



FORMULATION AND EVALUATION OF POLYHERBAL MULTIPUPOSE HAIR MASK

¹Mrs. Mrinali A. Kale,²Mrs. Rupali A. Chavan,

¹Lecturer,

¹Mrs. Mrinali A. Kale Pharmacognosy Department,

¹IVM'S Indrayani Institute of Pharmacy, Talegaon Dabhade, Pune, India

Abstract: Hair plays a vital role in defining one's personality as it is an essential component of our physical appearance. The hair care industry is experiencing significant growth, and consumers are constantly seeking improved alternatives for their daily routines. Within the hair care category, there are various segments dedicated to different purposes. Currently, these segments are expanding even further to include organic, natural origin, and regular options. One of the finest products to provide consumers with improved hair and scalp health is natural hair masks that can be used for both rinse off and leave-on purposes. This product is rich in natural ingredients, such as Red rice, Neem, bottle gourd, Fenugreek seeds, Amla, Onion Juice & Coconut water.

Index Terms - Herbal, Natural, Hair care, Red rice, Neem, Onion Juice

I. INTRODUCTION

An increasing number of individuals are prioritizing their health and gravitating towards natural or herbal cosmetic products that are safe for the skin and free from any potential irritants. Hair care has become essential in today's times, and people are concerned about the potential harm caused by chemical products. There is a strong inclination among individuals to opt for natural homemade remedies to address various hair conditions.

Hair masks are effective in maintaining the moisture of our hair, making them particularly beneficial for dry or damaged hair. They can also contribute to enhancing scalp health and strengthening our hair. These hair masks can be easily prepared at home, presenting no disadvantages, and offering significant usefulness.

By using some organic product this hair mask very helpful and very handy and easy to apply hair cosmetic product for nourish your hairs. Hair masks penetrate deeply into your hair strands and roots, providing nourishment that accelerates and enhances the desired outcomes. Hair masks deliver quicker and more noticeable improvements to your hair's health compared to shampoo. They promote increased strength, shine, and reduced vulnerability to breakage and split ends.

II. MATERIAL & METHOD

Sr. No.	Ingredient Name	Quantity
1.	Red Rice	20gm
2.	Neem	20gm
3.	Bottle guard	20gm
4.	Fenugreek seeds	15gm
5.	Amla	15gm
6.	Onion Juice	q.s
7.	Coconut water	q.s

IMPORTANCE OF INGREDIENTS:

1. Red Rice

Red rice is found in both the northern and southern regions of India, thanks to the favorable geographical conditions and nutrient-rich soil. *Oryza sativa* L., a rice species, possesses abundant quantities of acids, phenols, anthocyanin pigments, phytochemicals, and other compounds. Red rice is particularly rich in essential chemicals such as zinc, iron, calcium, and phosphorus. Additionally, rice contains oryzanol, which contributes to hair nourishment and is utilized in various cosmetic products. [1]

2. Neem

Neem (*Azadirachta indica*) has beneficial effects on scalp cleansing, effectively eliminating clogged pores and promoting hair growth. Its regenerative properties are particularly valuable in addressing dandruff concerns. Neem offers preservative and healing properties, making it suitable for addressing various hair issues. Neem leaves can be used as a rinse to effectively combat dandruff. Neem is commonly incorporated into our hair care rituals, as per Ayurveda, alongside Amla, Lisa, and Acacia. It is regarded as an essential herb for nurturing healthy curls, stimulating hair growth, reducing hair loss, and enhancing hair volume. [2]

3. Bottle guard

Bottle gourd has high calcium and iron, about 12.5 and 11.25mg, respectively. The presence of vitamin B in *Lagenaria siceraria* provides a soothing and cooling effect on the scalp, effectively reducing discoloration and frizziness in natural hair. Consistent consumption of bottle gourd can also help manage and control hair loss. [3]

4. Fenugreek seeds

To utilize fenugreek (*Trigonella foenum-graecum*) seeds, they are soaked for 30 minutes before application. Methi, commonly known as fenugreek, is not only a valuable ingredient in regional cuisine but also offers numerous benefits when incorporated into home remedies, ranging from aiding digestion to reducing hair loss. Hair loss is a prevalent issue in today's world. Methi is abundant in folic acid, vitamin A, vitamin K, and vitamin C. Additionally, it aids in hair softening and restoring shine. [4,5,6,7]

5. Amla

Amla, scientifically known as *Phyllanthus Emblica*, is renowned for being an abundant source of vitamin C, offering a multitude of health benefits. Powdered amla is commonly referred to as gooseberry. Amla serves as a vital component in hair tonics, effectively stimulating hair growth and enhancing hair pigmentation. By strengthening and nourishing the hair roots, it contributes to improved color and radiance. [8]

6. Onion Juice

The vegetable known as onion (*Allium cepa* L., derived from the Latin word "cepa" meaning "onion") is commonly referred to as bulb onion or common onion. It holds the distinction of being the most extensively cultivated vegetable of the *Allium* family, with garlic and Chinese onions being its closest relatives. [9] Onion helps to boost Bone Density, Reduce hair fall, Treat damage hair, Remove clogged hair follicles, Scalp restoration. [10]

7. Coconut Water

Coconut water (*Cocos nucifera*) stimulates the scalp, promoting cell growth and maintaining strong hair. It enhances blood circulation and, enriched with numerous vitamins, minerals, and amino acids, strengthens hair strands, ultimately contributing to thicker hair growth. [11]

METHOD OF PREPARATION:

1. Preparation of Herbal Powder: Dry form ingredients were grinded to make fine powder
2. Weighing: All the powders for hair mask preparation were accurately weighed individually by using digital balance.
3. Mixing: All fine ingredients were mixed thoroughly by mixer to form a homogenous fine powder.
4. Sieving: This fine powder was passed through sieve no. 80, to get the sufficient quantity of fine powder.
5. Add bottle guard and Soaked fenugreek seeds paste
6. Vehicle addition: Add Onion juice and Coconut water as a vehicle until it makes a smooth paste.
7. Storage: By using Air tight container formulation was packed & stored.

III. EVALUATION OF FORMULATION:

Organoleptic Evaluation

By utilizing sensory organs like eyes or nose, the examination of the formulation is performed under this evaluation, and it includes macroscopic characteristics of the drug or product, such as colour, odour, texture and appearance.

Sr.No.	Test	Observation
1.	Colour	Greenish Brown
2.	Odour	Characteristic
3.	Texture	Fine
4.	Appearance	Coarse Powder

Physicochemical Evaluation

Sr.No.	Test	Observation
1.	pH	6.8
2.	LOD(loss of drying)	1.22% w/w
3.	Total Ash Value	2.9% w/w

Phytochemical Evaluation

Several tests were conducted to determine the phytoconstituents contained in the products and their impact on the body. Each plant demonstrates specific phytochemical properties that contribute to various beneficial effects.

Sr. No.	Test	Observation
1.	Molisch's Test	Presence of carbohydrate
2.	Fehling's Test	Presence of Carbohydrate
3.	Biurete test	Presence of proteins
4.	Mayer's Test	Presence of alkaloids
5.	Hager's Test	Presence of alkaloids
6.	Volatile oil Test	Presence of volatile oil
7.	Foam Test	Presence of saponin

Evaluation of hair mask

Sr.No.	Test	Observation
1.	Sensitivity test	Non sensitive
2.	Irritation test	Non irritant
3.	Grittiness	smooth
4.	Viscosity	6970cP
5.	Specific gravity	1.26-1.3

IV. RESULT AND CONCLUSION:

This study presents a number of plant drugs with proven efficacy in hair care preparation. This research emphasizes the successful utilization of herbal products in hair care formulations. It investigates the combination of traditional and contemporary knowledge to develop a medicinal hair mask while ensuring certain standards regarding its quality and purity. Moreover, the hair mask is designed to maintain stability at room temperature, ensuring that all ingredients contribute to its effectiveness and safety over its shelf life. In the present day, natural remedies are increasingly being utilized worldwide due to their safety and minimal side effects in comparison to chemical-based products. Herbal formulations can be easily prepared at home using readily available ingredients.

V. REFERENCES:

1. Mr. Saurabh R. Jadhav, et al. Preparation and Evaluation of hair mask using Red rice, International Journal of Pharmaceutical Research and Applications, ISSN: 2249-7781, Volume 6, Issue 3 May - June 2021, pp: 610-618.
2. Miss. Mrunal T. Wakale et al., A Review on Herbal Anti Dandruff Hair Mask, IJARST, ISSN (Online) 2581-9429, Volume 2, Issue 2, June 2022
3. Mohd D. Ahmad et al., Nutritional and Medicinal Potential of Bottle Gourd (*Lagenaria siceraria*): A Mini Review, Egyptian Journal of Botany, Vol. 62, No.1, pp. - (2022)
4. "The Pharmacopea of India", New Delhi, 1996; 947.
5. Kokate C.K., Purohit A.P. and Gokhale S.B. "Pharmacognosy", Nirali Prakashan, Pune, Sixteenth edition, 2001; 242-253.
6. Wallis T.E. "Text book of pharmacognosy" CBS Publishers & Distributors, 5th editions, 82=89.
7. Manikar and Jolly (2000), "International Journals of Cosmetic Sciences", 22(5): 385-391.

8. Ankita. P. Jadhav et.al., Formulation and Evaluation of Herbal Anti Dandruff Hair Mask, IJSRST, ISSN: 2395-6011, Volume9, Issue 3, 556-564
9. Rangari, VD (2008), “Pharmacognosy and Phytochemistry”, Volume 1&2, 2nd Edition, 278-2, 330, 212.
10. Subrahmanyam, CVS (2000), “Text Book of Physical Pharamcy”, Vallabh Prakashan, 2nd Ed, 221-224
11. Alexia prades et.al., Coconut water preservation and processing: a review, EDP Sciences, Fruits, 2012, vol. 67, p. 157–171

