

Review on-Polyherbal Hair Gel

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ABSTRACT:

Hair is an important part of the body appeal and its look is a health indicator. Accordingly, recent advances in hair science and hair care technologies have been reported in literature claiming innovations and strategies for hair treatments and cosmetic products.¹ Herbal Cosmetics are formulated, using various permissible cosmetic ingredients to form the base in which one or more herbal ingredients are used to provide defined cosmetic benefits only.² Herbal extracts are used for time being for preparation of gel and extracts of polyherbal have a great interest in increasing its efficacy.³ Continuous usage of synthetic compounds containing dye or other agents on natural hair causes many side effects such as skin irritation, erythema, loss or damage of hair and skin cancer, to overcome this problem polyherbal hair formulation concept arises.⁴ A more radical approach in reducing the synthetic ingredient is by incorporating natural extract whose functionality is comparable with their synthetic ingredient.⁵

KEYWORDS: Hair care, Herbal cosmetics, Polyherbal, Hair gel

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I. INTRODUCTION:

Recently considerable attention has been paid to utilize eco-friendly and bio- friendly plant based products for the prevention and cure of different human diseases.⁶ Natural products in the form of herbal formulations are available on the market and are used as hair tonic, hair growth promoter, hair conditioner, hair-cleansing agent, antidandruff agents, as well as for the treatment of alopecia and lice infection.⁷ Preparations used in hair care are available in the form of creams, dyes, pomades, powders, tonics, etc. Hence, the knowledge from Ayurveda and herbals will be enhanced by information on the evidence-basis of these plants. Drugs from the herb resources are quickly accessible, cheap, safe, efficient and rarely have side effects. The need for herb based natural products is vastly increasing due to the lack of side effects and natural goodness.⁸

HAIR GEL:

Hair gels are the products used for hardening the hair in particular hairstyle. Herbal hair gels have less side effects it can promote hair growth and prevent hair loss. Marketed products contain silicon and chloride which leads to hair damage, so herbal hair gels are preferable. Hair gels helps to maintain the moisture in your hair which is necessary for better growth. Hair gel gives necessary nutrients to your hair.⁹

Gels are semisolid system in which a liquid phase is constrained within a three-dimensional polymeric matrix consisting of natural or synthetic gum in which a high degree of physical or chemical cross linking has been introduced. Gels are relatively newer class of dosage form created by entrapment of larger amount of aqueous hydro alcoholic liquids in a network of colloidal solid particles which may consist of inorganic substance such as aluminium salts or organic polymers of natural or synthetic origins.¹⁰ Gels containing 0.5% and 1% of carbopol 934 formed a very thin gel that liquefied within 4 to 5 hours of preparation.¹¹

HERBAL HAIR GEL

The herbal remedies for hair related disorders novel concept have emerged to develop herbal formulations to replace the adverse synthetic era. Plenty of herbal agents are reported to have remarkable beneficial effect on hair with respect to its growth, cleansing or dyeing such as onion extract, lemongrass extract, coconut oil, amla extract etc. Referring to pharmacological works in the last five years, there were various herbs reported to show hair growth promoting activities¹².

Advantages of Herbal gel¹³

- Safer and gentler on skin.
- Environment friendly.

- Free from unhealthy synthetic irritants and chemicals.
- Nourishes and promotes healthy hair.

Currently, there are already dozens of herbs / plants from South Asia that indicated to have anti-hair loss effects, such as *Emblica officinalis* (Euphorbiaceae), *Centella asiatica* (Umbelliferae), *Eclipta alba* Linn. (Asteraceae), *Cocos nucifera* Linn (Palmae), *Eucalyptus globulus* (Myrtaceae), *Lawsonia inermis* (Lythraceae), *Azadirachta indica* (Meliaceae), *Hibiscus rosa sinensis* (Malvaceae), *Nardostachys jatamansi* (Valerianaceae), *Trigonella foenum graecum* (Leguminoseae), *Juniperus virginiana*, *Rosmarinus officinale* Linn.(Labiatae), *Acacia concinna* (Mimosaceae), *Prunus dulcis* (Rosaceae), *Ginkgo biloba* (Ginkgoaceae), *Santalum album* (Santalaceae), *Sesamum indicum* (Pedaliaceae), *Cassia angustifolia* (Leguminoseae), *Citrus limonum* (Rutaceae), *Rosa damascena* (Rosaceae), *Salvia officinalis* Linn.(Labiatae), *Arnica montana* (Apiaceae), *Simmondsia chinensis* (Simmondiaceae), *Trigonella foenum-graecum* L (Fabaceae), and *Ocimum sanctum* (Labiatae)¹.

Plant Material Used in Hair Gel

Almond belonging to family Rosaceae. The plant part used for preparation of oil is fruit. Almond oil rich in vitamin E used in the treatment of hair loss and strengthen the hairs¹⁴.



Fig. No. 1 Almond

Aloe vera belonging to family Liliaceae¹⁶. It acts as a great conditioner to the hair which makes hair smooth and shiny. It is also recommended for the treatment of hair loss and also prevents itching of hair scalp¹⁷.



Fig. No. 2 Aloe vera

Bhringraj belonging to family Asteraceae. It is an effective medicine for skin diseases, cough, asthma, eye disorders and disease related to any part of the head. It improves hair growth, prevents hair fall and treats premature graying of hair.¹⁴



Fig. No. 3 Bhringraj

Castor oil is an old remedy to prevent hair loss or assist with hair regrowth. This is because castor oil has the ability to improve circulation and increase blood flow. It contains anti-inflammatory and anti- microbial properties. The anti-fungal properties in castor oil are Ricin and Resinoleic acid which nourishes the hair. Castor oil is one of the few natural ingredients that stimulates hair growth, combats spilt ends, moisturizes hair and

scalp, adds luster and shine, prevents frequent hair fall or breakage, thickens hair, makes it grow longer fast and fights against dryness and dandruff.¹⁵



Fig. No. 4 Castor oil

Coconut oil is best for Pitta dosh individuals as this is cooling oil that is also rich in vitamin E and K, lauric acid and minerals. Coconut oil contains anti-fungal, anti-viral and anti-bacterial properties and is rich in antioxidant. Coconut oil supports hair growth (length of hair), fights with dryness, dandruff, scalp infections and fungus, protects the hair from sun damage, as well as adds shine and luster.¹⁸



Fig. No. 5 Coconut oil

Curry leaves belonging to family Rutaceae¹⁹. It is used to treat damaged hairs through the scalp restoration process and make them stronger. Curry leaves are a rich source of beta-carotene and proteins, which reduce hair loss and increase hair growth. They also contain amino acids and antioxidants which strengthen the hair follicles and moisturize the scalp. It also helps to remove dead hair follicles, which can be the reason behind its antidandruff property. Curry leaves are a rich source of Vitamin B, which helps to restore hair colour by nourishing and strengthening the roots²⁰.



Fig. No. 6 Curry leaves

Fenugreek belonging to family Fabaceae²¹. It contains high protein fodder which supply required protein nutrition to hair²². Fenugreek seed contains various bioactive compounds like flavonoids (quercetin, rutin, vetexin), saponins (graecunins, fenugrin B, Fenugreekine), amino acids (isoleucine, 4-hydroxyisoleucine, histidine, leucine, lysine). Regular use of fresh Fenugreek leaves paste helps hair grow, preserves natural colour, keeps hair silky and also cures dandruff²³.



Fig. No. 7 Fenugreek

Gooseberry belonging to family Phyllanthaceae¹⁷. It is rich in vitamin C, tannins and minerals such as phosphorus, iron and calcium which provide nutrition to hair and also cause the darkening of hair¹⁸.



Fig. No. 8 Gooseberry

Hibiscus belonging to family Malvaceae. It consists of calcium, phosphorus, iron, vitamin B1, riboflavin, niacin and vitamin C, used to stimulate thicker hair growth and prevent premature greying of hair²⁴. The Hibiscus nourishes the hair follicles, softens the hair and makes it more manageable. Flowers and leaves contain mucilage and plant proteins that help in treatment of dandruff and hair loss¹⁹.



Fig. No. 9 Hibiscus

Neem leaves belonging to family Meliaceae. It helps in sealing hair follicles, treats head lice and conditions scalp²⁵. Neem contains several fatty acids such as linoleic acid, stearic acid, oleic acids that nourish and revitalize rough hair to a smooth silky texture⁶.



Fig. No. 10 Neem leaves

Onion belonging to family Liliaceae. Onion has been reported to possess antimicrobial, antibacterial, better nourishment, nutrients²⁶. Onions are high in dietary sulphur, a nutritional element our bodies need. Sulphur is found within amino acids, which are components of protein. Proteins and particularly keratin, which is understood to be sulphur rich, are needed for growing strong hair. When added to the hair and scalp, onion juice can provide extra sulphur to support strong and thick hair, thus preventing hair loss and promoting hair growth. The sulphur from onions may additionally help promote collagen production. Collagen successively helps the assembly of healthy skin cells and hair growth²⁷.



Fig. No. 11 Onion

Shikakai is a small shrub-like tree, which grows in the warm, dry plains of central India. It's considered a superior cleanser for "lustrous long hair" and has been reported as "promoting hair growth and preventing dandruff. It also helps in removing dandruff and lice & very effective in removing oil and dirt from hair"²⁸.



Fig. No. 12 Shikakai

Tulsi belongs to family Lamiaceae. It is rich in vitamin K and antioxidants. It is prepeded as an essential ingredient in herbal hair loss treatment. The herb works by strengthening the hair roots, thereby curbing hair fall, prevent bacterial and fungal infections¹⁴.



Fig. No. 13 Tulsi

II. Conclusion

Today personal care products containing ingredient from the plant origin are getting an increasing trend in the pharmacy world. Cosmetic product containing plant material as active ingredient is comes under the category of cosmeceuticals. According to World Health Organization (WHO) the global herbal market will grow \$5 trillion by 2050. Next to the China India is the largest producer of medicinal plants having greater than 40 % global diversity. The knowledge of medicinal plants used by the people of seems to be well-known to its culture and tradition. Present paper focuses on different plants to cure dermatological disorders, hair care and as cosmetics. Some of the plants were found to have dual use, both as curative and cosmetic.¹⁴

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