Ph Nagarmotha hair oil was determined using PH meter.

**6]Viscosity:**

The viscosity was determined using Ostwald's viscometer.

**7]Specific gravity:**

• Take the specific gravity bottle, rinsed it with distilled water, dry it oven for 15 min, cool, closed it with cap and weight it, now fill the same specific gravity bottle with the sample and closed it with cap and again weigh it. Determine the weight of sample per millimetre by subtracting the weight.

**8] Spreadability: -**

Oil is spread easily without too much drag and did not produce greater friction in the rubbing process.

**9] Organoleptic Property:**

Organoleptic Properties such as colour, odour was determined manually.

**Result:** -Nagarmotha hair oil improve hair texture, adds shine, stimulates hair growth and provide numerous nutrients. It also prevents hair fall and premature greying of hair. Nagarmotha hair oil prepared from various herbs given in above information.

Sr. No	Parameter	Inference
1	Sensitivity Test	No irritation
2	Irritation Test	No irritation

3	Acid value	3.9
4	Grittiness	Smooth
5	PH	7

### III. Conclusion:

*Cyperus rotundus* is one of the important medicinal herbs which is used to treat a number of disease or disorder since ancient times. Nagarmotha is useful for treating dandruff and revitalizing dull, lifeless hair. From the present investigation it was found that the formulated hair oil has optimum standard.

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