

# Herbal Effective Remedies for Alopecia-Review

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**Abstract:** Alopecia may be a restorative term for hair misfortune or baldness. In alopecia hair misfortune happens from body uncommonly from scalp and a few what less other parts of body. (Ashwagandha)Withania somnifera, (Amla)Embllica officinalis, (Bringraj)Eclipta alba and (Licorice)Glycyrrhiza glabra are a few of the viable cures for the hair development. These remedies were found to be compelling in several hair conditions like progressive, dynamic misfortune of hair, transitory hair misfortune, and hair misfortune due to resistant framework, through different components of activity, counting 5 $\alpha$ reductase hindrance, expanded microcapillary blood stream, antioxidant impacts, and balance of the hair development signaling pathways. It altogether treats issues related to hair such as hair drop, dandruff, untimely turning gray, and hair loss. The display audit may be an outline of phytomedicinal significance and chemical constituents of Withania somnifera, Emblica officinalis, Eclipta alba and Glycyrrhiza glabra drugs which makes a difference in hair misfortune in Ayurveda. Being characteristic herb there are numerous points of interest of utilizing them like understanding compliance, less side-effects, simple accessibility, low-cost and acts by diverse mode of activity for treatment of Alopecia.

**Keywords:** Nutritional Support, Alopecia, Aquous and Alcoholic Extract.

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## I. INTRODUCTION

Herbal drugs have become getting more importance since a decade, because they are providing us not only medicinal, but also therapeutical and economic benefits. The regular and widespread use of the herbal drugs is getting popular in the present era creating new horizons. Generally, herbal drugs are easily available in market, safe for use, less expensive for people, efficient, and they have very less side effects.

Alopecia is the foremost common hair clutter which is habitually utilized to appear the designed misfortune of scalp hair in hereditarily helpless. Alopecia or hair misfortune ordinarily happens on the scalp or anywhere on the body.

## II. HAIR AND HAIR GROWTH CYCLE

Hair is a threadlike outgrowth that grows from follicles found in the dermis and composed of Keratine. Found solely in warm blooded animals, hair is one of the characterizing characteristics of the mammalian course. The word "hair" regularly alludes to two particular structures :1) Hair follicle or bulb- the part beneath the skin, or when pulled from the skin it is the lower end of hair. Bulb is situated in middle layer of skin and function to manage stem cells, which encourage

growth of hair. And 2) the shaft- which is the hard filamentous part and tunnel like structure. Shaft extends above the skin surface as a long cylindrical shape. Hair growth occurs in three main phases: 1) anagen (growth), 2) catagen (transition), and 3) telogen (resting). In all three phases the hair follicle produces new cell to form hair shaft, and stop producing cell lastly shedding the hair.

## III. DISORDERS OF HAIR

There are numerous issues related with hair like colouring of hair, blurring, thinning of hair, auto fall of hair. Additionally there are numerous defect associated with hair, which causes the hair misfortune from scalp and from other body portion. The term progressive loss of hair is regularly utilized to portray the designed misfortune of scalp hair in hereditarily helpless man and female. condition is additionally known as male design hair misfortune or common hair loss in men and as female design hair misfortune in ladies. Alopecia (misfortune of hair) is characterized by diminishing of hair as contradicted to follicular misfortune.

In androgenetic alopecia, anagen phase is becoming short or less and thus continuous shortening of touchy hair follicles takes place that result into change of lean terminal hairs

into fine vellus hairs. The 5 $\alpha$ -reductase type-2 chemical plays a central part by intra-follicular change of testosterone to dihydro testosterone. A few degree of follicular shorting and significant hair misfortune is common and is considered a physiological auxiliary sexual characteristic. Androgenetic alopecia as it were gets to be a therapeutic issue when the hair misfortune is over the top, untimely and troubling to the understanding. For the all problems related to hair loss (Alopecia) different medical treatments are available in recent year which pointed at capturing the movement of the hair misfortune. and surgical treatments are also added in that.

#### IV. TYPE OF ALOPECIA

- Alopecia Areata (Essential organize)- Alopecia areata (hair misfortune) may be a common immune system illness that comes about within the misfortune of hair on the scalp and somewhere else. It more often than not begins with one or more little, circular, non-scarring smooth patches.
- Mild Transient Alopecia Areata- It is also known as patchy hair loss. It is not permanent loss of hair which occurs due to low immune system. After recovery of immune system it will be recover.
- Transient Alopecia Areata- TAA is characterized as localized hair loss without scar formation. Patient with increased alopecia areata converts into Alopecia totalis/Alopecia universalis.
- Alopecia Totalis- Misfortune of hair from whole Scalp.
- Diffuse Alopecia- Intemperate misfortune of hair all over the scalp without making a fix.
- Alopecia universalis-Loss of hair from scalp and all parts of body counting pubic hair.

These herbs when utilized in the treatment of hair defects gives below effects-

- Dietary benefits
- DHT blockers and 5 $\alpha$ -Reductase blockers.
- Fragrance based treatment and increased scalp blood circulation.

#### ❖ Herbs and Preparation of extract :

##### A. Liquorice

Glycyrrhiza have a critical free-radical extinguishing impact. Liquorice roots are reached with flavonoids have uncommonly solid antioxidant property. Antioxidant property of liquorice flavonoids was found to be over 100 times greater than that of antioxidant property of vitamin E. Thus, liquorice extract can be efficiently used to formulate cosmetic formulation for the prevention of skin and hair from oxidative damage. Hydro-methanolic root extract (crude) of Glycyrrhiza glabra contains many important secondary metabolites such as; saponins, alkaloids, flavonoids and so on. Because of these components the extract exhibited potent anti-oxidant activities. The antioxidant activity of G. glabra is primary factor for its application.

The strong antioxidant properties seen are likely due to its phenolic components, which are believed to include compounds like flavonoids, isoflavones such as glabridin, hispaglabridinA, and 30-hydroxy-4-O-methylglabridin, which are identified as the key contributors.

##### ➤ Extraction Method:

The roots underwent drying shaded environment and were then ground into a rough powder Approximately 75 grams of dried course powder were extracted with water-ethanol mixture at a ratio of 1:1 through continuous hot percolation using Soxhlet apparatus maintained at temperature between 40 to 60degree celcius this extraction process lasts for seven days. Subsequently the hydro alcoholic extract was filtered and concentrated through vaccum distillation, resulting in shiny brown residue.

Table 1 Herbs Used in Treatment of Alopecia

	B. S.	Family	Part used	Chemical Consttuent	Mode of action
Amla	Emblica Officinalis	Euphorbiaceae	Fruit	<u>Vitamin C</u>	Nutritional support
Bhribgraj	Eclipta alba	Asteraceae	Leaves	Eclalbosaponins	Follicular enlargement and prolongation of Anagen phase
Ashwagandha	Withenia Somnifera	Solanaceae	Root	Withenoloid A	Antioxident Harmon Balancing effect
Liquorice	Glycerhiza Glabra	Fabaceae	Root	Cumarines saponin, Fixed oils	Hair Tonic

##### B. Eclipta Alba

Eclipta alba is rich in various compound including alkaloid glycosides, flavonoids, polyacetylenes, triterpenoids, phenolic acids, saponins, sterols, sesquiterpene lactones, proteins, amino acids, and carbohydrates. petroleum ether until thimble side tube solvent become colourless that is upto 8 hr Afterward, the resulting dried material was extracted with methanol for a duration of up to 6 hours,

highlighting the growth-promoting potential of E. alba. The petroleum ether extract (PEE), along with other solvent-derived fractions of E. alba, was applied topically to the backs of nude mice. Following treatment with PEE, significant follicular hypertrophy was noted. The research indicated that the populations of basal epidermal and matrix cells, crucial for preventing hair loss, increased in follicular keratinocytes. These finding support the application of E. alba in promoting

hair growth. In additional study conducted by Begum et al. corroborated the efficacy of *E.alba* for stimulating hair growth, utilizing nude mouse model genetically predisposed to hair loss due to abnormal keratinization.

In research demonstrating the topical use of methanolic extract from *E. alba*, a notable effect on hair growth was observed in mouse models. The investigation indicated that following the treatment, the quantity of hair follicles had risen, which suggests that *E. alba* is an excellent stimulant for hair growth.

➤ *Extraction Method:*

*Eclipta Alba* leaves powder (50 gm) defatted using solvent petroleum ether until thimble side tube solvent become colourless that is upto 8 hr then extracted that dried marc by using methanol upto 6 hr.

*C. Ashwagandha*

Ashwagandha, scientifically referred to as *Withania somnifera* and belonging to the Solanaceae family, is commonly referred to as “Indian Ginseng” or “Indian Winter Cherry.” This herb holds a crucial place in Ayurveda, which is the traditional medical system of India, and has been utilized for many years as a Rasayana due to its numerous health advantages. Research suggests that Ashwagandha is a multifunctional plant with various benefits, including antioxidant, anti-inflammatory, neuroprotective, adaptogenic, memory-boosting, blood cell producing, sleep-promoting, and anxiety-reducing properties. Adaptogens like Ashwagandha have traditionally been employed to reduce stress and cortisol levels in individuals. High stress is known to be a significant factor contributing to hair loss and other related issues. There is potential for Ashwagandha to relieve some stress and anxiety symptoms, which may include reducing hair loss. This herb can promote healthy hair by providing antioxidants and decreasing stress, which can lead to stronger hair and reduce the likelihood of breakage. For centuries, Ashwagandha has been utilized for addressing a wide range of health concerns, encompassing hair loss.

➤ *Extraction Method:*

Ashwagandha root powder were extracted by maceration process using water as a solvent for 24 hr. After that shake it for half an hour on a horizontal shaker. Filter and concentrate the filtrate by rotary evaporator to obtained total withania alkaloid.

*D. Amla*

Amla which is rich in vit C content antioxidants essential fatty acid and other nutrients which is essential for hair growth. The fruit pulp of *E. officinalis* is rich in minerals. It contains high moisture content 81.2 %, oil, Fiber ~3.4 %, Carbohydrates 14.1 %, iron upto 2mg/100gm, Nicotinic acid 0.2mg/100gm, ascorbic acid (vitamin C) 600mg/100gm and vitamin B3 0.4mg/100gm. The amla fruit juice is rich in ascorbic acid, containing approximately 0.47856 grams per 100 milliliters. When amla fruit is mixed with various other fruits, it increases the overall nutritional value through their combined impact. The foliage of *E. officinalis* serves as an excellent source of diverse biochemical substances such as

amlic acid, chebulinic acid, ellagic acid, chebulic acid, along with alkaloids like phyllantidine, gallic acid, phyllantine, and chebulagic acid.

Essential fatty acids hydrats and revitalize the scalp, provide strength to hair root. Dried Amla fruits are boiled in coconut oil and then ground to form Amla oil. This is a very effective conditioner and prevents balding and greying of hair.

➤ *Extraction Method:*

Amla fruit (100mg) were grind in an electrical grinder and soaked in 500ml dist water. The mix was left for 24hr with magnetic stirrer at room temperature. 24 hrs later the mix was stained using a fine sieve and crud extract air dried evaporate for 3 days.

## V. CONCLUSION

Alopecia becoming one of the major common problems among all age group people due to different causative reasons or problems. Based on the results of this current research, we can infer that the herb *Emblca officinalis*(Amla), *Withania somnifera*(Ashwagandha), *Eclipta alba*(Bringraj) and *Glycyrrhiza glabra*(Liquorice) are some of the effective herbs for the treatment of Alopecia. The herbal extracts of these drug having multiple phytoconstituents can treat alopecia either by providing nutritional supplements or by active constituent present in that herb. Nevertheless, additional investigation is necessary to explore their clinical activity and to examine their mechanism of action and effectiveness over extended periods of usage.

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