



A REVIEW ARTICLE ON: FORMULATION AND EVALUATION OF FENUGREEK HAIR OIL

Mr.Prathmesh.K.Dangare *, Prof.Vikram.Pansare, Dr.Amol.N Khedkar, Bhagyashri R Shinde, Prasad M.Wagh, Rohit.S.Chavan

Department of Pharmaceutical Science, Saikrupa Institute of Pharmacy, Ghargaon, Tal-Shrigonda, Dist-Ahmednagar, Maharashtra, India
413728

ABSTRACT

Bacterial skin infections are the most common among people who require significant attention to care and maintain healthy skin. Some plant extracts contain antiseptics and activity. The study showed that the tested paper soaps can have antimicrobial properties and can promote the treatment and management of skin infections Caused by bacteria, if done with a very suitable plant materials targeted and packaged for specific causative organisms together with the corresponding instructions for use and storage. This is especially important for people who handle food or work in the medical field, but it is also a practice important to the public This study was conducted to find out the factors affecting the performance of Karachi Stock Exchange (KSE). using two asset pricing models, the classic capital asset pricing model and the arbitrage pricing theory model. To test the CAPM Market returns and macroeconomic variables are used to test the APT. Macroeconomic variables include inflation, oil prices, interest and exchange rate.

Keywords

fenugreek hair oil, hair oil Herbal preparation.

INTRODUCTION ^(2,4)

Fenugreek (*Trigonella foenum-graecum* L) is an annual diploid species, popularly known as "methi" which belongs to the sub-family "Papilionaceae" from the family "Fabaceae". It is the indigenous culture of the neighboring countries On the eastern shore of the Mediterranean Sea and extended to Central Asia. Fenugreek leaves are an ancient spice used to flavor various foods. The leaves have a bitter taste, but added treat your taste buds to the recipe. In addition to dried leaves, green leaves and the seeds are also often used in cooking. Yellow amber seeds are added making pickles, vegetables and spice mixes like sambar powder. Fenugreek seeds is available in both powdered and powdered form. To reduce them, the seeds are roasted bitterness and enhances the aromatic taste. The herb is also sold as a powder or dried leaves can be bought and in powder form. India is the largest producer of fenugreek in the world, but thanks to a large domestic production consumption does not account for much of the world trade in fenugreek. The harvest was recommended for arid and semi-arid regions of Asia, Africa and Latin America. a plant has been traditionally used in both Indian Ayurvedic medicine and traditional Tibetan medicine and Chinese medicine for several centuries. Modern studies have also proven this Fenugreek seeds and leaves are useful for several ailments, including successfully reduces blood sugar and cholesterol in both animals and humans in experimental trials. Cereal has the potential to act as a miracle drug in the treatment of disease diabetic, microbial and cancer diseases. Therefore, the crop is in high international demand related pharmaceutical, nutritional and health food industries. Known as a Fenugreek has been widely used in industry.

ORIGIN,DISTRIBUTION AND PRODUCTION OF FENUGRRK⁽⁴⁾

The fenugreek plant is a traditional spice plant that has been cultivated centuries across the Indian subcontinent. In addition to South Asia, the crop is also grown there in some parts of North Africa, Middle East, Mediterranean Europe, China, Southeast (SE).Asia, Australia, USA, Argentina and Canada. The use of fenugreek stems from six thousand years ago. Through the findings, archaeologists believe that this spice was used as such as early as 4000 BC when remains of that herb were found at Tell Halal in Iraq. fenugreek it was considered medicinal and was used for this purpose by the ancient Egyptians. The Greek physician Hippocrates used it as a sedative herb. Other ancient Greeks used Fenugreek to treat infections. The ancient Romans used it to treat fever and respiratory problems and intestinal problems. They also used it to heal wounds. Today the world is India the most prominent producer of fenugreek, followed by Nepal, Pakistan, Bangladesh and the Mediterranean region and Argentina. Fenugreek is an ancient and versatile crop in many geographical areas latitudes Fenugreek species have been identified on five continents in Asia, Africa, Europe and Australia; grew mainly in North America, West and South Asia, Australia, Russia, Mixed East, Northwest Africa. Potential areas for fenugreek production takes place in parts of Southeast Asia, Japan, Central Asia (Mongolia), greater Africa and in South America.

Fenugreek is also known as a global spice, grown in all major countries on continents (depending on soil and climatic conditions) in various parts of the world, including parts of the globe North Africa, Mediterranean Europe, Russia, Middle East, China, India, Pakistan, Iran,

Afghanistan, parts of the Far East and Southeast Asia, Australia, the United States, Canada and Argentina. India ever preserved and still has the largest harvest of fenugreek in the world.

Seed and fenugreek green leaves are used in food and medicine an old practice in human history. It was used to add flavor and color as well change the structure of the food material. Fenugreek seeds have medicinal properties as hypocholesterolemic, promoting lactation, antibacterial, gastric stimulants, anorexia, antidiabetic, galactagogue, hepatoprotective and anticancer. They are useful physiological effects, including antidiabetic and hypocholesterolemic effects of fenugreek mainly due to the natural ingredient of promising fibers nutritional value.

It is known for its fibers, gums, other chemical ingredients and volatile content. Fenugreek seeds have about 25% dietary fiber, which changes its structure food Today, due to its high concentration, it is used as a food stabilizer, glue and emulsifier fiber, protein and gum content.

HEALTH BENEFITS AND NUTRITIONAL INFORMATION ^(4,2)

Fenugreek (*Trigonella foenum graecum*) is an annual plant that includes Leguminosae family. It is famous for tasting non-human food. Seeds and greens The leaves of the lamb are used in food and medicine, which is ancient the practice of human history. It was used to add flavor and color as well change the structure of the food material. The seeds of lamblamora spice have medicinal properties properties such as hypocholesterolemic, promoting lactation, antibacterial, stomach stimulant, foranorexia, antidiabetic, galactagogue, hepatoprotective and cancer. These beneficial physiological effects, including the antidiabetic and hypocholesterolemic effects of fenugreek, are mainly due to its inherent fiber. an ingredient with promising nutritional value (Srinivasan, 2006). This is well known due to fiber, rubber, other chemical ingredients and volatile concentrations. Fibre Fenugreek seeds make up about 25%, which changes the texture of the food. Today it is used e.g food stabilizer, adhesive and emulsifier due to its high fiber, protein and gum content content It was found that fenugreek protein is more soluble at alkaline pH (Meghwal and Goswami, 2012). Fenugreek has a beneficial effect on digestion as well the ability to form food.

Its seed contains 45-60% carbohydrates, mainly mucilaginous fibers (galactomannans), 20-30% lysine- and tryptophan-rich proteins, 5-10% fatty oils(lipids), pyridine alkaloids mainly trigonelline (0.2-0.38%), choline (0.5%), gentanin and carpain, flavonoidsapigenin, luteolin, orientin, quercetin, vitexin and isovitexin, free amino acids such as 4-hydroxyisoleucine (0.09%), arginine, histidine and lysine, calcium, iron, saponins (0.6-1.7%), glycosides that produce steroidal saponogenins hydrolysis (diosgenin, jamogenin, tigogenin, neotigogenin), cholesterol and sitosterol, Vitamin A, vitamin B1, vitamin C and nicotinic acid. Nutritional value.

HISTORY OF FENUGREEK ⁽²⁾

The use of fenugreek dates back six thousand years then. Through discoveries, archaeologists believe in this spice used as early as 4000 BC as remains of this herb found in Tell Halal, Iraq. Fenugreek was considered medicinal and used by ancient people Egyptians because of it. They believed that fenugreek can heal burns and give birth. They used it too mummification The Greek physician Hippocrates used it as a calming herb. Other ancient Greeks used fenugreek as a name medicine against infections. The ancient Romans used it for treatment fever and respiratory and intestinal problems. They also used it helps wounds heal. During the First Jewish-Roman War Fenugreek was mixed with boiling oil. It was a mix used to prevent intruders from entering the city. Fenugreek is often served as a side dish during Rosh Hashana. Let's believe that eating fenugreek is a symbol that helps increase their blessings in the coming year. Today is India the leading producer of fenugreek in the world, followed by Nepal, Pakistan, Bangladesh, Mediterranean and Argentina.

PHYTOCHEMISTRY OF FENUGREEK ⁽³⁾

The seeds are a good source of calcium, minerals, iron, β -carotene and several vitamins such as vitamins A and D. It is a rich source of fiber. It consists free amino acids; 4-hydroxyisoleucine, lysine, histidine, and arginine (25.8%), protein (20-30%), moisture (11.76%), fat (6.53%), crude fiber (6.28%), ash content (3.26%) and energy (394.46 Kcal/100 g of seeds). Also fenugreek seeds contains lecithin, choline, minerals, B. complex, Phosphates and para-aminobenzoic acid (PABA). in in addition, the most important chemical compounds of fenugreek saponins, fenugreek, trigonelline, coumarin, scopoletin, phytic acid and nicotinic acid. In the Important Chemistry section component of fenugreek seeds, including steroid seeds Saponogenins, components of Diosgene, were found the oleaginous germ of fenugreek seeds. There are two arrow keys glycosides, F-cycle open diosgenin precursors with have also been described as hederaging glycosides. The the stem of the fenugreek plant, which contains alkaloids such as trigocoumarin, nicotinic acid, trimethylcoumarin and trigonelline They also contain fenugreek seeds 28% vegetable mucilage. The stem of the fenugreek plant contains yellow dye. Lambre seeds also contain 6- Fat 7% and carbohydrates 58%, of which about 25% is food fiber Fenugreek is also a rich source of iron, containing 33 mg/100 g of dry weight. It provides natural fiber and more nutrients needed by the human body.

Research Through Innovation

TABLE-1 SCIENTIFIC CLASSIFICATION OF FENUGREEK^(36,37)

Kingdom	Plantae
Order	Fabales
Clade	Rosids
Family	Fabaceae
Subfamily	Faboideae
Genus	Trigonella
Species	T.Foenum-graecum

MATERIAL AND METHODS

Collection of plant parts : For the training of fenugreek hair oil numerous plant substances have been gathered viz. Fenugreek seeds, Hibiscus, Curry leaves, Black Cumin, aloe vera, Castor oil and Coconut oil, etc.

FENUGREEK SEED⁽⁶⁾:

For lots of years, fenugreek has been utilized in opportunity and Chinese medication to deal with pores and skin situations and lots of different diseases (1Trusted Source).

It is likewise a not unusual place family spice and thickening agent and may be located in lots of products, inclusive of cleaning soap and shampoo.

Fenugreek seeds and powder also are used in lots of Indian dishes for his or her dietary profile and barely sweet, nutty taste.

**Fig.1 Fenugreek seed****Table-2 Taxonomical classification of fenugreek seed:**

Rank	Scientific name and common name
Kingdom	Plantae
Family	Fabaceae
Subfamily	Faboideae
Genus	Trigonella
Other name	Fenugreek seed trigonella
Biological name	Trigonella foenum-graecum
Uses	<ul style="list-style-type: none"> • Recover damaged hair • Fights dandruff • Controls scalp inflammation adds shine and soft texture. • Prevents premature greying.

HIBISCUS⁽⁶⁾

The genus Hibiscus includes both annual and perennial herbaceous plants, woody shrubs and small trees. Leaves are usually simple, oval or lanceolate, leaflets or toothed margin The flowers are usually large, showy and trumpet-shaped, with five or more petals. They are colored flowers vary from white to purple, red, pink and sometimes yellow. Petals are very broad 4-15 cm. The flowers have nectarines that consist of several closely packed glandular hairs and are usually placed near the sepals. The fruit is a capsule consisting of five dry lobes. It contains many seeds each of its lobes, which is then released during maturation when the capsule splits (Alarcon, 2007; Ames, 2013). Hibiscus plants are a source of ecological, aesthetic, culinary and medicinal benefits a set of values. Ecologically, large flowers provide nectar for large pollinators such as hummingbirds. Used by many insects these flowers as a food source. It is also known for its aesthetic values.

Fig.2 Hibiscus**Table-3 Taxonomical classification of hibiscus:**

Rank	Scientific name and common name
Kingdom	Plantae
Family	Malvaceae
Subfamily	Malvoideae
Order	Malvales
Species	H.Rosa-sinensis
Biological name	Hibiscus Rosa-sinensis
Other names	Hibiscus arnottii Geriff.Ex Mast. Hibiscus boryanus DC. Hibiscus cooperi auct.
Uses	Improves hair growth. Cures dandruff and itihness Prevents premature grying

**Fig.3 Black Cumin Seeds**

BLACK CUMIN SEEDS⁽⁶⁾ : Vegetation supports the balance of the environment and provides the oxygen necessary for life, it plays an important role in human nutrition and activities as an indispensable source of modern medicine. Plant-based foods meet the basic nutritional values requirements, keep the body healthy and protect against many diseases by boosting immune system In recent decades, the terms "nutrients" or "functional". foods have become popular among health conscious people due to their close association between a healthy diet and average life expectancy. These concepts also attracted the attention of nutritionists, nutritionists, food scientists, doctors and food and pharmaceutical industry.

Table-4 Taxonomical classification of cumin seed:

Rank	Scientific name and common name
Kingdom	Plantae
Clade	Tracheophytes
Family	Ranunculaceae
Genus	Nigella
Order	Ranunculales
Species	N.sativa
Other names	Nigella indica, Nigella cretica Mill, Nigella truncate Viv.

Biological name	Nigella sativa L
Uses	Hair growth and strength hair follicles. Improve overall health of your health.

CURRY LEAVES ⁽⁶⁾:



The roots of *Murraya koenigii* L. contain bioactive compounds such as murrayanol, murrayaetin, marmesin-1st-orutinoside. There are three monomeric and five binary carbazole alkaloids such as mucoenine-A, B and C and murrastifolin-F.bis-2-hydroxymethylcarbazole, bismannin, biquinone-A and bismurraquinone-A were also removed from the shell. It also contains mucolin, mucolidine, girinimbin and cenolin. Synonym of 1-methoxy-3-hydroxymethylcarbazole (Jain V et al., 2012). 9-carbetix-3-methylcarbazole and 9-formyl-3-methylcarbazole is a metabolite, 3-methylcarbazole showed weak cytotoxicity against melanoma B16 and adriamycin-resistant P388 and leukemia cell lines (Charabarty M, Nath A., 1997). Murrastifolin-F was isolated. 2-methoxy-3-methyl-9-H carbazole isolated from the root extract in the treatment of infections dermatophytes such as *Tinea* infections. **Fig.4 Curry Leaves**

Table-5 Taxonomical classification of curry leaves:

Rank	Scientific name and common name
Kingdom	Plantae
Family	Rutaceae
Clade	Tracheophytes
Genus	Murraya
Order	Sapindales
Species	M.Koenigii
Biological name	Murraya koenigii
Other name	Karivepallai, karivembu, karivepaku, kadiptta.
Uses	Help moisturize the scalp and remove the dead hair follicles. Preventing hair loss and thinning of hair.

Castor oil (6):



Castor oil is an important raw material and we are used to it produces more new bio-based chemicals and materials than anyone else other vegetable oils (Anjani, 2014). Previous use the production castor oil was mostly limited to the production of lamp oils, industrial lubricants and pharmaceuticals (Anjani, 2014). However, a understanding of chemical structure expanded its use and led to the production of more byproducts are useful to people. In medicine and other matters related to health castor oil has been widely used to treat many different ailments diseases due to its anti-inflammatory properties.

Fig.5 Castor Oil

Table-6 Taxonomical classification of castor oil :

Rank	Scientific name and comom name
Kingdom	Plantae
Order	Malpighiales
Subfamily	Acalyphoideae
Genus	Ricinus L.

Species	R.communis
Biological name	Ricinus communis L.
Other	Castor bean
uses	Hydrates and moisturizes dry scalp. Helps in hair fall control Promotes voluminous hair growth.



ALOE VERA⁽⁶⁾:The most important feature of the Aloe Vera plant is its high water content between 99% and 99.5%, while the remaining 0.5-1.0% are solids is said to contain over 200 different potentially active compounds, including vitamins, minerals, enzymes, simple and complex polysaccharides, phenolic compounds and organic substances acids. In structural studies Components of Aloe vera leaf parts was found to be 20-30% in plant bark. and mass 70-80% of the total leaf mass. Calculated by dry weight, it contains the peel and pulp 2.7% and 4.2% lipids and 6.3% and 7.3% proteins, respectively (Femenia et al., 1999). The percentages of soluble sugars (11.2% and 16.5%), mainly as glucose and ash percentage (13.5% and 15.4%) especially calcium, were relatively high in the peel and correspondingly also in the pulp.

Fig.6 Aloe Vera

Table-7 Taxonomical classification of aloe vera:

Rank	Scientific name and common name
Order	Asparagales
Family	Asphodelaceae
Subfamily	Asphodeloideae
Genus	Aloe
Clade	Tracheophytes
Kingdom	Plantae
Species	A.vera



Coconut oil: Coconut oil, or copra oil, is an edible oil extracted from the kernel or pulp from mature coconuts harvested from coconut trees. Coconut oil, also known as coconut butter, is a tropical oil that has many applications It is extracted from copra (derived from the Malayalam word andquot;beaver andquot; meaning desiccated coconut). Contains mainly coconut oil saturated fats and some unsaturated fats. Cold pressed coconut oil best for medium heat cooking and baking and recipe preparation where you want to give a delicate coconut flavor.

Fig.7 Coconut Oil

Table-8 Taxonomical classification of coconut oil :

Rank	Scientific name and common name
Kingdom	Plantae
Order	Arecales
Family	Areaceae
Subfamily	Arecoideae
Tribe	Cocoeae
Genus	Cocos
Species	C.nucifera

FORMULATION OF FENUGREEK HAIR OIL^(35,36) :

Various ingredients were used in the production vegetable hair oil is shown in the table:

- All dried herbs like fenugreek seeds, black Cumin, curry leaves, hibiscus, Tulsi were weighed and ground whip and mix with coconut oil.
- Now the contents were boiled for 15 minutes and filtered through a muslin cloth. For filtered coconut oil and castor oil is added to increase the volume (100 ml).

Table-9- Ingredients and Quantity:

Sr.no	Ingredients	Quantity (gm)
1	Fenugreek seed	20
2	Hibiscus	20
3	Curry leaves	18
4	Black cumin	20
5	Castor oil	30
6	Coconut oil	50

Process for formulation of fenugreek oil:

Weigh all ingredients



Fenugreek seeds added in castor oil and keep to soak in sunlight .



Grind and boil all the ingredients in coconut oil.



Filter all the ingredients and make up the volume with coconut oil.

Evaluation of fenugreek hair oil⁽⁴⁾:

The produced oil was subjected to physical and biological tests judicial decision Physical assessment

Physical assessment includes specific gravity and Viscosity

Specific gravity –

Take a volumetric bottle and wash it with distilled water dry in the oven with water for 15 minutes, cool, close with a cap and consider it (a). Now fill a bottle of the same specific gravity with the sample and cap it and reweigh (b). Determine the weight of the sample per milliliter weight loss (a-b)

Viscosity –

Viscosity was determined on oswal viscometer PH. **Sensitivity**

test –

The finished vegetable hair oil was apply 1 cm on the skin of the hands and leave in the sunlight for 4-5 min.

Result and Discussion :

Fenugreek hair oil is used for different types of hair care related problems. Oil was made from different species herbs .all herbs that have a special role composition as anti-dandruff, anti-bacterial, hair growth stimulant, it has all the properties that help growth and prevents graying of hair. Herbal hair oil not only moistened the green, but also provides many essential nutrients needed to maintain normal function sebaceous glands and promotes natural hair growth.

Conclusion:

Natural remedies are more acceptable in this belief they are safer and have fewer side effects than synthetic ones one The demand for herbal preparations is increasing on the world market. Hair oil is medically important treat hair related problems. different ingredients in herbal extracts that can help reduces hair loss and regrows hair. All of them the drugs not only show significant activity but are without possible side effects compared to synthetic ones medicines The oil nourishes the hair after applying itact as natural hair nourishment. To add tulsii, I leave it works as an anti-dandruff hair cream. Hibiscus helps hair softens the resulting healthy hair growth. Black cumin, which acts as a preventative graying of hair and curry leaves which reduce hair lose and repair damaged hair. Prepared vegetable hair oil was evaluated by an assessment test that shows satisfactory result. It was concluded that formulated vegetable hair oil with good hair nourishing properties.

Reference:

1. Pavan S,2021.Formulation and Evaluation of herbal hair oil,ijprajournal 6 (5): 1285-1299 .
2. Vairage Pragati, Sanap.A.S., and Dr.Prachi Udupurkar, 2023 FORMULATION & EVALUATION OF FENUGREEK HAIR OIL IJCRT | 11 (5): 2320-2882
3. Nasroallah Moradi kor *1 , Mohamad Bagher Didarshetaban2 , Hamid Reza Saeid Pour,2013 Fenugreek (Trigonella foenum-graecum L.) As a Valuable Medicinal Plant, ijbb. 1 (8) : 922-931
4. B.M mithal and R.N shah,Hand book of cosmetics, 1st edition, Vallabh prakashan, Delhi, 2000;141-142.
5. S.L Derore S.S Khadbadi, B.A Baviskar Pharmacognosy & Phytochemistry, a comprehensive approach,pharmamad pre unit of BSP book pvt.ltd printed on 2014; 619
6. fariha imtiaz, Muhammad islam, Hamid saeed, Bushra saleem, mariyam asghar, and zikria saleem impact on Trigonella foenum-graecum leaves on mice hair growth Vol.49, July 2017;1405-1412
7. Aftab ahmad, Asif hussain, Mohd Mujeeb, Shah alam khan, Abul kalam najmi, Nasir ali siddique, Zoheir A. damanhour, firoz anwar, A Review article of theraputic potential on Nigella sativa- A miracle, Vol.3(5), May 2013; 337-352
8. B.M Mithal and R.N shah, A Handbook of Cosmetics, 1st Edition, Vallabh Prakashan, Delhi(2000) pp.141-142
9. Saraf S.Herbal hair oil cosmetics Advancements and recent findings. World J Pharm Res 2014 3:3278-94
10. Indian pharmacopoeia, Government of india, Ministry of health family welfare, published by, The Controller of Publication, Edition, 1966;2
11. tsijournals Int.J.Chem.Sci:10(1),2012,349-353
12. jddt Diary of Medication Conveyance and Therapeutics.2019;9(1):68 73
13. Journal of Pharmacoconosy and Phytochemistry 2018; 7(3):3254-3256
14. Ansari S.H. what's more, Ali M. Hair care and home-grown medication. Indian J Nat Nudge. 13(1): 3-5,1997.
15. Rathi V., Rathi J.C., Tamizharasi S. what's more, Pathak A.K. Plants utilized for hair development advancement:2(3):165-167,2008
16. 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.
17. . Patni P., Varghese D., Balekar N. furthermore, Jain D.K. Detailing and assessment of home-grown hair oil for alopeciamanagement. Planta Indica. 2(3): 27-30, 2006.
18. Adhirajan N., Ravikumar T., Shanmugasundaram N. furthermore, Babu M. In vivo and in vitro assessment of hair growth capability of Hibiscus rosasinensis Linn Ethan pharm. 88: 235-239,2003
19. Sanju,N.,Arun,N.,Roop,K.K.2006.RestorativeInnovation.secondRelease,379-382.
20. Joshi,A.A.,Dyawarkonda,P.M.2017.Definitionandassessmentofpolyherbalhairoil.
21. Global Diary of Green Drug store, 11 (1):S135.
22. Bhatia, S.C. 2001. Fragrances, cleansers, cleansers and beauty care products. 639:641.
23. 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.
24. Mithal, B.M., Shah, R.N. 2000. A Hand Book of Beautifying agents. first Release,141- 142.
25. Singh, R. Indian Pharmacopeia. Legislature of India, Service of Wellbeing and Family Government assistance, Distributed by, The Regulator of Distribution, Release, Vol.II. 1996
26. Jain PK, Joshi H, Dass DJ, Medication that Causes Going bald and Promotes Hair 17. Growth – An Audit, Worldwide Diary of Research in Drug and Biomedical Sciences, 2012;3(4):1476-82.
27. Mithal B, Shah R., A Hand Book of Beautifying agents, first ed., New Delhi:Vallabh Prakashan; 2000, 141-142.
28. Bhatia SC., Fragrances, cleansers, cleansers and beauty care products, second ed.,New Delhi, CBS Distributers and wholesalers; 2001; 639,641
29. Kirtikar K.P., Basu B.D., Indian Therapeutic Plants, Vol. I, Global Book Merchants, Dehradun, 1995,768-769.
30. Shah C S, Qudry J S, A Course book of Pharmacognosy,11th Ed., B.S. Shah Prakashan, Ahmadabad, 1996;119
31. K. D. Mali, R. M. Shroff, S. D. Chaudhari, S. S. Bacchav – Detailing AND Assessment OF AYURVEDIC Home grown OIL.
32. KokateCK,PurohitAPandGokhaleSB,In;Phar macogonosy,nineteenthEd.,Nirali Prakashan,Pune,2002.

33. 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.
34. Sharquie KE and Al-Obaidi HK: Onion juice (*Allium cepa* L.), another skin treatment for alopecia areata. The Diary of dermatology 2002 Jun;29(6):343-6.
35. Patna P, Varghese D, Balekar N, et al. Definition and assessment of home grown hair oil for alopecia the executives. *Planta indica* 2006; 2:27-30.
36. Gottumukkala VR, Annamalai T, T Mukhopadhyay T. Phytochemical examination and hairdevelopmentconcentratesontherhizomes of *Nardostachys jatamansi* DC. *Pharmacog Mag* 2011; 26:146-50.2.
37. 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.
38. 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.
39. Ali, A. 2001. Macroeconomic variables as common pervasive risk factors and the empirical content of the Arbitrage Pricing Theory. *Journal of Empirical finance*, 5(3): 221–240.
40. Basu, S. 1997. The Investment Performance of Common Stocks in Relation to their Price to Earnings Ratio: A Test of the Efficient Markets Hypothesis. *Journal of Finance*, 33(3): 663-682.

