

EFFICACY OF SOME INDIGENOUS HERBS ON YUVANAPIDIKA W.S.R. TO ACNE VULGARIS: A REVIEW

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ABSTRACT

Acne vulgaris is a chronic inflammatory disease mainly affecting the teenagers. As it is chronic and affects face mainly, it always causes negative psychological impact on human life. In a study conducted in 2015 acne affected 650 million people globally making it the most common skin disease worldwide. In a study of “Global burden of disease” it is revealed that acne was the 8th common prevalent disease worldwide. In Ayurveda the features of *Mukhadusika* or *Yuvanapidika* can be correlated with Acne vulgaris. In modern medicine anti-biotics are mainly used for the treatment of acne. Due to increasing resistance of anti-microbial agents, side effects, and sometimes high cost of treatment, it is necessary to find herbal remedy for the cure of acne. In this article a review of efficacy of 5 potential herbal drugs for acne is done. These herbal drugs are *Manjishtha*, *Shalmali*, *Ghrit kumari*, *Daruharidra*, and *Yashtimadhu*.

Keywords: *Yuvanapidika*, *Mukhadushika*, *Manjistha*, *Shalmali*, *Daruharidra*, *Ghritakumari*, *Yasthimadhu*

INTRODUCTION

Acne vulgaris is a long-term skin disease that occurs when dead skin cells and oil from skin clogs the hair follicle. It is a chronic inflammatory disease affecting

pilo sebaceous unit (comprising hair follicle, hair shaft, sebaceous gland) and is one among the common dermatological condition worldwide. It is characterized by

formation of open and closed comedones, papules, pustules, nodules and cyst. The primary factors involved in the development of acne involves androgen mediated stimulation of sebaceous gland activity, follicular hyper keratinization, bacterial growth and inflammation. The major skin bacteria that causes the formation of acne are *Propionibacterium acne* (*P.acne*) and *Staphylococcus epidermidis*¹. *P.acne* is aerotolerant, anaerobic, slow growing, gram-positive bacterium (rod shape) associated with acne². In many cases acne causes permanent scarring and post inflammatory hyper pigmentation. It causes negative psychological impact on human life. So early and aggressive therapy for curing acne is very much needed³. In modern medicine topical agents like benzoyl peroxide, anti-biotics, retinoids etc are being used and in systemic therapy oral anti-biotics, hormonal therapy, isotretinoin and lesion removal treatment is done. Depending on the condition of disease, Phototherapy is also being used as a treatment for acne⁴. Also, the treatment includes antimicrobial hormones, corticosteroids, ultraviolet irradiation, and intra lesion steroid injection etc. These treatments are very expensive and have a lot of side effects⁵. *Mukhadushika* or *Yuvanapidak* mentioned by Ayurvedic Acharyas have similar symptoms to that of Acne vulgaris. Acharya *Sushruta* described *Mukhadushika* as *Kshudraroga* in *Nidana sthana*. According to *Acharya Sushruta Mukhadushika* are the eruptions that look like *shalmalikantak* localised on the face, caused during adult stage and caused by *Vata, Kapha and Rakta* dosha.⁶ Ayurvedic treatment for *Mukha dooshika* includes *Shodhan* and *Shaman chikitsa*. *Shodhana chikitsa* includes *Vamana, Nasya and Sirovyadha*^{7,8,9,10,11}. *Shaman Chikitsa* includes various *Lepa*¹². In this review 5 potential Anti -acne herbal drugs will be discussed for their efficacy as an application in the treatment of acne. They are *Manjishta, Shalmali, Daruharidra, Ghrit Kumari and Yash-timadhu*.

Drug Review

In *Yogaratanakara*, application of *Shalmali kantak* with milk and *Manjishta* with honey is explained in the treatment of *Yuvana pidika*¹³. *Ashtanga Hridaya* explains the use of *Manjishta* with honey in *Vyanga*¹⁴. As per

Charaka Samhita, the herbal drug *Manjistha* is included in *Varnya* (improving complexion) *Mahakashaya*¹⁵. *Bhaishajya Ratnavali* explains the use of *Shalmali kantak lepa* for *Mukha kanti*¹⁶. *Daruharidra* is one of the ingredients in *Saptachhadadi taila* and *Dwiharidradi taila* mentioned by *Bhaishajya Ratnavali* in *Kshudraroga chikitsa*^{17,18}. Both these *Taila* are useful for *Yuvanapidika*. *Yashtimadhu* is included in *Varnya Mahakashaya* of *Charaka samhita* and also in *Sarivadi* and *Nyagrodhadi gana* of *Ashtanga Hridaya, Ashtanga Samgraha* and *Susrutha*^{19,20,21,22,23,24}. Herbs included in *Sarivadi gana* are used for *Pitta-Rakta Vikara*. *Nyagrodhadi gana* is *varnya* (Improves complexion). The alcoholic extract of thorns and bark of *Shalmali* possess very good anti-acne potential against *Propionibacterium acne*²⁵. The phytoconstituents present in *Shalmali* such as saponins, tannins, phenolic compounds and glycosides are responsible for inhibition of bacterial growth and to be protective to plants against bacterial and fungal infections²⁶ *Manjistha* has anti-acne effect through anti-bacterial, anti-inflammatory, antioxidant and anti-androgenic action. As acne is caused mainly due to these four causes, *Manjistha* is one of the most important drugs against acne. It is a good source of anthraquinone which is responsible for antioxidant, anti-inflammatory, anti-cancer, immunomodulation effects of this herbal drug. *Manjistha* is a well-known herbal drug used in blood and skin diseases²⁷. Amino acid is one of the ingredients present in *Manjistha* having the role of detoxification of blood. Another constituent present in *Manjistha* is saponin which is best cleansing agent. Phenolic compound present in *Manjistha* is having good antiseptic action. Hence it can be used in infection also. This phenolic compound also has antioxidant property which helps to prevent acne²⁸. Alkaloid present in *Daruharidra* is responsible in inhibiting the action of *P. acne* and *S. aureus*²⁹. *Berberis aristata* showed the presence of alkaloids, flavonoids, phenol, sterol, terpenes, saponins and tannin in the phytochemical analysis of its ethanolic extract. Its extract showed significant result against *P. acne, M. furfur* (yeast) and *S. epidermidis*. Anti-acne effect of this herb is not only based on its anti-microbial

activity but also on its antioxidant and anti-inflammatory properties by which they inhibit neutrophil migration and generation of reactive oxygen species³⁰. *Glycyrrhiza glabra* Linn contains important phytoconstituents such as Glycyrrhizin, glycyrrhizinic acid, glabrin A and B and isoflavones. It is used as anti-inflammatory, anti-bacterial, anti-fungal, anti-viral, anti-ulcer, anti-oxidant and skin whitening agent. The constituents such as saponin, alkaloids, flavonoids are responsible for its anti-bacterial property. The extract of liquorice is an effective pigment lightening agent. It is the safest pigment lightening agent with least side effects. Liquiritin present in liquorice extract disperses melanin. By this mechanism it induces skin lightening. Due to tyrosine inhibition activity it can be used to formulate cosmetic formulations with depigmenting activity³¹. In one study it was proved that application of

Glycyrrhiza glabra with either water or honey improves complexion. It is very cost effective and safe³². Aloe vera is a natural product frequently used in the field of Cosmetology. Many Cosmetic preparations are made from the mucilaginous tissue in the centre of aloe vera leaf which is called Aloe vera gel (AVG). Pharmacological action of AVG includes anti-inflammatory, anti-irritant, wound healing and anti-bacterial effects³³. Aloe vera contains polysaccharides, lignin, enzymes, vitamins, minerals, amino acids, and salicylic acid and substances that can inhibit premature aging such as vitamin B2, B6, C, E and minerals such as manganese, selenium, nonessential amino acids proline that can make the skin smoother, constantly hydrated, more elastic and protect it from free radical and degenerative effects³⁴

Table 1: Rasapanchaka of Drugs³⁵

Drug	Rasa	Guna	Virya	Vipaka	Karma
<i>Shalmali</i> (<i>Rubia cordifolia</i> L.)	<i>Madhura, Kashaya</i>	<i>Laghu, Snigdha, Pichila</i>	<i>Sita</i>	<i>Madhura</i>	<i>Dahaprasamana Raktapittahara Rasayani Shodhahara</i>
<i>Manjistha</i> (<i>Salmalia malabarica</i>)	<i>Kashaya, Tikta, Madhura</i>	<i>Guru</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphapittashamaka Varnya Vishashodhaghna, Krimighna Sonithasthapana Rasayana</i>
<i>Daruharidra</i> (<i>Berberis aristata</i>)	<i>Tikta</i>	<i>Ruksa</i>	<i>Ushna</i>	<i>Katu</i>	<i>Doshapachana</i>
<i>Yashtimadhu</i> (<i>Glycyrrhiza glabra</i> L.)	<i>Madhura</i>	<i>Guru, Snigdha</i>	<i>Sita</i>	<i>Madhura</i>	<i>Pittashamak Shodhahar Varnya, Kandughna Kushtaghna</i>
<i>Kumari</i> (<i>Aloe barbadensis</i>)	<i>Tikta</i>	<i>Guru, Snigdha, Pichila</i>	<i>Sita</i>	<i>Katu</i>	<i>Shodhahara Vranaropana Raktashodhak Twakdoshahara</i>

DISCUSSION

Acne vulgaris is a common skin disorder which affects almost all individuals mainly during adolescent stage. Even though it is not a life-threatening disease it can

produce cutaneous and emotional scar that may last for a lifetime. It causes anxiety, depression, and suicidal ideation in many individuals³⁶. Lack of standardized treatment is a major drawback in the management of

acne. Overuse of antibiotics as a treatment for acne causes antibiotic resistance. Primary factors involved in the formation of acne are androgen mediated hyper production of sebum, sloughing of Keratinocytes, Bacterial growth and Inflammation. Hence the herbal drugs having the properties of anti-androgenic, anti-bacterial, anti-inflammatory and antioxidant properties are beneficial in treating acne. Application of drugs having these properties definitely cause the alleviation of acne. Ayurvedic Acharyas mentioned *Manjistha*, *Shalmali* and *Daruharidra* in the treatment of acne. There is no reference of *Ghrit Kumari* and *Yashtimadhu* in classical texts for the management of acne. As *Yashtimadhu* is having *Guru Guna* and *Sita Virya*, it increases moisture which helps to prevent wrinkles. Without stripping the natural oil from the skin, it scrapes the excess oil secretion³⁷. *Yashtimadhu* has antioxidant, anti-inflammatory, anti-bacterial, skin lightening and skin tightening properties³⁸. Aloe vera also have anti-inflammatory, antiseptic, antioxidant, antibacterial properties. Its extract showed greater antibacterial activity against Gram-positive bacteria as compared to Gram-negative bacteria³⁹. The main bacteria causing acne i.e. *P. acne* is a Gram-positive bacterium. The absorption of Aloe vera through skin is four times faster than the absorption of water, it also helps to open the skin pores and hence helps in receiving the moisture and nutrients of the plant⁴⁰. When we consider all these points it is very clear that these two drugs i.e. *Ghrit Kumari* and *Yashtimadhu* are also beneficial for acne.

CONCLUSION

It is hoped that this review of these herbal drugs would lead to establishing the efficacy of these herbs (*Manjistha*, *Shalmali*, *Daruharidra*, *Ghrit Kumari* and *Yashtimadhu*) as an application for treatment of acne. Inventing herbal remedies with least side effects is a very good alternative for patients suffering from the problems of acne.

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