



Plant-Based Powders in Dry Shampoo: A Sustainable Solution for Hair Cleansing

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Abstract

Shampoo is one of the beautify agent. A natural herbal dry shampoo offers a chemical-free substitute to traditional dry shampoos, utilizing plant-based ingredients to absorb excess oil, refresh hair, and support scalp health. This produce category leverages natural herbs, such as amla, neem, shikakai, brahim, heena, onion powder, rose petal, methi, and aloe vera, to offer soothing, nourishing, and cleansing benefits. Unlike conventional dry shampoos, which often hold synthetic chemicals like sulfates, parabens and artificial fragrances, herbal formula aim to diminish irritation and environmental impact, making them suitable for sensitive scalps and eco-conscious patrons. Herbal dry shampoos effort by absorbing sebum, adding volume, and refreshing hair without of require for water. They are particularly valued for their non-greasy finish, gentle scent, and suitability for a variety of hair types, including colour-treated hair. The growing command for natural beauty products underscores the consequence of herbal dry shampoos in offering a safe, sustainable, and effective resolution for maintaining clean, fresh hair between washes. This review evaluates the key benefits, ingredients, and performance of herbal dry shampoo highlighting their effectiveness in current hair care routines.

Keywords: Natural Ingredients; Herbal Hair Care; Dry Shampoo; Eco-Friendly Beauty; Chemical Free and Oil Absorption

Introduction

Herbal shampoos contain plant-based ingredients in the form of botanical extracts, essential oils, and other organic compounds instead of their conventional counterparts. This trend in herbal hair care dates back to early civilizations where different countries and their cultures stumbled upon the worth of naturally produced ingredients in the maintenance of hair health and beauty [1].

Hairs are the fundamental part of human, hair need special care to keep it shiny, smooth, difficult to broken and easy to combed. People make use of herbal products since ancient era for cleaning, beautifying, managing hair.

Nowadays many synthetic shampoos are present in the current market. Whereas, mainly surfactants are added for cleansing and foaming properties, but the continuous use of it and as the time has passed synthetic agent have taken a large share but today people are getting aware of their harmful effects on hair, skin and eyes. However herbal shampoo promoted due to natural origin which is safer, increases consumer request and negligible side.

SHAMPOO- Shampoo is a hair care invention, characteristically in the form of a viscous liquid, that is used for cleaning hair. Less generally, shampoo is accessible in solid bar format. Shampoo is used by smearing it to wet hair, massaging the product into the scalp, and then rinsing it out [2].

Hair is one of the external barometers of internal body conditions. Shampooing is the widespread form of hair treatment. Various shampoo formulations are associated with hair quality, hair care habit and specific problems and their treatments. Shampoos are of various following types such as [3]:

- Herbal Powder Shampoo
- Herbal Liquid Shampoo
- Herbal Lotion Shampoo
- Herbal Cream Shampoo
- Herbal Jelly Shampoo
- Herbal Aerosol Shampoo
- Herbal Specialized Shampoo
- Herbal Conditioning Shampoo
- Herbal Anti-dandruff Shampoo
- Herbal Baby Shampoo
- Herbal Two Layer Shampoo

Therefore, the present review has been designed to prepare a summary of formation and evaluation of natural herbal dry shampoo which not only beautify the hair but also protect from eye irritation, scalp irritation, loss of hair, and dryness of hair, also used as antibacterial, antimicrobial and antioxidant agents. Which creates a natural, chemical free alternatives to commercial dry shampoo, effectively absorbs excess oil and impurities from hair without water which promotes healthy hair and scalp also allows go up to 2 to 4 days without wetting our hair.

Specific Benefits of using herbal natural dry shampoo

- Reduce dandruff and itchiness.
- Soothe scalp irritations.
- Enhance hair texture and manageability.
- Reduce frizz and add volume.
- Protect hair colour and vibrancy.
- Biodegradable and eco-friendly.
- Cost friendly less expensive.
- More effective and shine.
- Pleasant fragrance to the hair.
- Leave hair non dry, soft, lustrous with better manageability.
- Use as anti-bacterial, antimicrobial and antioxidant.
- No any side effects or no any cause of irritation to skin or eye.

Material and Method

Plant material

Naturally, herbal dry shampoo can be formulated or can be prepared from natural ingredients with Amla, Neem, Shikakai, Brahim, Heena, Onion powder, Rose petal, Methi and Aloe vera powder.

Ingredients can be used of herbal dry shampoo

Amla [4]

- Botanical name- *Phyllanthus emblica*
- Common name- Indian gooseberry
- Family- euphorbiaceae
- Parts used- dried ripe fruits
- Major bioactive compounds- Ascorbic acid (vitamin C)
- Uses- hair darkening, hair growth promoter



Figure 1: Amla.

Neem [5]

- Botanical name- *Azadirachta indica*
- Common name- Neem tree
- Family- Meliaceae
- Parts used- dried leaves
- Major bioactive compounds- Azadirachtin, essential oil
- Uses- Anti dandruff agent and bacterial agent



Figure 2: Neem.

Shikakai [6]

- Botanical name- *Acacia concinna*
- Common name- Satala
- Family- Fabaceae
- Parts used- dried fruit pods, leaves, bark
- Major bioactive compounds- Saponin, Vitamin A, C, D, E
- Uses- Foaming agents



Figure 3: Shikakai.

Brahmi [7]

- Botanical name- *Bacopa monnieri*, *Centlla asiatica*
- Common name- Indian Pennywort
- Family- Umbelliferae
- Parts used- dried leaves
- Major bioactive compounds- Bacosides, minerals
- Uses- Supports health of hair



Figure 4: Brahmi.

Heena [8]

- Botanical name- *Lawsonia Inermis*
- Common name- Mehendi
- Family- Lythraceae
- Parts used- dried leaves
- Major bioactive compounds- Lawsonia
- Uses- Hair Conditioner

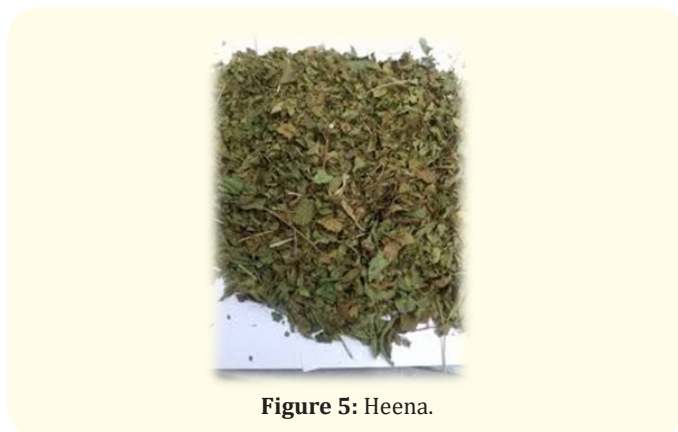


Figure 5: Heena.

Onion powder [9]

- Botanical name- *Allium ascalonicum*
- Common name- Bulb onion
- Family- Alliaceae
- Parts used- derived plant
- Major bioactive compounds- Quercetin
- Uses- Antiallergic, Antimicrobial, Antioxidant



Figure 6: Onion powder.

Rose petal [10]

- Botanical name- *Rose Spp.*
- Common name- Rose
- Family- Rosaceae
- Parts used- Rose petal
- Major bioactive compounds- Essential oil
- Uses- Fragrance



Figure 7: Rose petal.

Methi [11]

- Botanical name- *Trigonella foenum-graecum*
- Common name- Fenugreek
- Family- Leguminosae
- Parts used- dried seeds
- Major bioactive compounds- Protein and Amino acid
- Uses- Nutrition



Figure 8: Methi.

Aloe vera powder [12]

- Botanical name- *Aloe Barbadensis*
- Common name- Aloe Vera
- Family- Asphodelaceae
- Parts used- dried leaves
- Major bioactive compounds- Polysaccharides, Saponins, Amino acid, Enzymes, Lignin
- Uses- Conditioning and Moisturizing effect



Figure 9: Aloe vera powder.

Preparation of herbal dry shampoo

- **Mix the dry ingredients:** Combine the Onion and Aloe Vera powder and other herbal parts of powders in a bowl.
- **Insert the essential oils:** Add a small amount of drop of essential oils to the mixture and stir well.
- **Sift the assortment:** Sift the assortment through a fine-mesh sieve to ensure it is well combined and evenly textured.

- **Store up the dry shampoo:** Store the dry shampoo in an air-tight bottle at room temperature.

How it can be use

This herbal dry shampoo is tender and can be customized with diverse herbs and essential oils to suits your hair type and scent preferences.

- Apply a small aggregate of the herbal dry shampoo to the roots of your hair utilizing your fingers or a makeup brush.
- Kindly massage into your scalp, focusing on oilier areas.
- Let it sit for a few minutes to absorb excess oil and then brush through to dispense the powder uniformly and remove excess product.

Evaluation of herbal dry shampoo

Evaluating herbal dry shampoo involves allowing for several factors to consider its efficiency, safety, protection, and overall performance. This formulation can be evaluated for product performance which includes.

Experimental

Formulation of dry herbal shampoo, involves (herbs) - Amla, Neem, Shikakai, Brahim, Heena, Onion powder, Rose petal, Methi, Aloe Vera powder.

Evaluating parameters

- PH
- Wash ability
- Solubility
- Skin irritation test
- Ash value
- Acid insoluble ash
- Stability study
- Nature of hair after washes.

Physio chemical evaluation

- Organoleptic characters
- General powder characteristic
- Particle size
- Angle of repose
- Bulk density
- Tap density
- Compressibility.

Conclusion

Currently, our new age group facing lot of problems like hair fall, itching in scalp, irritation, dandruff problems. Synthetic Shampoos tends to amplify more problems such as eye, skin irritation, we probably putting ourselves at the risk of cancer and other disease. So as to evaluate commercial shampoo, herbal shampoo is forever a superior option because they have negligible side effects.

A high-quality herbal dry shampoo should offer oil absorption, volume, and fragrance while maintaining scalp health and using safe, natural ingredients. Whether you prioritize eco-friendliness, effectiveness, or generally hair care, herbal dry shampoos can make available a appropriate alternative to traditional chemical-based options. Always regard as your hair type, scalp sensitivity, and element preferences when selecting the right product.

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