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Role of Certain Plant Ingredients on Hair Disorders.

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ABSTRACT:

For maintaining healthy, attractive appearance hair has the vital role. Hair problems are common and can diminish self-esteem and self-confidence of a person. Many forms of hair problems, baldness, alopecia, hair fall, gray hair, dryness, and most common dandruff require clinical care by a health care professional. Hair is sensitive to changes in the environment, diet, and overall health. Identifying these changes and resorting to the wisdom of *Ayurveda* for their coping mechanisms can help maintain good hair health. *Ayurveda* formulations always have attracted considerable attention because of their good activity and comparatively lesser side effects with synthetic drugs. This review gives knowledge regarding the beneficial effects and recent progress of medicinal plants for the treatment of hair disorders.

Keywords: Self-esteem, Environment, *Ayurveda*, Synthetic drug

INTRODUCTION

Hair is a complex structure of several morphological components that act as a unit. The growth of human hair occurs everywhere on the body except for the soles of the feet, the inside of the mouth, the lips, the backs of the ears, the palms of the hands, some external genital areas, the navel, scar tissue, and apart from eyelashes, the eyelids.¹ Appearance of hair makes an important impact on total body feature. Color, length and appearance of hair make a significant difference from person to person.² Indian herbs are the prosperous source to be used in cosmetic industries. Hair oils those embraces herbal drugs are called as hair tonics. These are contrived by herbal extracts in an oil base. Hair oils are the hair care formulations applied for cure of hair disorders such as baldness, graying of hairs, hair falling, and dryness of hairs.³

MATERIAL AND METHODS

Material related to plant ingredients for hair disorders are

collected from classical *Ayurvedic* literatures textbooks and various scientific published journals. Google search was also used for collecting materials.

AIMS AND OBJECTIVE

This present review focuses on medicinal plants and its beneficial effects and recent progress for the treatment of hair disorders.

Literary View

Amlaki (Emblca officinalis)-

Amla, Emblca officinalis (Indian gooseberry), which is an important herbal component of *Ayurveda* is a good hair tonic. *Amla* is rich in vitamin C, tannins and minerals such as phosphorus, iron and calcium which provides nutrition to hair and also causes darkening of hair.⁴ A fixed oil is obtained from *amla*, which is used to strengthen and promote hair growth. The dried fruit, which improves hair



hygiene, has long been utilized as an important ingredient of shampoo and hair oil.⁵ *Amla* extract has hair growth promoting effect and it may be a potent candidate for the prevention of hair loss.⁶

Japaa (Hibiscus rosa sinensis L.)-

Japaa, Hibiscus rosa sinensis has various health benefits and medicinal value, which has been referenced in Ayurveda and the Chinese medicine system. *Hibiscus* consists of calcium, phosphorus, iron, vitamin B1, riboflavin, niacin and vitamin C, used to stimulate thicker hair growth and prevents premature graying of hair.⁷ From the study it is seen that The leaf extract has impact on hair follicle, gives positive result on hair growth.⁸ *Hibiscus* flower and leaves extracts have similar significant hair growth promoting characteristics with minimal chances of developing serious adverse effects.⁹

Narikela (Cocos nucifera L.)-

Narikela, Cocos nucifera L., (Coconut) is a tree that is cultivated for its multiple utilities, mainly for its nutritional and medicinal values. Fruit pulp, inflorescence, Coconut oil, Coconut water (tender and ripe) and Coconut milk are the main useful parts of coconut tree with regard to their medicinal values.¹⁰ Coconut oil has properties that reduce protein loss in hair when used before and after wash¹¹. Coconut oil is known to have lauric acid, which is a type of fatty acid that may penetrate the hair shaft due to a low molecular weight and linear conformation.¹² Coconut oil also moisturizes hair. Since it's easily absorbed, it works better than other oils at repairing dry hair.¹³

Bhringaraj (Eclipta alba L.)-

Bhringaraj, Eclipta alba has been traditionally used to check hair loss and stimulate hair growth. Phytochemical analysis revealed that methanol extract contains coumestans, triterpenoid glycosides, thiophene derivatives, triterpenoid saponins, flavonoids and wedelolactone. Methanol extract of *Eclipta alba* definitely promotes hair growth by inducing anagen in telogen (resting) phase hair follicles.¹⁴

Henna (Lawsonia inermis L) -

Henna (Lawsonia inermis) cultivated for its leaves although stem bark, roots, flowers and seeds have also been used in traditional medicine. This plant is a worldwide known cosmetic agent used to stain hair, skin and nails.¹⁵ The main uses of henna are as a cooling agent, astringent, anti-fungal and anti-bacterial herb for the skin and hair. It has also been used as a dye and preservative for hair, skin and finger nails as well as leather and clothes.^{16,17} *Henna* leaf extracts have antimicrobial activity on the bacteria responsible for the common skin infections.¹⁸ *Henna*

formulation is composed of dried leaves of *Lawsonia inermis L.* of the *Lythraceae* family, and contains at least 0.3% of Lawsone. The molecular formula and weight of Lawsone is C₁₀H₆O₃ and 174.15, respectively. Lawsone is responsible for the anti-fungal and anti-bacterial effects, as well as the coloring property, of henna.¹⁹

Neemba (Azadirachta indica)-

Products made from *neemba, Azadirachta indica* (Neem) trees have been used in the traditional medicine of India for centuries.²⁰ *Neem* or *Margosa* effective in many skin diseases or epidermal problems ranging from dandruff, acne, psoriasis, ringworm, athlete's foot, warts, chicken pox, small pox and malaria. The leaves contain quercetin, catechins, carotenes, and vitamin C.²¹ *Neem* leaves extract have high antifungal content. So, it can be used for antidandruff properties.²²

Dhanyak (Coriandrum sativum L.)-

Dhanyak, (Coriandrum sativum), Coriander has been used in medicines for thousands of years (Mathias, 1994). Various parts of this plant such as leaves, flower seed, and fruit, possess antioxidant activity, diuretic, ant-diabetic, sedative, anti-microbial activity, anti-convulsant activity, hypnotic activity and antihelmintic activity and anti-mutagenic.²³ Leaves are particularly rich in vitamin A, vitamin C, and vitamin K.²⁴ All these are very vital for hair strength and growth. The key to maintaining a good healthy scalp is to ensure the proper supply of adequate nutrients to the hair follicles. As shocking as it seems, eating as well as applying coriander can be extremely useful for hair.²⁵

Jeerak (Nigella sativa L) –

Jeerak, Nigella sativa commonly known as Black seed, Black cumin or *Kalonji (Family Ranunculaceae)* is a widely used for its miraculous healing power. Use of *N. sativa* seeds and oil has splendid historical past in diverse traditional systems of medicine and food.²⁶ This plant was named the “best of condiments” in ancient Greece and well known due to its significant uses and has vast pharmaceutical significance. The seeds of this plant and essential oil extracted from them are used in the food, perfumery, beverage, and drug sectors of industries. *Nigella sativa* seed has antimicrobial, antioxidant, anti-aging, hair growth promoter, sun protection, anti cancer activity, which make it a novel ingredient for many cosmetic preparations.²⁷ It is also one of the best natural treatments for managing hair loss, as it not only stops hair loss but also encourages hair growth.²⁸

Maricha (Piper nigrum L.) –

Maricha, Piper nigrum L. (Piperaceae), commonly known as black pepper, is one of the most famous and oldest spices

in the world, with culinary and food preservative uses.²⁹ Black pepper is very good at activating the blood circulation under the scalp. It is loaded with minerals like potassium and vitamins like C and B, both of which help in the nourishment and contribute to a good blood supply to the hair follicles. Black pepper is rich in vitamin C that helps cleanse hair, remove the dead skin and thereby keep dandruff at bay. The antioxidants help the scalp get enough nourishment that is necessary for moisturizing scalp and for balanced sebum production.³⁰

Palandu (Allium cepa L)–

Palandu, Onion (*Allium Cepa*) Family *Liliaceae* has great health significance and is consumed for nutritional and health benefits for last used in centuries. Onion is used because it is rich in Sulphur which is one of the essential minerals in encouraging hair growth. Blood circulation gets better due to Sulphur which provides the hair follicles with anti-bacterial properties of onion help to heal scalp infections that can contribute to hair loss. Also, it contains anti-oxidants, and enzymes which prevent the hair from pre-mature graying.³¹ Onion possess antimicrobial, antibacterial, better nourishment, nutrients and also used as hair scalper hair loss. The onion used in herbal shampoo provides better nutrient and nourishment to hair follicles and promotes the hair growth and helps to overcome the dryness problem.³²

Haridra (Curcuma Longa L)–

Haridra, *Curcuma Longa* or popularly known as turmeric is a native herb used for culinary and medicinal purposes. Turmeric is effective in improving hair and scalp health and can treat skin disorders that can affect the scalp. These include acne vulgaris, dermatitis, alopecia, and scalp psoriasis.^{33,34,35} Turmeric, when paired with coconut oil, can be used as an antifungal treatment for dandruff. The mixture could prevent hair loss, scales on the scalp, and itching caused by *Pityrosporum ovale*, a fungus known to cause dandruff.³⁶

Kumari (Aloe vera L)–

Kumari, *Aloe vera* plant has been known and used for centuries for its health, beauty, medicinal and skin care properties. *Aloe vera* has anti-microbial properties.³⁷ *Aloe vera* is used for treating seborrheic dermatitis. It is also an excellent treatment for the hair care. *Aloe vera* hair conditioners and shampoos are also used widely for the purpose.^{38,39,40} *Aloe vera* is used in hair loss treatment. The enzyme content of *Aloe vera* prevents hair loss by protecting the scalp against any diseases. The mixture of *Aloe vera* juice with coconut milk and wheat germ oil and massaging the scalp before shampooing hair continuously

it helps in hair re-growth.⁴¹

Methi (Trigonella foenum-graecum L)–

Methi, *Trigonella foenum-graecum*, (Fenugreek) has long been used as an ingredient in beauty remedies, especially concerning hair care. Fenugreek contains high protein fodder which supply required protein nutrition to hair.⁴² The fenugreek seed contain sapogenic steroid; disogenin, glitogenin, and tipogenin, which have estrogenic/sex hormone precursor effects (Evans, 2002). Phytoestrogen from fenugreek plant is thought to diminish hair loss and increase hair growth rate. From research it is seen that fenugreek seed extract has a positive effect on hair growth process.⁴³

DISCUSSION

Although hair disorders are not life threatening, their profound impact on social interactions and on patients' psychological well-being is undeniable. Current survey suggests that, in many developing countries, a large proportion of the population relies heavily on traditional preparations and medicinal plants to meet the primary health care needs. From the recent research studies, it is found that the above plant ingredients possess many medicinal and nutritional properties for hair. So, these plants must be considered as a cheaper, medicinal cum nutritional sources for hair disorders. *Ayurvedic* medical system must evaluate different hair formulations like hair oil, shampoo as external applications by using these ingredients. Here also we discuss how the ingredients might stimulate the development of new hair and decrease the hair disorders. As global scenario is now changing towards the use of safer, nontoxic natural product with traditional use. Hence, it is advisable that we can focus on application of *ayurved* products as compared to synthetic products on hair disorders.

CONCLUSION

Hair plays a vital role in the personality of human. The various constituents present in the herbal ingredients such as minerals and amino acids have active role for the significant hair growth activity. The presence of number of phytochemicals and botanicals in the herbal products have dual stuff, one that they are used as cosmetics for body care and another that phytochemicals amend the biological functions of human body naturally results in healthy skin and hairs. All these drugs have not only hair care activity but are also devoid of potential side effects as compared to synthetic drugs. Several ayurvedic preparations and

therapy are also using today for specific hair diseases. Many hair-care products have invaded the market, claiming to be Ayurvedic and herbal. However, none of the products should be used without consulting a physician, as they do not provide the intended results.

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