iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 13 **Issue:** V **Month of publication:** May 2025

DOI: https://doi.org/10.22214/ijraset.2025.71463

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 13 Issue V May 2025- Available at www.ijraset.com

A Research on Preparation and Evaluation of Herbal Hair Oil

Kapase Pratibha Lahanu[1], Kardule Vaishnavi Abasaheb[2], Prof. Wamane Vikas B[3]
[1, 2]*Student of Pratibhatai Pawar College of Pharmacy, Wadala Mahadev, Shrirampur*
[3]*Assistant Professor at Pratibhatai Pawar College Of Pharmacy, Wadala Mahadev, Shrirampur*

Abstract: ***Pharmacognosy is the branch of pharmacy that deals with herbs. This medicinal plants are utilized for preparing and manufacturing myriads of medicines. Beside this, herbs are used for beautification of body, preparation of cosmetics, flavouring and colouring agent. The main aim of present study involves preparation and evaluation of herbal hair oil by using fresh parts of various plants. The prepared herbal hair oilre subjected to phytochemicals screening, general characterization, physical, chemicals testing. The herbal oil were prepared according to Indian pharmacopoeia standard. The formulation consists of the herb such as bulb of Allium cepa, seeds of Trigonellafoenum-graecum and Nigella sativa, fruit of Phyllanthus emblica and Cucumis sativus, leaves of Brassica oleracea, rhizome of Zingiberofficinale. The evaluation of formulated herbal hair oil were carried out by various parameters such as organoleptic characters, phytochemicals screening, physical features as viscosity, pH, acid value, saponification value, refractive index, specific gravity. It is also tested for skin irritation on forearm. In addition, it is assessed for stability study. Above all the parameters where studied and found that all are in acceptable limit. In conclusion, the prepared herbal hair oil is utilized to promote hair growth, for supplementation of vitamins and minerals, preventing dandruff, split ends and alternative choice from hazardous chemicals.***

Keywords: Hair, Herbal oil, phytochemicals.

I. INTRODUCTION

Hair oil are hair care products. Hair care products are defined as the formulations which are used for the purpose of cleansing, modifying the hair texture, providing nourishment to the hair and maintaining the healthy appearance of hair. Hair oil are hair care formulation applied to the hair for the treatment of hair disorder such as baldness, greying of hair, hair fall, dry hair and also helps in providing nourishment to hair. Herbal cosmetics are high in demand due to increasing interest of mankind towards them also herbal cosmetics are more effective with negligible side effects and ingredients are easily available. Herbal hair oil is an essential part of herbal cosmetics. Herbal hair oil is more preferred and used in many aliments of hair. They not only promote hair growth but also provide necessary moisture to the scalp rendering in beautiful hair. Herbal oil which contain herbal drugs are known as hair tonic. Herbal hair oil provides a number of essential nutrient which are important to maintain the normal function of sebaceous gland and promote natural growth of hair. These are one of the most well recognized product for the treatment of hair. The use of hair oil is increasing everyday in line with the improvement in standard of living of people to give natural flavours and colours to hair oil the herbal essences and perfumes are added.

Different types of herbal hair oil available in market

- Amla hair oil
- Coconut hair oi
- Bhringraj hair oil
- Jasmine hair oil
- Brahmi hair oil
- Onion hair oil

©IJRASET: All Rights are Reserved

A. Benefits

We live in polluted world which is not hair friendly. That is when herbal hair oil comes into practice. Herbaloil is a blend of bhringraj, amla, hibiscus, rosemary, almond and other herbs.

Their benefits are as follow:

- It provides natural goodness to hair. Herbal oil contains vitamins and micro nutrients which acts as a food for hair.
- Hair oil helps in preventing hair loss and fames frizzy hair. Hair ends needs special care and herbal oil pampers them throughout their nourishment.
- Regular use of hair oil of hair oils cure problem of premature grey hair
- Keeps the scalp hydrated.
- Improves hair growth.
- Prevents dandruff.
- Offers shine glow.
- Stress relief.

II. LITERATURE SURVEY

1) Sanju, N., Arun, N., Roop, K.K. 2006, studied the Development and evaluation of polyherbal formulation for hair growth–promoting activity and revealed that hair growth initiation time was markedly reduced to one third on treatment with the prepared formulation compared with control animals.

2) Peter, E.M.J., et al., 2006, studied the stress-induced hair growth inhibition can serve as a highly instructive model for exploring the brain-skin connection and provides a unique experimental model for dissecting general principles of skin neuroendocrinology and neuroimmunology.

3) Sharma M, Banerjee PS. 2009. Prime object of present study is to develop and evaluate hair oil absolutely from herbal origin. The time required for complete hair growth was also considerably shortened. The result of treatment with formulated herbal hair oil was comparable with that, standard.

4) Rushton, D. H., 2002. The psychological impact of hair loss results in a measurably detrimental change in self-esteem and is associated with images of reduced worth.

5) Ajay Kumar Meena , Ajay Yadav, M M Rao., 2011. Herbal medicines have been used from the earliest times to the present day. The ethnobotanical pharmacology is as old as man himself. Herbal medicines exhibit a remarkable therapeutic diversity. is an Ayurvedic plant which is used in several traditional medicines to treat a variety of diseases.

III. OBJECTIVES

1) To formulate herbal hair oil containing natural ingredients.
2) To formulate hair oil free from harmful chemicals.
3) To protect scalp and prevent hair fall.
4) To stimulate and promote healthy hair growth.
5) To formulate herbal hair oil for hair growth that strength the hair follicles.
6) To develop a stable functional effective herbal hair oil by excluding synthetic chemical.
7) To study evaluation parameter of herbal hair oil.
8) Herbal hair oil hydrates the scalp while also reversing the effects of dry scalp and hair.
9) It is effective to be used on a variety of skin conditions.

IV. MATERIALS

- Aloe Vera
- Tulsi
- Hibiscus
- Shikakai
- Coconut oil
- Alma

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

- Methi
- Neem
- Onion

A. Aloe Vera

Table-1

1	Botanical name	Aloe Vera
2	Kingdom	Plantae
3	Order	Asparagales
4	Genus	Aloe
5	Species	A.vera

Table.no-4.1



Figure.no-4.1

Aloe vera is a stemleess or very short stemmed plant growing to 60-100 centimeters tall. Leaves are thick and fleshy, grey to green. Aloevera is a species of Aloe that is particularly known for its medicinal properties.Aloe species are distributed widely in the eastern European continents and are spread almost throughout the world.Aloe Verasubsumes proteolytic enzymes which repairs dead skin cells on the scalp. It also feat as a great conditioner and leaves your hair all smooth and shiny. It bolster hair growth, prevents itching on the scalp, reduces dandruff and conditions your hair.

Role:

- Strengthen and repair hair strands
- Deep cleans oily hair

B. Tulsi

1	Botanical name	Ocimumtenuifloru m
2	Kingdom	Plantae
3	Order	Lamiales
4	Family	Lamiaceae
5	Genus	Ocimum
6	Species	O.tenuiflorum

Table.no.4.2

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 13 Issue V May 2025- Available at www.ijraset.com



Fig.no.4.2

Tulsi is one of the most well recognized herb from the family Lamiaceae that is indigenous to the Indian subcontinent and has been used inside Ayurvedic medication over 3000 years. Holy Basil is an erect, many branched sub shrub 30- 60 cm tall having hairly stem. Leaves are of green or purple colour. The plant of tulsi has many medicinal properties. Leaves of tulsi are a nerve tonic a nerve tonic and also sharpen memory. Tulsi is a cogent remedy for hair loss. It is prepensed as an essential ingredient in herbal hair loss treatment. The herb works by strengthening the hair roots, thereby curbing hair fall, prevent bacterial and fungal infections.

Role

- Hair loss treatment
- Strengthening the hair roots

C. Hibiscus

1	Botanical name	Rosa-sinensis
2	Kingdom	Plantae
3	Order	Malvales
4	Family	Malavaceae
5	Genus	Hibiscus

Table.no.4.3



Fig.no.4.3 Hibiscus

The leaves are alternate, ovate to lanceolate, frequently with a toothed or lobed margin. The flowers are largeconspicuous, trumptet-shaped with five or more petals. This plant is extensively cultivated as an ornamental plant in tropical and subtropical region.This plant is commonly found throughout the tropics and is found as a house plant throughout the world. Hibiscus flowers are used to clout premature graying of hairs, prevent hair loss and spilt ends.

©IJRASET: All Rights are Reserved

Role

- Stops hair loss
- Prevent premature graying
- Thicken hair and add volume

D. Shikakai

1	Botanical name	Senegaliarugata
2	Kingdom	Plantae
3	Order	Fabales
4	Family	Fabaceae
5	Genus	Senegalia
6	Species	S.rugata

Table.no.4.4



Fig.no.4.4 Shikakai

Shikakai is a woody climber, shrub upto 5 metres tall. Leaves are bipinnate. Shikakai has a naturally mild pHthat gently cleans the hair without stripping it of natural oil. The regions having dry hot weather like South India is best suited for these trees. The extract from the bark, leaves, of shikakai is used as hair cleansing agent. Shikakai is traditionally used in shampoo preparations for the purpose of hair growth.shikakai fights in contrast to dandruff and anticipate lice.

Role

- Makes hair soft and shiny
- Heals scalp and prevents the agony of the dry scalp
- Boosts hair growth

E. Coconut oil

1	Botanical name	Cocos nucifera
2	Kingdom	Plantae
3	Family	Arecaceae
4	Order	Arecales
5	Genus	Cocos
6	Species	C.nucifera

Table.no.4.5

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |



Fig.no.4.5 Coconut Oil

Coconut oil is derived from milk of the coconut palm fruit. Coconut oil is used as a meals oil, and is used in industrial applications for cosmetics and detergent production. Coconut oil nourishes the scalp and proffer shine to the hairs.

Role

- Masks hair
- Moisturizes hair
- Seal hair

F. Amla

1	Botanical name	Phyllanthus embica
2	Kingdom	Plantae
3	Order	Malpighiales
4	Family	Phyllanthaceae
5	Genus	Phyllanthus
6	Species	P.emblicca

Table.no4.6



Fig.no.4.6Amla

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

Phyllanthus emblica is an important medicinal plant in Indian traditional system of medicine.[13] The tree is of 1-8 meter in height. The leaves are simple and intently set alongside branchlets. The flowers are of greenish yellow colour. The fruit is nearly round in shape and having hard appearance.

Role

- Condition your scalp
- Minimize greys
- Reduce dandruff
- Promote healthy hair growth

G. Methi

1	Botanical name	Trigonella foenum- graecum
2	Kingdom	Plantae
3	Family	Fabaceae
4	Genus	Trigonella
5	Species	T.foenum-graecum

Table.no.4.7



Fig.no.4.7 Methi

Methi curb hair fall and strengthens your hair from root to tip. Fenugreek seeds- seeds are frequently used as a natural home remedy for thinning hair and other related conditions, such as dandruff or a dry, itchy scalp. Rich in folic acid, Vitamin A, Vitamin K and Vitamin C, fenugreek seeds have been used as herbal supplements and in DIY hair treatment for a long time. They are also rich in minerals like potassium, calcium and iron - making them an excellent at-home solution for hair fall.

Role:

- Fight dandruff
- Reduce hair fall
- Adds Shine to hair
- Prevents premature hair graying.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 13 Issue V May 2025- Available at www.ijraset.com

H. Neem

1	Botanical name	Azadirachta indica
2	Kingdom	Plantae
3	Order	Sapindales
4	Family	Meliaceae
5	Genus	Azadirachta
6	Species	A.indica

Table.no.4.8



Fig.no.4.8 Neem

Neem tree are found commonly in India, Africa and America. Due to having medicinal properties, it has been used in ayurvedic medicine from 4000 years. It is a fast growing tree and can reach a height upto 15-20 metres. The Sanskrit name of neem is Arista. US National Academy of Science recognized the importance of neem tree, published a report in 1992 entitled Neem - a tree for solving global problems. Leaves, bark, and gum are the non woody product of 13458 neem tree and have various uses. They have antifungal, antibacterial, insecticidal and other biological activities.

Role

- Cure scalp problems
- Makes lustrous and healthy hair
- Promotes thicker, stronger hair growth and Prevents premature graying

I. Onion

1	Botanical name	Allium cepa
2	Kingdom	Plantae
3	Order	Asparagales
4	Family	Amaryllidaceae
5	Genus	Allium
6	Species	A.cepa

Table.no.4.9

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 13 Issue V May 2025- Available at www.ijraset.com



Fig.no.4.9 Onion

The onion is also known as the bulb onion or common onion, is a vegetable that is most widely cultivated species of genus Allium. The onion plant has been grown and selectively bred in cultivation for at the least 7000 years. Modern varieties grow to a height of 15-45 cm. The leaves are yellowish to bluish green. They are hollow, cylindrical with one flattened side. Onion has been valued as a food and a medicine plant since ancient times.

Role

- Treats dandruff
- Inhibits hair thinning
- Fights scalp infection

V. ROLE OF HERBS IN HERBAL HAIR OIL

Sr. no	Ingredients	Importance
1	Coconut oil	Moisturizes dry hair
2	Tulsi	Antibacterial
3	Hibiscus	Controls premature graying
4	Shikakai	Anti dandruff Jasmine Conditioning agent, providesgood odour
5	Methi	Hair growth
6	Aloe Vera	Boosting scalp health

Table.no.5.1

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

VI. METHODOLOGY

A. *Formulation Of Herbal Hair Oil*

Sr. no	Ingredients	Quantity
1	Aloe Vera	4gm
2	Tulsi	2gm
3	Hibiscus	5gm
4	Shikakai	5gm
5	Coconut oil	100ml
6	Amla	10gm
7	Methi	1.25gm
8	Neem	10gm
9	Onion	25gm

Table.no.6.1

Procedure

- Preparation of herbal hair oil.
- Different ingredients used in the formulation of herbal oil are presented in Table.
- Precisely all the dried and fresh herbs such as Tulsi, Hibiscus, Shikakai , Aloe Vera, Methi, Coconut oil, Amla, Neem and Onion were weighed and grinded in the mixture and mixed in 60% of almond oil.
- The above content was boiled for 15 min.
- and was filtered through muslin cloth.
- To the filtrate 25% coconut oil was added to make up the volume (100 mL)
- Finally small amount of flavoring agent was added to the oil and it was placed in amber colored bottle .

Fig.no.6.1



Fig.no.6.2



B. *Organoleptic Test*

- Color- Yellowish brown
- Odour - Aromatic
- Grittiness -Smooth

C. *Evaluation Parameter*

- Sensitivity test- Non sensitive

Sensitivity test is an analysis to determine the effect of changes in individual input parameters on the results of a given model or calculation method.

- Irritation test -Non irritant

The in-vitro skin irritation test is a laboratory test that helps in determining whether a product has the potential to cause skin irritation when used by the consumer

- Viscosity – 0.961 Poise

Viscosity For liquids with viscosities which vary with flow conditions, an instrument called a rheometer is used. Thus, a rheometer can be considered as a special type of viscometer.

- pH -6.4
- Acid value- 4.7

VII. RESULT AND DISCUSSION

Herbal Hair Oil prepared successfully.

1) Sensitivity test- Non sensitive
2) Irritation test -Non irritant
3) Viscosity- 0.961 poise
4) pH -6.4
5) Acid value- 4.7

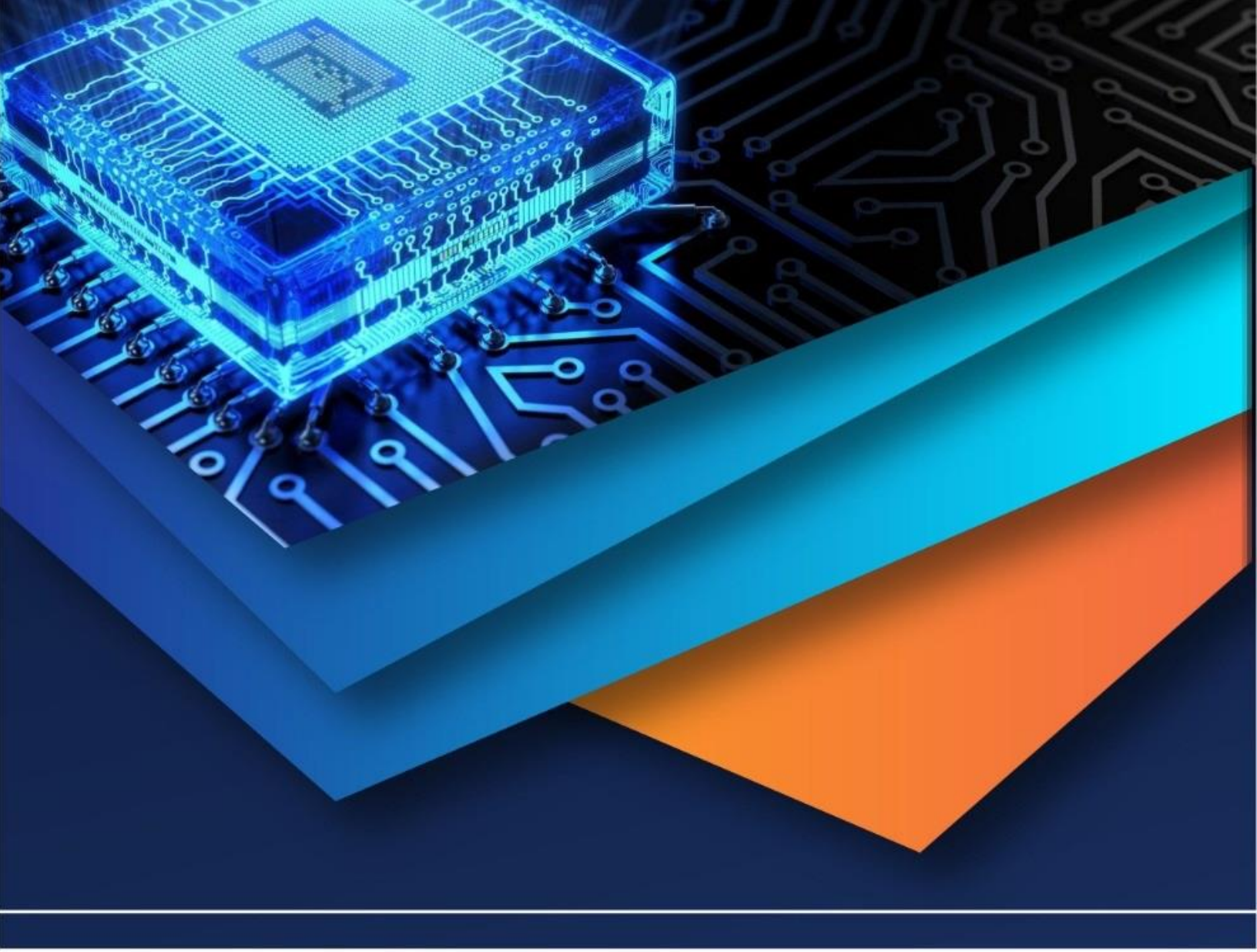
VIII. CONCLUSION AND OUTCOMES

Overall, herbal oils that are formulated provide a lot of nutritious food. Hair values such as vitamins, minerals, and essential oils. Finished products are within the limits. In conclusion, oil useful to prevent hair from damage and loss caused by pollution and dull hair. And provide alternative sources from hazardous chemicals. At last it can be concluded that, this herbal hair oil formulation has significant quality.

REFERENCES

[1] Sanju, N., Arun, N., Roop, K.K. 2006. Cosmetic Technology. 2nd Edition, 379-382.
[2] Joshi, A.A., Dyawarkonda, P.M. 2017. Formulation and evaluation of polyherbal hair oil. InternationalJournal of Green Pharmacy, 11 (1): S135.
[3] Banerjee, P.S., Sharma, M., Nema, R.K. 2009. Preparation, evaluation and hair growth stimulating activity of herbal hair oil. Journal of Chemical and Pharmaceutical Research, 1(1): 261-267.
[4] T.Usha Kiran Reddy, S. Rajesh, G.Sindhu, B.Aruna, Herbs Used in Formulating Poly-herbal Hair Oil- A Review, Indo American Journal Of Pharmaceutical Sciences ISSN:- 2349-7750
[5] R.R Shah, S.A. Mohite, Preparation and evaluation of polyherbal hair oil- an effective cosmetic, AsianJournal of Pharmaceutical Research, ISSN: 2231- 5691
[6] X. Fatima Grace, S. Rahul Raj, S.Shanmughanathan, D. Chamundeeshwari, Preparation And EvaluationOf Polyherbal Hair Oil, ISSN: 2394-2789
[7] Jain PK, Joshi H, Dass DJ, Drug that Causes Hair Loss and Promotes Hair Growth - A Review, International Journal of Research in Pharmaceutical and Biomedical Sciences, 2012; 3(4):1476-82
[8] Journal of Pharmacoconosy and Phytochemistry 2018; 7(3)
[9] Rathi V., Rathi J.C., Tamizharasi S. what's more, Pathak A.K. Plants utilized for hair development advancement: A review. Phcog Fire up. 2(3):165-167,2008
[10] Banerjee, P.S., Sharma, M., Nema, R.K. 2009. Readiness, assessment and hair development animating action of natural hair oil. Diary of Compound and Drug Exploration, 1(1):261-267
[11] K. D. Mali, R. M. Shroff, S. D. Chaudhari, S. S. Bacchav –Detailing AND Assessment OF AYURVEDIC Home grown OIL.
[12] Sapna Gautam, Sumeet Dwivedi, Kushagra Dubey and Hemant Joshi –Detailing AND Assessment OF Home grown HAIR OIL.
[13] Roy, R. K., Thakur, M., Dixit, V. K., Improvement and Assessment of polyherbal detailing for hair development advancing activity,Jain PK, Joshi H, Dass DJ, Medication that Causes Balding and Advances Hair Development - A Review, International Diary of Exploration in Drug and Biomedical Sciences, 2012;3(4):1476-82.
[14] Gottumukkala VR, Annamalai T, T Mukhopadhyay T. Phytochemical examination and hair development concentrate son the rhizomes of Nardo stachysjata.mansi D.C.Pharmacog Mag 2011; 26:146-50.2.
[15] Thorat RM, Jadhav VM, Kadam VJ. Improvement and assessment of polyherbal definitions for hair development advancing movement. Global J Pharma Tech Res. 1(4): 2009;1251-1254.[30].
[16] Thorat R, Jadhav V, Kadam V, Sathe N, Save A, Ghorpade V. Assessment of home grown hair oil in diminishing hair fall in human volunteers. Worldwide J Drug Res Devlp-online.2009;6.
[17] Saraf S. Herbal hair oil cosmetics: Advancements and recent findings. World J Pharm Res 2014;3:3278-94
[18] Dwivedi S. Formulation and evaluation of herbal hair oil. Int J Chem Sci 2012;10:349-53.

[19] Nema R. Preparation, evaluation and hair growth stimulating activity of herbal hair oil. J Chem Pharm Res 2009;1:261-7.
[20] Gautam S. Fomulation and evaluation of herbal hair oil. Int J Chem Sci 2012;10:349-53.
[21] Kamal A. Physicochemical investigation of some herbal hair oil. Int J Pharm Sci Rev Res 2015;15:93-5.
[22] Dixit V.K., Adhirajan N. what's more, Gowri C. Improvement and assessment of home grown definitions for hair growth. Indian Medications. 38(11): 559-563,2001.
[23] 13. Purwal, L., Gupta, S. B. N. and Pande, M.S. Development and Evaluation of Herba Formulations for hair growth, E- Journal of Chemisrty, Jan 2008, Vol-5, NO-1, 34-38.
[24] Rathi, V., Rathi, J. C., Tamizharasia, S. and Pathakb, A. K., Plants used for hair growth promotion : A Review, Pharmacognosy Reviews, Jan – Jun 2008, Vol-2, Issue – 3,185-187.
[25] Roy, R. K., Thakur, M., Dixit, V. K., Development and Evaluation of polyherbal formulation for hair growth- promoting activity, Journal of Cosmetic Dermatology, Nov-2006,6, 108-112.



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)