



“PREPARATION AND EVALUATION OF POLYHERBAL HAIR OIL”

¹Salunke saurabh pandit, ²Mahadik M.R, ³Dr. L.D Hingane

¹Student, ²Assistant professor, ³Principal

¹Dr. Babasaheb Ambedkar Marathwada University, Aurangabad,

²Dr. Babasaheb Ambedkar Marathwada University, Aurangabad,

³Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

ABSTRACT

This polyherbal hair oil was formulated by using various herbs such as bhringraj, yashtimadhu, triphala, henna, leaves of neem and aloe vera, also hibiscus flower and rose oil for scent. The Ayurvedic cosmetics are very helpful and it is less prone to any side effects. Ayurvedic cosmetics are also known as herbal cosmetics. All herbal ingredients are easily available in market.

This polyherbal hair oil used in treatment of common hair problems like baldness, alopecia, hair fall, grey hair, dryness and most common dandruff.

All the herbal ingredients used in formulation provide essential nutrients such as vitamins, antioxidant, protein terpenoids and many essential oils to maintain normal function of sebaceous glands.

Procedure for oil preparation is divided into two parts 1) Preparation of decoction of all the herbs and 2) Oil preparation. Excellent results of hair growth were seen in formulation prepared by the above-mentioned procedure.

Formulated herbal oil was evaluated for various parameters such as specific gravity, viscosity, acid value, saponification value, pH and irritation tests in general herbal formulations provides good blend of vitamins, antioxidants, terpenoids and essential oils. All the values in the evaluation of finished product showed that they are within the acceptable limits. hence, it is concluded that the oil is beneficial in maintaining good growth of hair, turning grey hair to black, providing protection from dandruff, and results in lustrous hair.

INTRODUCTION




Herbal cosmetics are prepared by the association of bioactive ingredients and pharmaceutical products. The presence of number of phytochemicals and botanical in the herbal products have dual significance, one that they are used as Cosmetics for body care and another that phytochemicals improve the biological Functions of human body naturally results in healthy skin and hairs. As the name Suggests the herbal extracts means the extracts of herbs. It is an ancient methodology because its origin was discovered from the holy Vedas and in Unani scriptures. As the realization said that the chemical medicines are not Always work as magic bullets and they may have side effects. The current trend Moves toward the herbalism and use of natural products. Indian herbs are the richest source to be used in cosmetic industries .

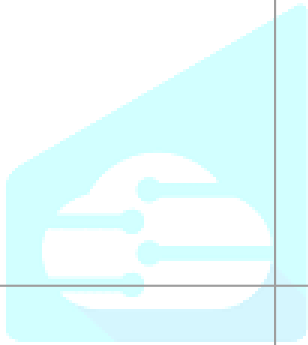
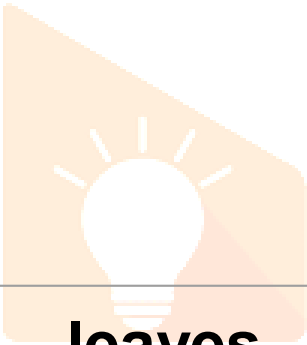

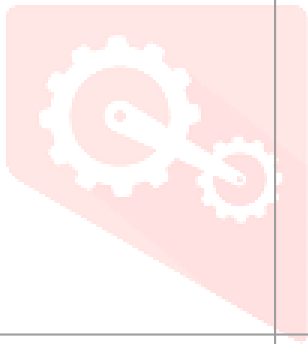




Herbal cosmetics were gaining tremendous demand In the world market. There is a wide range of herbal cosmetic products used as beauty regime to satisfy the purpose of beautification Adding herbs in cosmetics is safer for our skin. Herbal hair oils were serving the purpose of hair treatment . Herbal hair oil not only moisturizes scalp but also reverses dry scalp and dry hair conditions . It provides numerous

essential nutrients required to maintain normal functions of the Sebaceous gland and promote natural hair growth.

There are two categories of hair care products They are hair tonics and hair grooming aids. Hair oil those contains herbal drugs are called as hair tonics. These are formulated by herbal extracts in an oil base. Hair oils are the hair care formulations applied for treatment of hair disorders such as baldness, greying of hairs, hair falling, and dryness of hairs

Materials used:-

Common name	Part used	Uses	Fig
Coconut oil	oil	Moisturises, reduces breakage prevents hair from protein loss and damage	
bhringraj	whole plant	Promoting hair growth, hair nourishment, anti dandruff	
yashtimadhu	whole plant	improve scalp and hair health	

Common name	Part used	Uses	Fig
Henna 	leaves 	henna has cooling effect on the scalp, antimicrobial and antifungal properties also helps maintaining scalp health	
Neem 	leaves 	Neem has antioxidant properties that prevent hair loss helps countering hair thinning	
Aloe Vera	Whole plant	Moisturizer, softening of hairs	
Hibiscus Flower	Flower	ombats dryness prevent premature graying	

Role of ingredients

1] Coconut oil -



Coconut oil is predominantly made up of a medium-chain fatty acid called lauric acid. This gives coconut oil a long, straight structure, which is more easily absorbed deep into the hair shaft.

Moisturizes. The lauric acid in coconut oil has nourishing properties that are especially prone to soak into the strands of your hair. Coconut oil absorbs into your hair quickly, providing moisture to tame frizz and heal breakage.

- 1.moisturizing your hair and reducing breakage
- 2.protecting your hair from protein loss and damage when wet
- 3.protecting your hair from environmental damage like wind, sun, and smoke

2] bhringraj-



the regular use of bhringraj hair oil can reduce the time taken for hair growth, thereby increasing hair volume to counter the effects of hair loss and hair thinning. improved regeneration and hair growth time. bhringraj has high vitamin E content, which can reduce free radical damage that is linked to hair damage.

Hair fall and hair loss are often a result of scalp infections and problems like seborrheic dermatitis or dandruff. Bhringraj hair oil is extremely effective as a natural dandruff treatment because of proven antimicrobial and antifungal effects. As bhringraj exhibits anti-inflammatory effects it can also reduce scalp inflammation that is linked to not just dandruff, but other scalp conditions like psoriasis. This reduction in inflammation and itching ultimately results in reduced hair fall.

Enriched with the goodness of nature, Bhringraj oil is rich in nutrients such as Iron, Vitamin E, magnesium, polypeptides, steroids calcium, vitamin D. The oil is also rich in proteins that make it even more beneficial for hair.

3] yashtimadhu-



Yashtimadhu-This humble herb is packed with flavonoids and phytoestrogens, which are plant compounds that improve scalp and hair health. using this traditional remedy to soothe an irritated scalp and reduce dandruff. It also reduces scalp infections and stimulates hair growth

4] triphala



Triphala works as a powerful tonic for the hair, stimulating the follicles and roots and encourages hair growth. Amla in triphala also restores the normal pH balance of the scalp and makes the hair healthy. Triphala-based hair tonics also help to remove dandruff and treat related conditions. This is because vibhitaka in triphala has antibacterial and antifungal properties.

1] Amla -



Amla or Indian Gooseberry strengthens the hair roots and promotes hair growth. Amla is abundant in Vitamin C, which is an essential nutrient for the synthesis of collagen. Collagen in hair helps in strengthens and helps in growing faster.

2. Bibhitaki



It is rejuvenating in nature and it is very beneficial for hair growth. Bibhitaki is useful in hoarseness of voice, asthma, cough and common cold. ... Seed oil of this herb is also beneficial for skin disorders and premature graying of hair. It also boosts up hair growth and helps to impart black color to hair.

3. Haritaki:-



Promotes Hair Growth

Haritaki 'keshya' (hair benefitting) properties have been cited time and again in various Ayurvedic texts. Being rich in Iron, essential Vitamins, Manganese, Selenium and other natural compounds, frequent use of haritaki promotes healthy hair growth.

Regulates Sebum Secretions

Haritaki is astringent in nature and helps balance Kapha Dosha vitiations. Thus the application of haritaki can control excess sebum secretions and oily scalp problems

Prevents Dandruff

Haritaki is an amazing anti-dandruff remedy [1]. Its ability to balance Vata, Pitta and Kapha Dosha imbalances prevents excess sebum production, dry scalp and inflammation. Its antimicrobial properties prevent Malassezia yeast proliferation on the scalp. Frequent usage of haritaki in the form of hair oil, shampoo or hair packs keeps dandruff and dry scalp issues away.

5.Henna

Henna has a cooling effect on the scalp. The antifungal and antimicrobial properties of henna help in maintaining the scalp health by fighting against various scalp issues like dandruff, scalp itchiness etc it helps in removing impurities from

the hair which further help in preventing dandruff The nutrients in henna help repair hair damage while also nourishing your hair .it helps to seal the hair cuticle which results in hair locks that are more lustrous. this indeed helps improving hair elasticity

6. Neem



Packed with antioxidants that prevent hair loss, Neem oil is the nature's cure to all hair and scalp problems. Neem Oil has regenerative properties that support healthy cell division and stimulate hair follicle growth and function. It also helps in countering hair thinning caused by pollution, stress or medication. Therefore, regular application of the neem oil promotes thicker, stronger, and more luxurious hair growth.

Neem oil anti-inflammatory, antibiotic, and antioxidant properties prevent baldness as it treats scalp issues like scalp psoriasis, which can lead to permanent hair loss if left untreated.

Regular application of neem oil will result in lustrous and healthy hair. Neem oil contains several fatty acids – such as linoleic, oleic, stearic acids which nourish the scalp and hair. These fatty acids present in Neem oil revitalize and restore dry, under-nourished or rough hair. Neem oil is known as scalp savior for its immense healing (anti-inflammatory, antiseptic, antibacterial, anti-fungal, anti-viral) properties. It also regulates the secretion of sebum and normalizes dryness or oiliness of the scalp. It further has a cooling and soothing effect which helps in relaxation.

7. Aloe vera: -



Aloe vera

Calms an itchy scalp

Seborrheic dermatitis is the clinical term for the condition we call dandruff.

the symptoms of an itchy scalp and flaking skin under your hair can be treated with aloe vera. aloe vera cleanses the hair shaft efficiently, stripping off extra sebum, dandruff, and residue from other hair products. But aloe vera doesn't hurt your strands while it cleans. unlike other chemicals in hair products, aloe vera is gentle and preserves the integrity of your hair.

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

8.hibiscus flower



Hibiscus aids hair growth from dormant hair follicles helping cover bald patches, and also combats dryness prevent premature graying. thicken hair and add volume. treat dandruff. condition against frizz, dryness, and breakage and dandruff.Hibiscus flowers and leaves are rich in invigorating ingredients - flavonoids & amino acids. Flavonoids enhance blood circulation to your hair follicles, retransform dormant follicles into hair follicles, stimulating new hair growth

Hibiscus flowers can enhance your natural hair colour with a crimson tinge and add lustre to your hair without drying it out or causing your hair to turn brittle like regular chemical hair dyes.

That's not all! Hibiscus flowers have been used since centuries to promote hair growth and eliminate dandruff Hibiscus flowers are a perfect remedy for treating hair fall, premature hair greying and supporting the hair regrowth.

9. Rose oil:-



Rose oil, when used along with another carrier oil, is known to add lustre to hair. It also works effectively towards promoting hair growth and makes the scalp healthier with its antifungal properties. You could use it with tea tree oil to help with an itchy scalp. Rose oil moisturizes your hair strands leaving them soft and shiny. Few drops of the rose essential oil blended with a carrier oil such as coconut oil or Olive oil will intensely moisturize dry hair. ... Rose oil is also a good source of Vitamin C and lycopene which have antioxidant activity

Procedure for Preparation of Hair Oil

The procedure involves 2 parts.

Part 1- making decoction:-

Kashayam (decoction) is the water extract of the herbs. weigh all the herbs Amla, Bhringaraja(15),Triphala(15G), A. vera(10G), Henna(15), Neem(15G) and yashtimadhu (15g)put it in a wide mouth vessel. while adding keep around 2 g of each of these herbs separately. add remaining parts of herbs to the vessel. add water to it.

this mixture was put on medium flame and boiled till it reaches half quantity. Taking a wide-mouth big vessel helps avoid spilling of boiling Kashayam. After getting half quantity, filter the Kashayam.

Part 2- oil preparation:-

take 200 ml coconut oil in a big wide- mouth vessel. add prepared kashayam to it add chopped hibiscus flower and rose flower pieces into the vessel. Start heating the whole mixture on mild fire. Stir continuously.heat the mixture until the water from the previously prepared kashayam vaporizes, then filter the preparation then keep the preparation in aside to cool down.

Application of polyherbal hair oil-

Herbal hair oil is more preferred and is used in many ailments of hair. They promote hair growth, improve elegance of hair and prevent hair fall. Hair oil not only promotes hair growth they also provide necessary moisture to the scalp rendering in beautiful hair. Here are some herbal hair oils you can use to nourish your hair. Massage your scalp with these herbal oils regularly to get rich and lustrous hair. Heat the oil in a pan till it froths.

Sr.No	Ingredients	Quantity
1	Coconut oil	100ml
2	Bhringraj	15g
3	Yashtimadhu	15g
4	Triphala	15
5	Henna	15
6	Neem	15
7	Aloe vera	10
8	Hibiscus	10
9	Rose oil	10



Rose oil



Coconut oil



Bhringraj



Yashtiman



Polyherbal hair oil



Hibiscus



Triph



Aloe vera



Henna



1.Organoleptic Evaluation-

organoleptic property-Colour, odour, skin irritation was determined manually. Oil was applied on hand and exposed to sunlight for 5mins to check for any irritation over skin.

pH: pH of the herbal oil was detected using pH meter.

Viscosity: Viscosity was determined using Ostwald's viscometer.

Specific gravity:

Specific gravity of the prepared oil was determined using pycnometer or specific gravity bottle.

Refractive index:

It was determined using refractometer.

S.No	Parameters	Observati
1	Colour	Greenish br
2	Odour	Characteris
3	Specific gravity	1.24
4	Viscosity	0.036 centip
5	pH	6.6
6	Acid value	3.12
7	Saponification value	228.4.
8	Irritation test	No irritatio
9	Refractive index	1.568

Different Evaluation Parameters For Polyherbal Hair Oil

Evaluation of Herbal Hair Oil :-

The formulated herbal oil was evaluated for parameters like pH, acid value, saponification value, refractive index, viscosity and organoleptic parameters 14,15.

Acid value:

10ml of oil was added with 25 ml of ethanol and 25 ml of ether. Phenolphthalein was added as indicator and titrated with 0.1M potassium hydroxide solution,

$$\text{Acid value} = 5.61n/w$$

Where,

n= Number of ml of 0.1M KOH w= Weight of oil

Saponification value:

2g of oil was accurately weighed and transferred into a 250ml iodine flask. 25 ml of 0.5M alcoholic potassium hydroxide was added and boiled under reflux on a water bath for 30 mins.

Phenolphthalein was added as indicator and titrated against 0.5M HCl ('a' ml). Similarly blank was performed ('b' ml) without the sample.

Saponification Value: $28.05(b-a)/w$ Where, w= weight in grams of the solution.

Result :-

Polyherbal hair oil was prepared successfully and evaluated by pH, Viscosity, Specific gravity, refractive index, acid value and saponification value.

References:-

- 1)Kamal A. Physicochemical investigation of some herbal hair oil. Int J Pharm Sci Rev Res 2015;15:93-5.
- 2)Gautam S. Formulation and evaluation of herbal hair oil. Int J Chem Sci 2012;10:349-53.
- 3)Nema R. Preparation, evaluation and hair growth stimulating activity of herbal hair oil. J Chem Pharm Res 2009;1:261-7
- 4)Saraf S. Herbal hair oil cosmetics: Advancements and recent findings. World J Pharm Res 2014;3:3278-94
- 5)Kapoor V. Herbal cosmetics for skin and hair care. Indian J Nat Prod Resour 2005;4:306-14.