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#### **Review Article**

# Ayurveda And Acne Treatment: A Comprehensive Review

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ARTICLE INFO	ABSTRACT
Published: 28 Oct 2024	Acne vulgaris, commonly referred to as Yuvanpidika in Ayurveda, is a common skin
Keywords:	disorder affecting adolescents and adults. According to Ayurveda, the imbalance in the
Acne vulgaris, Ayurveda,	Tridoshas-Vata, Pitta, and Kapha-along with the accumulation of toxins (Ama),
Yuvanpidika, dhatu,	leads to the formation of acne. Ayurvedic treatments aim to restore dosha balance and
tridosha.	purify the blood through the use of herbal remedies, dietary modifications, and lifestyle
DOI:	changes. Herbs such as Neem (Azadirachta indica), Turmeric (Curcuma longa),
10.5281/zenodo.14002164	Sandalwood (Santalum album), and Aloe Vera (Aloe barbadensis) have been
	traditionally used to treat acne due to their anti-inflammatory, antimicrobial, and blood-
	purifying properties. This review explores the Ayurvedic perspective on acne
	pathogenesis, key herbs used for treatment, and the potential of these traditional
	remedies in modern skincare practices.

#### **INTRODUCTION**

Acne vulgaris is a prevalent skin condition, affecting millions of individuals, particularly during adolescence. It is characterized by the formation of comedones, papules, pustules, and in some cases, nodules or cysts. The pathogenesis of acne involves several factors such as increased sebum production, follicular hyperkeratinization, bacterial colonization, and inflammation (1, 2). Although conventional treatments, including antibiotics and retinoids, are widely prescribed, they often come with adverse effects like skin irritation, dryness, and antibiotic resistance (3, 4). In recent years, there has been a growing interest in traditional systems of medicine like Ayurveda, which offers a holistic approach to acne management. Ayurveda emphasizes the balance of the Tridoshas (Vata, Pitta, Kapha), along with the elimination of toxins from the body, to maintain healthy skin. Ayurvedic treatments focus on both internal purification and external applications to restore dosha balance and reduce skin inflammation. (5,6,7)

# 2. Ayurvedic Perspective on Acne (Yuvanpidika):

In Ayurveda, acne is referred to as Yuvanpidika or Tarunyapitika, highlighting its prevalence in

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young adults and adolescents. The term Yuvanpidika is derived from Yuvan (youth) and Pidika (pimple or eruption), suggesting that this condition is closely associated with adolescence due to hormonal changes and lifestyle factors. (7.8)

#### Tridosha Imbalance and Acne:

The Ayurvedic concept of health is based on the balance of the three doshas-Vata, Pitta, and Kapha-that regulate bodily functions. Acne is primarily attributed to an imbalance in Pitta and Kapha doshas (5). The excess Pitta leads to increased heat and inflammation in the body, manifesting as redness and pustules on the skin. Kapha imbalance contributes to excessive sebum production, leading to clogged pores and the formation of comedones. In some cases, an aggravated Vata dosha may cause dryness and scaling of the skin. (6,7) Rakta Dhatu (blood) also plays a crucial role in the development of acne. Impurities in the blood, often caused by poor digestion, unhealthy diet, or toxin accumulation (Ama), can lead to skin eruptions. Therefore, Ayurvedic treatments for acne focus on purifying the blood, balancing the doshas, and restoring skin health through internal and external therapies. (7,9,10)

#### **Ayurvedic Classification of Acne**

According to Ayurveda, acne can be classified into four types based on the predominant dosha involved:

### • Vataja Yuvanpidika:

Characterized by intense itching, dryness, and blackish discoloration of acne lesions. This type of acne is often linked to an aggravated Vata dosha.

### • Pittaja Yuvanpidika:

Marked by redness, inflammation, and pus-filled pimples. The lesions are hot to the touch, indicating an aggravated Pitta dosha.

### • Kaphaja Yuvanpidika:

Acne lesions are oily, large, and pus-filled, associated with excess Kapha dosha and sebum production.

#### • Raktaja Yuvanpidika:

This type of acne is related to blood impurities (Rakta Dushti) and is often associated with painful, inflamed pustules (9). Ayurvedic treatment for acne involves detoxifying the body, regulating the digestive system, and balancing the doshas. The aim is to purify Rakta Dhatu and restore equilibrium within the body.(7,11)

#### **Ayurvedic Herbs for Acne Treatment**

Ayurveda has a rich history of using medicinal plants to treat skin disorders, including acne. These herbs are known for their antiinflammatory, antimicrobial, and antioxidant properties, which are crucial for managing acne. The following herbs are commonly used in Ayurvedic formulations for acne treatment:

#### Neem (Azadirachta indica)

Neem, known as Nimba in Sanskrit, holds a revered place in Ayurvedic medicine due to its remarkable therapeutic properties. Historically referred to as the "village pharmacy," neem is celebrated for its potent antimicrobial, antiinflammatory, and blood-purifying effects. Its broad-spectrum antimicrobial activity makes it an effective remedy for a wide range of skin infections, including acne. (12) Acne is largely driven by bacterial colonization in the skin's sebaceous particularly glands. bv Propionibacterium acnes, which exacerbates inflammation. Neem combats this issue by directly inhibiting bacterial growth, reducing the risk of clogged pores and subsequent infections. Its bioactive compounds, such as nimbin, nimbidin, and quercetin, possess strong antibacterial properties, which make neem highly effective in preventing the proliferation of P. acnes. (1,2,13)Furthermore, neem's anti-inflammatory properties help reduce the swelling, redness, and discomfort associated with acne lesions. The herb cools the



skin, making it particularly suitable for inflamed and pustular acne, which is often a result of excess Pitta dosha. Its ability to balance both Pitta and Kapha doshas ensures that neem is beneficial for acne cases characterized by both excess sebum production (Kapha imbalance) and inflammation (Pitta imbalance). (9,13,14) Neem is also rich in antioxidants, which help neutralize free radicals that contribute to oxidative stress and premature aging. These antioxidants not only prevent acne but also promote faster healing of acne lesions, minimizing the risk of post-inflammatory hyperpigmentation and scarring. Neem can be used in various forms, such as topical pastes, decoctions, and oil applications, making it a versatile and potent component of Ayurvedic acne therapy. (8,12,13)

#### **Turmeric (Curcuma longa)**

Turmeric, or Haridra, is regarded as one of the most powerful anti-inflammatory herbs in Ayurveda. Its active component, curcumin, has been the subject of extensive research due to its potent anti-inflammatory, antimicrobial, and antioxidant effects, which are crucial in managing acne and preventing scarring. (14,15) In the context of acne, turmeric's anti-inflammatory properties help reduce the redness, swelling, and irritation that typically accompany pustular and nodular acne. Acne is often aggravated by inflammatory mediators in the skin, and curcumin helps to inhibit these pathways, thus reducing the severity of acne outbreaks. Inflammatory acne lesions, especially those linked to aggravated Pitta dosha, are well-managed by turmeric, which pacifies Pitta's heat and inflammation. (14,15) Turmeric also possesses antimicrobial properties, which help reduce the colonization of acnecausing bacteria like P. acnes. Its antimicrobial action helps prevent the spread of bacteria on the skin, minimizing the formation of new acne lesions. This is particularly useful in treating cystic acne, where deep infection within the skin layers

can result in painful nodules. (1,2,15) Another significant benefit of turmeric is its antioxidant activity. The high concentration of curcuminoids helps neutralize free radicals that contribute to skin damage, thereby promoting faster healing of acne lesions. This antioxidant protection prevents postacne scarring and hyperpigmentation, a common issue in severe acne cases. Additionally, turmeric enhances collagen production and skin regeneration, making it invaluable in treating acne scars and improving skin texture over time. (8,11,14,15) Turmeric is used both topically in face masks and pastes and internally in decoctions or medicated oils, making it an integral part of Ayurvedic acne management. (8)

#### Sandalwood (Santalum album)

Sandalwood (Chandan) is a key component in Ayurvedic skincare, particularly for conditions involving heat and inflammation, such as acne. Known for its cooling, soothing, and antiinflammatory properties, sandalwood is highly effective in treating Pittaja Yuvanpidika, where inflammation and redness are predominant. (8,16) The cooling nature of sandalwood makes it particularly beneficial for acne characterized by excessive heat and inflamed pustules. It helps to pacify the Pitta dosha, reducing the burning sensation and redness commonly seen in inflammatory acne. The application of sandalwood paste provides an instant cooling effect on the skin, soothing inflamed acne lesions and reducing the pimples. Additionally, size (8,11,16)of sandalwood has antimicrobial properties, which help reduce bacterial activity on the skin, preventing the spread of acne. Its astringent action also helps control excessive oil secretion by shrinking the pores and balancing sebum production, making it an effective treatment for oily and acne-prone skin. (11,16) Sandalwood's ability to lighten scars and improve skin texture is another significant benefit. Regular use of sandalwood for acne helps prevent the

development of post-inflammatory hyperpigmentation and enhances the skin's overall complexion. Ayurvedic practitioners often recommend sandalwood as a face mask or medicated oil, particularly for individuals with sensitive or reactive skin that is prone to inflammation and acne breakouts. (8,16)

#### Aloe Vera (Aloe barbadensis)

Aloe vera, known as Ghritkumari in Ayurveda, is widely recognized for its hydrating, cooling, and anti-inflammatory properties. It is one of the most versatile herbs used in skincare, especially for soothing acne-prone skin and promoting faster healing. (17) Aloe vera's anti-inflammatory action helps reduce the redness, irritation, and swelling associated with acne. This is especially beneficial for individuals with sensitive skin, where traditional acne treatments may cause further irritation. The cooling effect of aloe vera provides instant relief to inflamed acne lesions, making it ideal for treating acne caused by excess Pitta dosha. (8) Aloe vera is also rich in polysaccharides and growth hormones that help regenerate the skin and accelerate the healing process of acne lesions. This regenerative property not only aids in the faster resolution of acne but also reduces the risk of scarring and post-acne hyperpigmentation. For individuals dealing with recurrent acne or those prone to acne scars, aloe vera is a natural remedy that prevents the formation of deep scars by promoting collagen synthesis and skin repair. (8, 11, 17)

Another key benefit of aloe vera is its antimicrobial activity, which helps inhibit the growth of acne-causing bacteria on the skin. The presence of compounds such as aloesin and aloeemodin gives aloe vera its antibacterial properties, making it useful for treating and preventing acne breakouts. Aloe vera is commonly applied topically as a gel, either on its own or as part of a multi-herb formulation, to cool, heal, and rejuvenate the skin. (17)

#### Other Ayurvedic Herbs for Acne

#### • Manjistha (Rubia cordifolia):

Known for its powerful blood-purifying and antiinflammatory properties, Manjistha is often used in Ayurvedic formulations to treat acne. It helps detoxify the blood, removing impurities that contribute to skin eruptions and inflammation. Manjistha is also effective in reducing acne scars and improving skin complexion, making it a valuable herb in long-term acne management. (8,11,18)

#### • Tulsi (Ocimum sanctum):

Commonly known as holy basil, Tulsi is a potent herb for balancing Kapha dosha and controlling excess oil production. Its strong antimicrobial properties help prevent bacterial infections, while its antioxidant and anti-inflammatory effects help reduce acne inflammation and promote clearer skin. Tulsi is particularly useful in managing oily, acne-prone skin by regulating sebum levels and detoxifying the skin. [8,11,19]



Sr		Chemical		Pharmacological
No	Plant name :	constituents:	Structures:	activity:
1	Wild Turmeric (Curcuma Aromatical)	Curcumin, Desmethoxycurcumin, Camphor, Camphene, Eugenol.	$\int \int $	Antifungal, Anti- inflammatory, Anti-microbial, wound healing activity. (20)
2	Shriphala (Phyllanthus embilca linn.)	Ascorbic acid, Sesamine, Rutin, Pyllantidine.	$\begin{array}{c} \downarrow \downarrow$	Anti-oxidant, Anti- inflammatory, Anti-microbial activity. (21)
3	Indian Madder, Manjistha (Rubia Cordifolia)	munjistin, purpurin, rubiadin,1-hydroxy,2- methoxy anthraquinone, rubiprasin A, B, C, mangistin, alizarin.	$ \begin{array}{c}                                     $	Anti- inflammatory, Anti-bacterial, Anti-oxidant, Anti- proliferating, wound healing activity. (18)
4	Witch Hazel (Hammamelis Virginiana)	Gallocatechins, furanoid, Eugenol, Methyleugenol.	Gallocatechins $f(t) = f(t)$ Furanoid $f(t) = f(t)$	skin- Conditioning agent, Anti- oxidant, Anti- bacterial activity. (22,23)

#### Table 1: Description of various medicinal plants and its pharmacological activity.



5	Liquorice, Jothi- madh, Sweet wood (Glycyrrhiza glabra)	Licochalcone A, Isoliquiritin Liquiritin, Biogastron, Glabridin.	$ \begin{array}{c} \underset{F \in \mathcal{C} + s}{\underset{F \in \mathcal{C} + s}{F \in $	Anti- inflammatory, Anti-bacterial, Anti-oxidant, Anti- fungal, Skin lightening and tightening activity. (24)
6	Neem (Azadirachta indica)	nimbin, nimbolide, salanin, azadirachtin, epicatechin, catechin.	$\mathbf{F}_{i}$	Anti- inflammatory, anti bacterial activity, blood purifier. (12,13)
7	Aleo vera (Aloe barbadensis miller)	chrysophanol, aloe emodin, aloeresin, aloin A & B, 7-O- methylaloeresin, 9- dihydroxyl-2-O-(z)- cinnamoyl-7_ methoxy-aloesin, Vitamin E.	$ \begin{array}{c}                                     $	Anti- inflammatory, Anti-oxidant, Anti- fungal, Skin lightening, hydrating and Anti- pigmentation activity. (17)







			$\mathbf{Symplocoside}^{\mathbf{H}}$	
10	Gilroy, Gurcha, Amirtavali (Tinosporaordifolia)	Berberine, Plamatine, Choline, Magnoflorine, Furanolactone.	$F_{H,C}$ $F_{H$	Anti-oxidant activity. (26)
11	Til, Sesame (Sesamum indicum L.)	Sesamin, Sesamolin, Sesamol, Sesaminol, Myristic acid.	$c \in C + c \in C + c \in C$ Sesamolin $c \in C + c \in C$ Sesamol $c \in C + c \in C$ Sesaminol	Anti-oxidant, Anti-bacterial Activity. (27)
12	Jaiphal, Jati-phalam, Nutmeg (Myristica fragrans)	Myristic acid, Myristicin, elemicin.		Anti oxidant activity. (28)



			Myristic acid Myristic acid Myristicin	
13	Gotukala, Centella, Indian pennywort. (Centella asiatica L.)	Asiaticoside A, B, C, D, E and F Betulic acid, Betulinic acid, Brahmic acid, Brahminoside, Brahmoside.	How Have the second sec	Wound healing and decrease oxidative stress. (29)
14	Tulsi, holy Basil (Ocimum sanctum)	Eugenol, α-Farnesene, Benzene, 1, 2- dimethoxy- 4-(1-propenyl) Cyclohexane,1,2,4- triethenyl	Ho Fugenol α-Farnesene	Anti- inflammatory, antioxidant, Antibacterial activity. (30)

# Ayurvedic Skincare Practices and Treatments for Acne

Ayurvedic treatments for acne go beyond topical applications and include internal purification, dietary modifications, and lifestyle changes. The following are some of the key practices used to manage acne: (31,32)

# Mukhlepa (Herbal Face Applications)

Mukhlepa refers to the application of herbal pastes or masks to treat various skin disorders, including acne. Ayurvedic texts, such as the Charak Samhita and Sushruta Samhita, describe numerous formulations for acne treatment, utilizing herbs like Neem, Turmeric, and Sandalwood. [7,8,9]

Table 2: Ayurvedic remedies an	d treatments for	different skin	diseases
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Skin disease in Ayurveda	Characteristics	Remedies and treatments
Arumsika	Eczema of face	Washing with decoction of neem the apply paste of hartal, haldi and patola patra. Applying Paste of mulethi, nitopala, erand and Bhringaraj.

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Vyanga	Black spot and dark patches on facial skin	<ul> <li>Puncturing of vein on the forehead, rubbing with Sumdra phena (cuttle fish bone) and application of paste made up of kshira-vriksha or bala, atibala, aguru, Arkpuspi and kaliyaka. Tribhuvan, Bhangapatra, Vidhara and Sesam root or Masur exhibit positive results in dark patches.</li> <li>Application of bark of Arjuna, Manjistha ,and Adusa in equal amount with butter shows good positive outcomes.</li> </ul>
Yauvana Pidika	Pimples and acne	Application of paste made up of Vacha, lodhra, Sendha and Sarso, or Dhanyaka vacha, lodhra and kuth. paste of Jaiphala, Raktacahandan, Maricha or Lodhra, Dhanyaka, Vacha or Safed sarso, Vacha, Lodhra and saindhava or Semal spine mixture with milk.
Vipadika	Dryness and cracks in the skin	paste of wax, saindhav, ghee, Guda, Guggulu ,gum of shal and Geru or mixture of Madanadilepa prepared by Madanphala ,Wax and Smudra lavana (Sea salt) can be applied on face and skin shows positive outcomes and effect.

#### Table 3: Different mixtures of lepa in ayurveda for seasons

Sr.no	Season	Mukhlepa ingredients	
1	<b>Grisma</b> (Summer season)	Kumud(Nymphaea nouchali),Utpal (Nymphoea stellata), Khas (Vetiveria zizanioidis), Durva (Cynodon dactylon), Yastimadhu (Glycyrrhiza glabra), Chandan (Santlum album).	
2	<b>Shisi</b> (Winter Season)	Kateri root, blacktil ,bark of Daruhaldi , Barly without husk.	
3	<b>Varsa</b> (Rainy season)	Kaliyaka (Coscinium fenestratum), Til (Sesamum indicum) khas (Vetiveria zizanioidis), Jatamansi (Nordostachys Jatamansi), Tagar (Valeriana wallichii), Padmk (Nelumbo nucifera).	
4	Hemant (Dewy season)	Applying paste of seed of Ber (Ziziphus jujuba), Vasaka root (Adhatoda vasica), Savara Lodhra (Symplocos racemosa or paniculata) Sarson (Brassica campestris).	
5	<b>Basant</b> (Spring season)	Paste of root of Dabh (Imperata cylindrica), Chandan (Santalum album), Khas (Vetiveria zizanioidis), Shiris (Albizzia lebbeck), Saunf (Foeniculum vulgare), chawal (Oriza sativa).	
6.	Sarat (Autumn season)	Talis (Abies webbiana), Etkat (Sesbania cannabina), Pundarik (Nelumbo nucifera), Muledi (Glycyrrhiza glabra), Khas (Vetiveria zizanioidis), Tagar (Vetiveria wallichii) and Agru (Aquilari agallochaZ).	

#### Shodhana Chikitsa (Purification Therapy)

Shodhana Chikitsa aims to remove toxins (Ama) from the body and purify the blood. Panchakarma therapies such as Virechana (purgation) and Raktamokshana (bloodletting) are often recommended for treating acne. These therapies help eliminate excess Pitta and Kapha, reduce inflammation, and prevent the recurrence of acne [9,14].

# Dietary and Lifestyle Recommendations in Ayurveda

Ayurveda places great emphasis on diet and lifestyle modifications to balance the doshas and prevent acne flare-ups. The following dietary and lifestyle practices are recommended for managing acne:

#### • Dietary Recommendations:

To pacify Pitta and Kapha doshas, Ayurveda recommends avoiding spicy, oily, and heavy foods. Instead, individuals should consume cooling, detoxifying foods such as fresh fruits, vegetables, and whole grains. Herbs like Triphala and Guduchi are often prescribed to improve digestion and eliminate toxins from the body [15].

#### • Yoga and Meditation:

Practices like yoga and meditation help reduce stress, a known trigger for acne. Yoga postures such as Sarvangasana (shoulder stand) and



Matsyasana (fish pose) are believed to balance the doshas and promote healthy skin. [33]

# **FUTURE SCOPE:**

As Ayurveda gains global recognition, further research is needed to scientifically validate the efficacy of Ayurvedic treatments for acne. Clinical trials should focus on standardizing herbal formulations and exploring advanced drug delivery systems to enhance the bioavailability of Ayurvedic herbs. Moreover, integrating Ayurvedic principles with modern dermatology could lead to innovative, personalized skincare treatments that address the unique needs of individuals based on their dosha constitution.

## **CONCLUSION:**

Ayurveda offers a holistic and natural approach to managing acne, focusing on the underlying causes such as imbalances in the Tridoshas (Vata, Pitta, and Kapha) and the accumulation of toxins (Ama) in the body. The application of Ayurvedic principles not only targets the external symptoms of acne but also seeks to restore internal balance. which is crucial for achieving long-term, sustainable results in skin health. Ayurvedic treatments emphasize the importance of internal purification through dietary adjustments, lifestyle modifications, and the use of herbal remedies, in addition to topical applications. Key Ayurvedic herbs such as Neem, Turmeric, Sandalwood, and Aloe Vera have demonstrated significant potential in treating acne due to their antimicrobial, antiinflammatory, and skin-healing properties. These herbs help address the primary causes of acne, such as bacterial colonization, excess sebum production, and skin inflammation, while promoting faster healing of lesions and preventing scarring. Neem's ability to purify the blood and Turmeric's potent anti-inflammatory effects make them invaluable components of Ayurvedic acne therapies. Likewise, Sandalwood's cooling properties and Aloe Vera's regenerative effects enhance the overall efficacy of Ayurvedic

treatments. Moreover, the use of Mukhlepa (herbal applications) and Shodhana Chikitsa face (purification therapies) further strengthens Avurvedic acne management. These therapies not only detoxify the body but also restore dosha balance, which is key to preventing the recurrence of acne. In conclusion, Ayurvedic approaches to acne treatment, based on centuries of traditional knowledge and supported by modern research, offer promising alternatives to conventional therapies. As interest in natural and alternative medicine grows globally, there is immense potential for integrating Ayurvedic treatments into mainstream skincare practices. However, more clinical studies and standardized formulations are needed to fully validate the effectiveness of these therapies and to optimize their application in modern dermatology.

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