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Formulation and Evaluation of Herbal Anti - Dandruff Shampoo from Bhringraj leaf

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Abstract

Herbal shampoos are the cosmetic preparations that with the use of traditional ayurvedic herbs are meant for cleansing the hair and scalp just like the regular synthetic shampoo. The herbal shampoo was formulated by adding the extracts of *Aloe vera*, *Phyllanthus emblica*, *Acacia concinna*, *Withania somnifera*, *Aegle marmelos*. They are used for removal of oils, dandruff, dirt, environmental pollutions etc. Herbal shampoo is a type of cosmetic preparation that uses herbs from plants as an alternative to the synthetic shampoo available in the market. The herbal shampoo is important, as people nowadays prefer herbal products than chemical ones for they proved to enhance health. Evaluation of the organoleptic properties, physicochemical and performance test were carried out. The results indicated that this can be used as a potential alternative for cleaning and managing hair in a natural and effective way instead of synthetic source. The awareness and need for cosmetics with herbs are increasing day by day, primarily because it is believed that these products are safe and free from side effects. In this research, we use *Eclipta prostrata* as an active ingredient for hair growth activity.

Keywords: Herbal Shampoo, Natural & Healthy, Dandruff, *Aloe vera*, *Phyllanthus emblica*, *Acacia concinna*, *Sapindus mukorossi*, *Aegle marmelos*, *Withania somnifera*, Evaluation of shampoo.

Introduction

Hair is one of the external indicators of internal body circumstances. It is an important part of human body [1]. Derived from ectoderm and its caring appendages on the body. Associated with sebaceous glands, sweat glands. Hair care products

are the preparation which are meant for cleansing, modifying the texture, changing of the colour, providing nourishment to the hair and giving the healthy look to the hair [2]. Shampoo is labelled as a cosmetic preparation meant for washing hair of accumulated sebum, scalp debris and residue of hair preparing preparation.

Herbal shampoo is a beautifying preparation which uses herbs from plants and it is meant for washing of hair and scalp just like a systematic shampoo causes damaging effects on hairs, skin and eyes so community got attracted towards the herbal products, [2,3] due to negligible side effects and less shampoo with various herbs for multipurpose use by eliminating all traditionally incorporated synthetic ingredients[3]. This shampoo clears sebum, dirt, dandruff, helps hair growth, strengthens, and darkens hair. This herbal shampoo powder completes all these movements without affecting or harmful hair. The shampoo was prepared by taking the extracts of *Aegle marmelos*, *Aloe vera*, *Phyllanthus emblica*, *Acacia concinna*, *Withania somnifera*, *Sapindus mukorossi*. Bael, *Aegle marmelos* (L.) Corrêa, is one of the medicinally treasured tree classes [4] out of the 250,000 living terrestrial plant species on earth. Bael is also known as begal-quince, golden apple, and stone apple in India and a sacred tree in places anywhere Hindus survives. Bael trees are generally planted close temples dedicated to Lord Shiva and usually worshiped by

the devotees [5]. Bael is one of the greatest valued plants used in ayurvedic remedy by the Indian and other South Asian inhabitants in ancient history [4]. According to the historical records, bael is used as a medicinal and food item since 5000 B.C. [5] and known to human beings even when script the well-known Sanskrit classic-poem Ramayana [6]. Bael declared in the famous book Charaka Samhita, a comprehensive gathering of all the essential ayurvedic information, which recognized bael as a necessary item in ayurvedic medicine [6,7]. The tree is aromatic, and all the parts are curatively important. Fruits, leaves, bark, roots, and seeds are used in ayurvedic and folk medicine systems to treat various ailments Evaluation of organoleptic properties, physicochemical and managing hair in a natural and effective way instead of synthetic source[8]. The present work complete the successful research of herbal shampoo using natural constituent. All the ingredients used to formulate shampoo are safer and the physicochemical evaluation showed ideal result.



Bhringraj Plant illustration.

Classification of Shampoo-

A) Based on appearance-

-) Powder Shampoo
-) Liquid Shampoo
-) Lotion Shampoo
-) Cream Shampoo
-) Jelly Shampoo
-) Aerosol Shampoo
-) Specialized Shampoo

B) Based on origin-

-) Anti-dandruff shampoo
-) Therapeutic shampoo
-) Baby shampoo
-) Conditioning shampoo

Evaluation of shampoo comprises the quality control test including visual assessment, pH and density, viscosity .

Classification-

Kingdom- Plantae

Sub-kingdom- Viridiaeplantae

Class- Magnoliopsida

Division- Angiosperme

Family- asteraceae

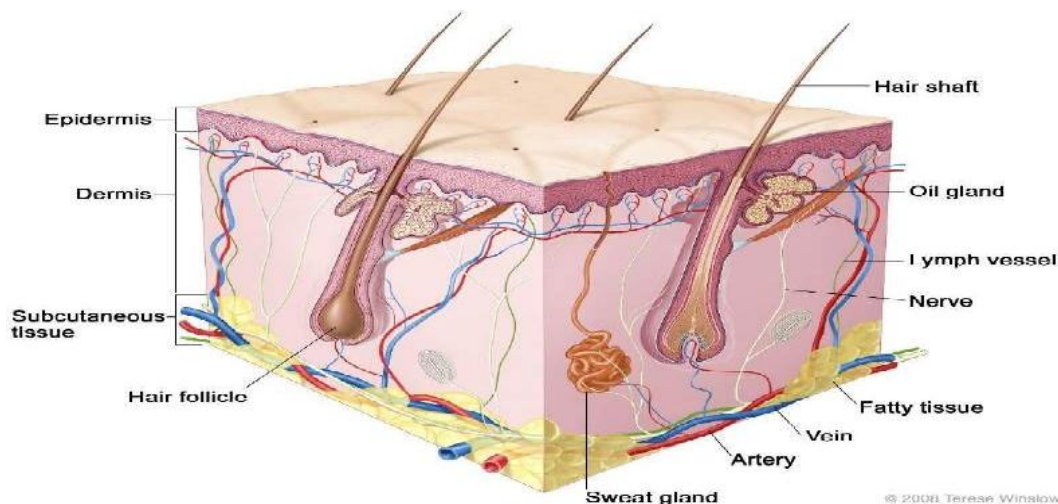
Vernacular Names-

-) Hindi - Bhangara, Bhangaraiya, Mochkand, Babri.
-) Bengali - Bheemraja, Kesuriya, Kesari, Kesuri, Kesuti.
-) Malyali - Kayyoni.
-) Gujrati - Bhangaro, Bhangro, Kalugranthi, Dodhak, Kalobhangro
-) Telugu - Guntakalagara, Guntagalagara
-) Tamil – Karisalankanni, Karisalanganni, Karisalai, kaikeshi.
-) Urdu – Bhang
-) Assam – Bhringraja
-) Sanskrit – Keshraj, Tekraja, Bhrunga, Markava, Bhangara
-) Marathi – Bhangara, Bhringiraja, Maka.
-) Punjabi – Bhangra
-) English – Trailing Eclipta.

Hair Anatomy-






Hair is the derivative of epidermis consist of two parts –Follicle and the hair shaft.




Each hair has a hair shaft and a hair root. The shaft is the visible part of the hair that sticks out of the skin. The hair root is in the skin and extends down to the deeper layers of the skin. To each hair follicle is attached to a little muscle (arrector pili) that can make the hair arise. Many nerves termination at the hair follicle too. Hair produces from hair follicles located within the fatty cover of the scalp.



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Formulation constituents for Bhringraj Shampoo:

1.	Bhringraj	<i>Eclipta prostrata</i>	Asteraceae	Promoting hair growth	
2.	Bael	<i>Aegle marmelos</i>	Rutaceae	Promoting hair growth	
3.	Shikakai	<i>Acacia concinna</i>	Leguminosae	Controlling hair fall and dandruff	
4.	Amla	<i>Emblica officinalis</i>	Euphorbiaceae	1. Condition your scalp and 2. Promote healthy hair growth.	
5.	Ashwagandha	<i>Withania somnifera</i>	Solanaceae	Promotes the production of melanin in your hair.	

6	Soap Nut	<i>Sapindus mukorossi</i>	Sapindaceae	antifungal and antibacterial properties make them an excellent treatment for hair fall	
7	Aloe vera	<i>Aloe barbadensis</i>	Liliaceae	Increase hair growth, balance the pH level	
8	Gelatin solution	pig skins, bovine hides and beef and porcine bones	Bovidae	Helps to smooth the hair cuticle, boost shine and reduce breakage	

Materials and Methods

A. Collection of Materials

Different plants parts were selected to study their hair caring property. All the above-mentioned plants parts were been purchased from the local shop named as *Dagdu teli*, at Nashik, Maharashtra. The collected parts were powdered for further use for formulation preparation by passing them through sieve no. 100.

Method of Shampoo preparation:

B. Preparation of Extract:

1. Bhringraj Extract:

Bhringraj leaves were dried completely into the sunlight for 07 days. Powdered the dried leaves

and kept in 70 % ethyl alcohol for further 07 days.

2. Bael Extract:

Bael fruit pulp was removed and 10 gm pulp was mixed with 20 ml water and boiled for 1 hr at 50-60 °C. Later on, the remaining solution was filtered through muslin cloth and dried into oven for 1 hr. Further diluted with 70% ethyl alcohol on boiled on water bath for 55-60° C up to 1 hr.

3. Shikakai Extract:

10 g of *Shikakai* powder boiled with 50 ml of water.

4. Amla Extract:

10 g of *Amla* powder in 50 ml of water and boil.

5. Ashwagandha Extract:

Dried *Ashwagandha* roots and leaf powder was suspended in 85% ethyl alcohol in a ratio of 1:30 and incubated at 85°C for 2 hrs in a reflux system.

6. Soap Nut Extract:

Weighed quantity of fruit of *Soap Nut* (100 gm) was dried in oven at 60°C for 1 hr. The seeds were separated from the fruit and ground into powder of 14 mesh size. A definite quantity of powder (10 g) was taken and boiled with 20 ml water with continuous stirring and filter. This filter was taken placed in hot air oven at 55- 60° C till completely dried.

7. Aloe vera Extract:

20 freshly peeled *Aloe vera* latex was taken with 10 % ethyl alcohol.

8. Gelatin Extract:

Take 10 % *Gelatin* solution and 1 ml lemon juice.

References

- [1]. Dr. K.R. Khandelwal, Dr. Vrunda Sethi, (2016), Nirali Prakashan, Advancement of knowledge, Published in Twenty-Sixth Edition.(1), 179-184.
- [2]. Dipesh .R. Karnavth, Pratiksha .S. Bhadane, Ritu .M. Khairnar, Shweta .S. Gavit, (2022), Research Journal of Pharmacology and Phytochemistry, Vol.14.(1), 18.26-18.29.
- [3]. P.P. Sharma, (2014), Formulation, Manufacturing & Quality Control, 5th Edition,(1), 327-350.
- [4]. R. Chanda, "Phytochemical and pharmacological activity of *Aegle marmelos* as a potential medicinal plant: an overview," The Internet Journal of Pharmacology, vol. 6, no. 1, p. 3, 2008.
- [5]. V. K. Singhal, A. Salwan, P. Kumar, and J. Kaur, "Phenology, pollination and breeding system of *Aegle marmelos* (Linn.) correa (Rutaceae) from India," New Forest, vol. 42, no. 1, pp. 85–100, 2011.
- [6]. S. K. Roy and R. N. Sing, "Bael fruit (*Aegle marmelos*): a potential fruit for processing," Economic Botany, vol. 33, no. 2, pp. 203–212, 1979.
- [7]. Wani, S; Khot, N and Buchake VV (2014), "Preparation & evaluation of antidandruff polyherbal powder shampoo", Pharmacophore (An International Research Journal) Vol. 5(1), 77-84.
- [8]. Patil, SS; Mane, YJ and Mohite, SK (2015), "Formulation and evaluation of herbal shampoo powder", International Journal of Advanced Research, Vol. 3(3), 939-946.
- [9]. E.G.Thomssen, (2006), Modern Cosmetic.(1), 331-348.
- [10]. Marvins, Balsam, Edward Sagarin, (2008), Cosmetic, Science and Technology, second edition, Vol.2.(1), 73-116.
- [11]. Marc Paye, Andreo Barel Howard 1, Mai Bach, (2008), Special Indian Edition, Handbook of Cosmetic, Science and Technology.(1), 505-527.
- [12]. Martin .M. Rieger, (2000), Harry's Cosmeticology, 8th Edition.(1), 601-634.
- [13]. H. Panda, (1999), Herbal cosmetics.(1), 281-310.
- [14]. Lavis Appell, (1994), The Formulation & Preparation of Cosmetic, Fragrances and Flavours, Revised edition, reprinted (1997).(1), 172-196.
- [15]. Engineers India, (1999), Research institute, Technology of Herbal Cosmetics and Toiletries Products with Formulae. 60-62.
- [16]. Swarnlata Saraf, Shailendra Saraf, (2014), Cosmetics, Practical Manual Third edition. 138-141.
- [17]. Hilda Butler, (2007), Doucher's perfumes Cosmetics and Soap 10th edition. 289-306.
- [18]. Fatima Grace X, Rahul Raj S, Sowmya KV, Reshma I, Shanmuganathan S (2015), "Development and evaluation of a polyherbal shampoo", Adv J Pharm Life SciRes, Vol. 3(1),13-16.

- [19]. M.A.1 YENGAR, (2015), Study of Crude Drugs 15th edition, Revised & Enlarged
- [20]. Sharma, RM; Shah, K and Patel J, (2011), "Evaluation of prepared herbal shampoo formulations and to compare formulated shampoo with marketed shampoos" International Journal of Pharmacy and Pharmaceutical Sciences, Vol. 3(4),402-405.

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