

Formulation and Evaluation of Herbal Shampoo From Coriander

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Abstract: *The main goal of this research is to develop and assess a herbal shampoo, focusing on its physicochemical properties, safety, efficacy, and quality. Herbal shampoos serve as natural hair care products that eliminate grease, dirt, and dandruff while promoting hair growth, strength, and thickness. Additionally, they enhance the softness, smoothness, and shine of hair. Conventional cosmetic shampoos contain various synthetic substances that can lead to side effects such as hair loss, increased dandruff, itching, pain, nausea, and headaches. Therefore, there is an increasing effort to create herbal shampoos that do not have these adverse effects. This study aims to eliminate harmful synthetic ingredients from shampoo formulations and substitute them with safe, natural alternatives.*

Keywords: Herbal shampoo, antioxidant, antidandruff, coriander

I. INTRODUCTION

Shampoo is a preparation of surfactant (i.e. surfactant) in a suitable form (liquid, solid or powder) that, when used under conditions, removes oil, dirt and grime. The skin breaks and does not affect the user

It is probably the most commonly used cosmetic product for hair and scalp cleaning (Ishi, 1997). Shampoo formulations often include other beneficial additives like hair care agents, oils, and medicinal components. Recently, there has been increased consumer interest in herbal shampoos due to their perceived effectiveness, safety, and lack of side effects (Monika and Jolly, 2001). While synthetic surfactants in shampoos are effective for lathering and cleansing, they can cause issues such as hair dryness, hair loss, and scalp and eye irritation with regular use (Potluri et al., 2013).

Herbal formulas are seen as a viable alternative, although creating cosmetics with natural ingredients poses its own challenges (Shinde et al., 2013). Numerous medicinal plants are known to benefit hair and are commonly incorporated into shampoos (Firehouses, 2009). These botanical ingredients can be used in various forms, including powder, crude, purified extracts, or derivatives (Pooja et al., 2011). Despite the difficulties, natural products can provide excellent foaming and detergency. This study aims to develop a pure shampoo using plant materials from India and the Gulf, particularly Oman.

Traditionally, the pericarp of *Sapindus mukorossi* (Soapnut or reetha), fruits of *Phyllanthus emblica* (Amla), and dried pods of *Acacia concinna* (Shikakai) have been used in Indian folklore for hair washing (Kapoor, 2005). Reetha and Shikakai produce rich lather when mixed with water due to their high saponin content, and they also have beneficial effects on the

skin and other organs (Khushboo et al., 2010). Amla is rich in vitamin C and is used in hair preparations for its antidandruff properties, hair growth promotion, and hair strengthening (Srivastu, 2012). The *Ziziphus spina-christi* tree, known as Sidr in Arabic, is native to the Middle East, including Oman, and its leaves are traditionally used to wash, darken, and lengthen hair (Ali and Kadhim, 2011). Sidr leaves contain saponin glycosides that help remove excess sebum without causing adverse reactions (Mahran et al., 1996). Additionally, saponins possess antibacterial and antifungal properties, making them valuable in cosmetic applications (Chen et al., 2010).

The objective of this study is to formulate a herbal shampoo and evaluate its physicochemical properties, comparing it with marketed synthetic and herbal shampoos to identify a safe and effective cosmetic product.

Need of herbal shampoo:-

- 1) The skin on our scalp produces a greasy substance called sebum, which protects the hair by coating it.
- 2) While sebum gives hair a healthy shine, excessive secretion can make hair appear dirty.

3) Herbal shampoos designed for hair growth aim to strengthen hair follicles by delivering essential oils and nourishment to the roots and follicles.

Ideal properties of herbal shampoo:-

- 1) It should effectively cleanse the hair of loose corneal cells, excess sebum, other fatty substances, dust, and dirt.
- 2) It should generate sufficient foam to satisfy the user's psychological needs.
- 3) It should rinse out easily with water.
- 4) It should leave the hair with minimal flyaways, improved manageability, and a glossy, non-dry finish.
- 5) It should provide the hair with a pleasant scent.
- 6) It should not cause any skin or eye irritation.
- 7) It should not cause the hands to become chapped and rough.

Risk factor:-

Age: Dandruff often starts in young adulthood and can persist through middle age. However, it can also affect older adults and, for some individuals, can be a lifelong issue.

Gender: Dandruff is more common in males than in females.

Certain illnesses: Conditions that affect the nervous system, such as Parkinson's disease, as well as having HIV or a weakened immune system, can increase the risk of dandruff.

II. MATERIALS AND METHODS

The following ingredients are used for hair treatment one materials and methods this research article is about the formulation and evaluation of herbal shampoo using natural ingredients . Coriander, dried gooseberry, soapnuts , shikakai, hibiscus flower , aloe vera, water

1) Coriander:-

Coriander seeds can help to prevent hair loss by invigorating the roots of the hair follicles. Regular massage of your scalp with hair oil containing powdered coriander seeds can help in hair regrowth. Coriander is a super-herb in every sense of the word..

Biological name :- Coriandrum sativum

Uses :-

- 1) Coriander seeds can help prevent hair loss.
- 2) They promote increased hair growth



2) Dried gooseberry:-

This product nourishes hair, promotes growth, maintains natural oils, controls loss, moisturizes with fatty acids, alleviates dryness and dandruff, strengthens roots with antioxidants, and conditions for shine and flexibility.

Biological name:- Phyllanthus emblica

Uses:-

- 1) Dried gooseberry effectively treats dandruff.
- 2) It promotes increased hair growth.
- 3) It enhances natural shine in hair.

3) Soapnuts:-

It acts as a cleansing agent, maintaining a gentle scalp while eliminating microorganisms that cause infections. Additionally, it nourishes hair, keeping it healthy, smooth, and shiny, while restoring its natural texture. This product is also effective in combating dandruff.

Biological name :-sapindus mukorossi

Uses :-

- 1) It serves as a foaming agent.
- 2) It effectively removes oily secretions from the skin and can be utilized as a cleanser for both skin and hair.
- 3) It promotes improved hair growth.

4) Shikakai:-

It safeguards the hair's natural oils, enhancing shine and health. This product also softens and fortifies the hair, reducing loss and boosting volume. Additionally, it effectively combats dandruff and prevents scalp infections.

Biological name:- Acacia concinna

Uses :-

- 1) Enhances hair shine.
- 2) Purifies the scalp.

5) Aloe vera:-

It aids in thickening hair and provides nourishment to the hair strands.

Biological name:- Aloe barbadensis miller

Uses:-

- 1) Strengthens and conditions natural hair.
- 2) Promotes hair growth.
- 3) Smoothes natural curls.
- 4) Locks in moisture.
- 5) Reduces frizziness.
- 6) Detangles hair.

Formulation table:-

INGREDIENT	QUANTITY
Coriander	15gm
Dried gooseberry	5gm
Soapnuts	10gm
Shikakai	15gm
Hibiscus flower	5gm
Aloe vera	10gm
Water	qs

Procedure :-

Step 1: Soak soap nuts, dried gooseberry, and dried shikakai in water for 12 hours to soften them. Soap nuts create lather for washing hair, gooseberry promotes scalp health, and shikakai fights dandruff.

Step 2: Boil the soaked mixture until large bubbles form, which indicates it's boiling. The water may become muddy.

Step 3: Remove the soap nuts from the pot, discard the outer shells, and return the soft centers to the mixture.

Step 4: Boil aloe vera and hibiscus flowers in water until it boils. These ingredients add moisture and promote hair growth.

Step 5: Combine both mixtures and blend them into a pulp, but not a smooth juice.

Step 6: Strain the blended mixture into a glass jar using a fine mesh strainer to remove any solid particles.

Step 7: Store the shampoo in a sealed glass jar to keep it fresh and use it as a natural alternative in the shower.

Evaluation parameter :-

A) Organoleptic analysis :-

1. The formulation's color was assessed against a white background for consistency and accuracy.
2. The formulation's scent was evaluated through olfactory examination.

B) Physiochemical analysis:-

1) visual assessment:-

The prepared formulation underwent evaluation for color, clarity, odor, and foam content.



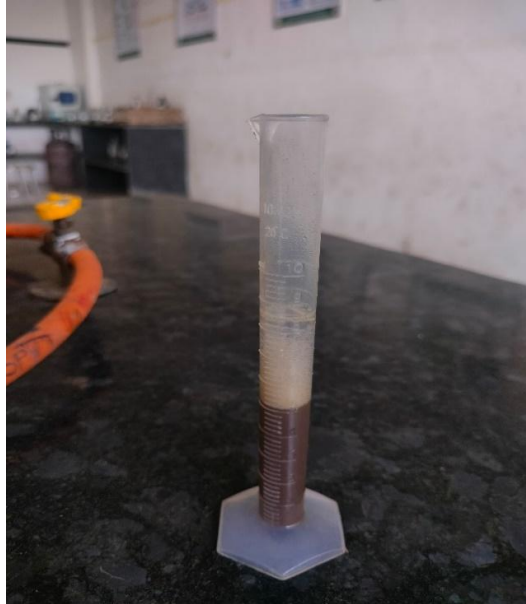
2) pH determination:-

The pH of the prepared herbal shampoo in distilled water (10% v/v) was determined using a pH analyzer at room temperature



3) Ability to foam :-

5 ml of shampoo was added to a test tube and covered with a hand, then shaken 10 times. After 1 minute of shaking, the total volume of foam was measured, and only the foam volume was recorded.



III. RESULT

Herbal shampoos are renowned for their natural approach to hair care, providing a variety of benefits including cleansing, nourishing, and enhancing hair health. They contribute to conditioning the hair and stimulating hair growth. To assess the effectiveness and quality of herbal shampoos, various parameters can be examined, such as sensitivity tests, viscosity, and pH levels. These shampoos often contain a blend of natural botanical extracts.

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