RESEARCH PAPER

Integrative management of urticaria in children - an ayurvedic and modern medicine review

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Abstract

Urticaria represents a significant global health burden affecting approximately 65 million individuals worldwide, with increasing prevalence trends observed over the past three decades. This comprehensive review examines the integrative management of urticaria through the dual lens of modern evidence- based medicine and traditional Ayurvedic approaches. Modern pharmacological strategies, anchored by second-generation H1-antihistamines and progressing to biologic agents such as omalizumab and dupilumab, demonstrate substantial efficacy in symptom control. However, treatment-resistant cases and the chronic relapsing nature of the condition necessitate exploration of complementary therapeutic avenues. Ayurvedic medicine conceptualizes urticaria as *Sheetapitta*, a disorder of tridoshic imbalance amenable to *Shodhana* (purificatory) and *Shamana* (palliative) interventions. Key Ayurvedic herbs including *Tinospora cordifolia* (Guduchi), *Curcuma longa* (turmeric), and *Azadirachta indica* (neem) exhibit scientifically validated mast cell-stabilizing, immunomodulatory, and anti-inflammatory properties. This review synthesizes current evidence supporting an integrative paradigm that combines conventional pharmacotherapy with Ayurvedic interventions, addressing both the pathophysiological mechanisms and the holistic patient experience. The analysis reveals significant potential for synergistic therapeutic outcomes while identifying critical evidence gaps requiring rigorous clinical investigation.

Keywords: urticaria, Sheetapitta, integrative medicine, Ayurveda, omalizumab, mast cells, complementary therapy
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1.Introduction

Urticaria, commonly manifesting as wheals and angioedema, represents one of the most frequently encountered dermatological conditions in clinical practice. The Global Burden of Disease Study 2019 documented 114.7 million incident cases globally, with an age-standardized incidence rate of 1,527.5 per 100,000 population [1]. The condition exhibits distinct demographic patterns, with females bearing a disproportionately higher burden (age-standardized prevalence rate of 1,028.9 per 100,000 compared to 705.5 in males) and children under 14 years demonstrating peak incidence rates [1]. The prevalence of Urticaria in children ranged from 15.3-22.5%. The prevalence of all types of Urticaria in children is estimated at 3.5–8%.
The global population affected by Urticaria is 1.1%.

The clinical spectrum of urticaria encompasses acute episodes lasting less than six weeks and chronic forms persisting beyond this threshold. Chronic spontaneous urticaria (CSU), characterized by the spontaneous appearance of wheals without identifiable external triggers, affects approximately 1% of the global population and imposes substantial quality-of-life impairments [2]. The condition extends beyond dermatological manifestations, frequently accompanied by non-skin-related symptoms including fatigue, arthralgia, and gastrointestinal disturbances, reflecting its systemic inflammatory nature [3].

The psychosocial burden of chronic urticaria is profound and frequently underestimated. Multiple studies demonstrate significant associations between chronic urticaria and psychiatric comorbidities, with

meta-analytic evidence indicating anxiety prevalence of 43.6% and depression in 35.5% of affected individuals [4]. The unpredictable nature of eruptions, chronic pruritus disrupting sleep architecture, and visible skin manifestations contribute to social isolation, occupational impairment, and diminished health-related quality of life [5].

Current therapeutic paradigms, while effective for many patients, leave substantial unmet needs. Approximately 50% of CSU patients achieve adequate control with first-line second-generation H1-antihistamines, leaving a significant treatment-resistant population requiring advanced interventions [6]. The emergence of biologic therapies has transformed management for refractory cases, yet accessibility limitations, cost considerations, and persistent symptoms in some patients necessitate exploration of complementary approaches.

Step	Intervention	Evidence Level	Response Rate
1	Second-generation H1- antihistamines (standard dose)	A	~50% [6]
2	Up-dosed H1-antihistamines (2-4× standard dose)	A	Additional 30-40% [6]
3	Omalizumab 300 mg every 4 weeks	A	74.6% disease control [9]
4	Dupilumab (IL-4Rα blocker)	A	Significant benefit in refractory cases [11]
5	Cyclosporine, dapsone, or other immunomodulators	B	Variable response [10]

Contemporary understanding positions mast cells as central orchestrators of urticaria pathogenesis. The 2020-2025 research period has refined the conceptualization of CSU as a fundamentally mast-cell-driven disease involving complex cellular networks of mast cells, basophils, and eosinophils [3].

Type I (autoallergic) endotype is characterized by IgE autoantibodies directed against self-antigens such as thyroid peroxidase (TPO) or interleukin-24 (IL-24), while Type IIb (autoimmune) endotype involves functional IgG autoantibodies targeting FcεRI or IgE itself, causing mast cell degranulation through complement activation [3].

2.1.2 Pharmacological Treatment Algorithm

The international EAACI/GA²LEN/EuroGuiDerm/APAAACI guidelines establish a stepwise treatment approach for chronic urticaria [6,8]. Second-generation H1-antihistamines constitute first-line therapy, with up-dosing to four-fold the standard dose recommended for refractory cases. These agents function through competitive H1 receptor antagonism and inverse agonism, stabilizing receptors in inactive conformations [7].

For patients unresponsive to optimized antihistamine therapy, the biologic agent omalizumab represents the established second-line treatment. This anti- IgE monoclonal antibody, administered Omalizumab (anti-IgE) dose is:

≥6 years, 30-150 kg : 75-375 mg every 2-4 weeks. demonstrates significant efficacy in reducing urticaria activity scores and improving quality of life measures [9]. Clinical trials (ASTERIA I, II, and GLACIAL) and real-world studies confirm that approximately 74.6% of patients achieve disease control by week 12, with 67.7% achieving well-controlled disease status [9]. Baseline total IgE levels serve as predictive biomarkers, with levels above 70 IU/mL typically associated with superior response rates [9].

A 2021 network meta-analysis evaluating 18 pharmacologic interventions for H1 antihistamine-refractory CSU identified ligelizumab (72 mg and 240 mg) and omalizumab (300 mg and 600 mg) as the most efficacious treatments, with standardized mean differences of -1.05 to -0.59 for symptom reduction [10]. Alternative agents including dapsone, hydroxychloroquine, cyclosporine, and zafirlukast demonstrated smaller beneficial effects

Ayurveda, the traditional Indian system of medicine, offers a holistic framework for understanding and treating urticaria through its conceptualization as *Sheetapitta*—a condition arising from the interplay of vitiated *Vata*, *Pitta*, and *Kapha* doshas with *Ama* (metabolic toxins). The Ayurvedic approach emphasizes root-cause resolution through bio-purification (*Shodhana*) and palliative therapies (*Shamana*), utilizing herbs with documented immunomodulatory and anti-inflammatory properties. This review critically examines the evidence supporting integrative management strategies that bridge conventional pharmacology and traditional Ayurvedic interventions.

2. Literature Review

2.1 Modern Medicine Approach to Urticaria Management

2.1.1 Pathophysiological Mechanisms

[10].

Recent advances have introduced dupilumab, an IL-4Rα blocker, as a third-line option for patients intolerant or refractory to omalizumab. The LIBERTY-CSU CUPID phase 3 trials demonstrated significant efficacy in reducing disease activity and improving health-related quality of life [11]. This therapeutic expansion represents a paradigm shift from empirical to mechanism-based precision treatment, utilizing biomarker-guided selection to optimize outcomes [3].

Table 1. Stepwise Treatment Algorithm for Chronic Spontaneous Urticaria (EAACI/GA²LEN Guidelines)

2.2Ayurvedic Approach to Urticaria (Sheetapitta)

The **Samprapti (pathogenesis)** of **Sheetapitta** described in Ayurvedic literature is clearly explained in **Madhava Nidana**, which provides a systematic description of the etiological factors and disease progression.

According to *Madhava Nidana*, the disease begins with exposure to **Nidana (causative factors)** such as intake of **Viruddha Ahara (incompatible foods)**, excessive consumption of cold, heavy, or unwholesome diet, suppression of natural urges (**Vegavidharana**), sudden exposure to cold wind or cold water, and psychological factors such as stress or fear. These factors initially disturb **Vata and Kapha Doshas**, which subsequently provoke **Pitta Dosha**. The combined vitiation of **Vata, Pitta, and Kapha** leads to the circulation of vitiated doshas through **Rakta and Twak (blood and skin tissues)**, ultimately manifesting as **Sheetapitta**.

During the progression of the disease, the aggravated doshas localize in the skin and produce characteristic symptoms such as **Uddharsha (raised skin eruptions or wheals), Kandu (severe itching), Daha (burning sensation), and reddish discoloration of the skin**. The lesions are typically transient, appearing and disappearing rapidly, which resembles the wheal formation observed in modern urticaria. The pathological process mainly involves **Rakta and Twak as the primary Dushyas**, while **Vata facilitates rapid spread, Pitta contributes to burning and redness, and Kapha produces swelling and itching**. This classical description emphasizes that **Sheetapitta is a Tridoshaja disorder with predominance of Vata and Pitta associated with Rakta Dushti**, resulting in inflammatory and allergic manifestations on the skin[15].

2.2.1 Therapeutic Framework: Shodhana and Shamana

Ayurvedic management follows the two fundamental therapeutic principles: **Shodhana Chikitsa (bio-purificatory therapies)** and **Shamana Chikitsa (palliative management)**. However, in pediatric patients the therapeutic approach is modified considering the **immaturity of Dhatus, delicate physiology, and lower strength (Alpa Bala) of children**. Therefore, mild, safe, and age-appropriate procedures are preferred.

Shodhana Chikitsa in children is generally performed in a **Mridu (mild) form**, as classical texts emphasize that aggressive purification procedures should be avoided in infants and young children. Gentle detoxification therapies such as **Mridu Virechana (mild purgation) and medicated enemas in selected cases** are used to eliminate aggravated Doshas and **Ama** from the body while maintaining safety [15,16]. These therapies aim to correct the basic pathological factors responsible for disease development. In pediatric dermatological conditions comparable to **Sheetapitta (urticaria)**, mild purification helps reduce the accumulation of **Pitta and Kapha doshas along with Ama**, which are considered major etiological factors.

Clinical observations and case studies have demonstrated that a **combined approach of mild Shodhana followed by Shamana therapy** can provide significant relief in chronic allergic and skin conditions in children. Paradkar et al. reported complete resolution of chronic urticaria after **Virechana using Trivrit (Operculina turpethum)** followed by Shamana therapy with **Guduchi (Tinospora cordifolia)** and **Manjishtha (Rubia cordifolia) Use of many single drug such as are also used in shaman chikitsa in pediatrics -Tulsi (Ocimum sanctum) ,Amla (Emblica officinalis) ,Shatavari (Asparagus racemosus)** [16]. The patient maintained remission at six-month follow-up, indicating that Ayurvedic purification therapies can contribute to **long-term disease control and immune modulation**.

2.1.3 Adjunctive and Emerging Therapies

Leukotriene receptor antagonists, particularly montelukast, demonstrate modest efficacy as add-on therapy to antihistamines, with particular benefit in angioedema-predominant phenotypes [12]. Vitamin D supplementation has emerged as a promising adjunctive intervention, with systematic reviews indicating that high-dose supplementation (4-12 weeks) produces symptomatic improvements in deficient patients [13]. The immunomodulatory effects of vitamin D on regulatory T-cells and its influence on mast cell stability provide mechanistic rationale for this approach.

Shamana Chikitsa plays a particularly important role in pediatric practice because it is **gentler and safer for growing children**. This therapy includes internal herbal medications (**Aushadha**), appropriate dietary regulation (**Pathya-Apathya**), and lifestyle measures (**Vihara**) designed to pacify aggravated Doshas and restore normal physiological functions. Some Classical formulations commonly indicated in **Sheetapitta and other pediatric skin disorders** include **Patolakaturohinyadi Kashaya, Manjishthadi Kashaya, Arogyavardhini Vati, Gandhaka Rasayana** [14,17]. In These formulations help reduce inflammation, detoxify blood, and improve digestive and metabolic functions, which are essential for managing allergic and dermatological conditions in children.

Probable mode of action of shodhan chikitsa in children.

• **Ama Pachana and Shodhana** – Mild correction of **Mandagni (weak digestive fire)** commonly seen in children, facilitating digestion and removal of metabolic toxins.

• **Mridu Dosha Utkleshana** – Gentle mobilization of aggravated Doshas from peripheral tissues toward the gastrointestinal tract without causing strain to the child's body by mridu snehan,swedan.

• **Mridu Dosha Nirharana** – Controlled elimination of vitiated Doshas through mild procedures such as **Mridu Virechana**, especially useful for **Pitta-Kapha dominant disorders**.

• **Srotoshodhana** – Cleansing of obstructed **Srotas (microchannels)** to improve nutrient absorption, circulation, and tissue nourishment in growing children.

Ayurvedic Properties of Shamana Chikitsa in Children

• **Agni Deepana and Ama Pachana** – Improves digestive capacity and metabolic function, which are often weak during childhood illness.

• **Rakta Prasadana** – Purifies and stabilizes **Rakta Dhatu**, which plays a key role in pediatric skin disorders and allergic conditions.

• **Dosha Prashamana** – Pacifies aggravated Doshas gently without producing excessive depletion in children.

• **Kandughna and Dahashamana** – Reduces itching, redness, and burning sensation associated with urticaria and other skin diseases.

• **Rasayana and Balya Effect** – Enhances **immunity (Vyadhikshamatva)** and promotes proper growth and tissue development.

• **Pathya-Apathya Regulation** – Emphasizes suitable pediatric diet and lifestyle practices to prevent recurrence and support healthy development.

2.2.2 Evidence-Based Pharmacology of Ayurvedic Herbs

In the Ayurvedic management of *skin disease,, Tinospora cordifolia (Guduchi)* is regarded as a principal *Rasayana* and *Tridoshahara* drug, particularly effective in pacifying Pitta and Kapha. Owing to its *Tikta Rasa*, *Ushna Virya*, and *Madhura Vipaka*, it performs *Amapachana*, *Raktaprasadana*, and enhances *Vyadhikshamatva* (disease resistance). It is indicated in recurrent and chronic skin disorders where *Rakta dushti* and *Agni mandya* are involved[18],it can be beneficial to shitapitta as well.

Curcuma longa (Haridra) acts as *Kusthaghna*, *Shothahara*, and *Kandughna*. Through its *Tikta-Katu Rasa* and *Ushna Virya*, it pacifies Kapha and Pitta, purifies blood, clears *Srotas*, and alleviates inflammatory and allergic manifestations associated with Sheetapitta [20].

Azadirachta indica (Nimba) is classified as *Pitta-Kapha Shamana*, *Raktashodhaka*, and *Krimighna*. Its bitter potency supports detoxification, reduces itching and burning, and is traditionally indicated in various *Twak Vikara* (skin disorders) [24].

Withania somnifera (Ashwagandha) contributes through its *Rasayana* and *Medhya* properties. It strengthens *Ojas*, stabilizes *Manas* (mind), and balances Vata, thereby addressing the psychosomatic components of chronic Sheetapitta while supporting systemic resilience [25].

2.3 Integrative and Complementary Approaches

The convergence of modern and traditional medicine offers promising synergies for urticaria management. Herbal remedies with anti-urticaria properties operate through diverse mechanisms including mast cell stabilization, histamine receptor antagonism, and immunomodulation [26]. Quercetin, a flavonoid present in multiple Ayurvedic herbs, demonstrates natural antihistamine activity through inhibition of histamine release from mast cells and basophils [26]. Bromelain enhances quercetin bioavailability while providing independent anti-inflammatory effects [26].

Table 2. Key Ayurvedic Herbs for Sheetapitta (Urticaria) Management

Herb (Sanskrit)	Botanical Name	Key Active Compoun	Pharmacological Actions

		ds	
Guduchi	*Tinospora cordifolia*	Rasa: Tikta, Kashaya Guna: Laghu, Snigdha Virya: Ushna Vipaka: Madhura	Tridoshahara (especially Pitta-Kapha shamaka) Jwaraghna (antipyretic) Rasayana (rejuvenative, immune-enhancing) Agnideepana & Amapachana (improves digestion and metabolizes Ama) Raktaprasadana (purifies blood) Kandughna & Dahashamana (relieves itching and burning)[18,19]
Haridra	*Curcuma longa*	Curcuminoids, curcumin	Shothahara, Pitta-Kapha Shamana, Raktaprasadana, and Kandughna (Rasayana-based dosha stabilization). [20,21]
Nimba	*Azadirachta indica*	Azadirachtin, nimbin	Shothahara, Kandughna, Krimighna, and Raktashodhaka (Pitta-Kapha Shamana). [22,23]
Ashwagandha	*Withania somnifera*	Withanolides, withaferin A	Rasayana (Vyadhikshamatva-vardhaka), Shothahara (Pitta-Shamana), and Manas-Prasadana / Medhya (Vata-Pitta balancing). [24,25]
Manjishtha	*Rubia cordifolia*	Alizarin, purpurin	Raktashodhaka, Raktaprasadana, and Shothahara (Pitta-Rakta Shamana). [16]

3. Discussion

The integrative management of *Sheetapitta (urticaria)* can be viewed as a convergence of modern mast-cell–targeted therapy and the Ayurvedic doctrine of *Tridosha* balance. While contemporary medicine achieves rapid symptomatic relief through H1-antihistamines and biologics like omalizumab [6,9], a significant proportion of patients remain refractory [6], indicating the need for complementary approaches.

Ayurveda addresses the condition at the level of *Nidana*, *Dosha*, and *Ama*. *Shodhana Chikitsa* aims at elimination of vitiated Pitta-Kapha and accumulated *Ama*, potentially modifying disease recurrence rather than offering temporary palliation [16]. *Shamana* formulations, comprising multi-herbal combinations, exert *Raktaprasadana*, *Shothahara*, and *Kandughna* effects, thereby acting on multiple inflammatory pathways simultaneously [18–23].

The psychosomatic component of chronic Sheetapitta aligns with the Ayurvedic concept of *Manasika Nidana*. Herbs such as *Withania somnifera* (Ashwagandha), categorized as *Rasayana* and *Medhya*, help restore *Sattva* and balance Vata, potentially interrupting stress-mediated exacerbations [4,25].

Robust clinical validation through randomized controlled trials remains necessary. Standardization of formulations, assessment of herb-drug interactions, and cautious administration of *Shodhana* therapies under qualified supervision are essential for safety and integration.

4. Conclusion

Management of *Sheetapitta* presents strong potential for integrative development, as modern identification of mast-cell–mediated immune dysregulation corresponds conceptually with the Ayurvedic understanding of *Tridosha Dushti* and *Ama* involvement. While contemporary therapy targets symptomatic pathways, Ayurveda addresses underlying *Nidana*, *Agni Mandya*, and *Rakta Dushti* through a structured *Shodhana–Shamana* approach.

Herbs such as *Tinospora cordifolia, Curcuma longa, and Azadirachta indica*—recognized in Ayurveda for *Rasayana*, *Shothahara*, *Raktashodhaka*, and *Pitta-Kapha Shamana* properties—may serve as supportive adjuncts to conventional management. The *Shodhana* (dosha elimination) and *Shamana* (dosha pacification)

framework offers the possibility of reducing recurrence by restoring metabolic balance and enhancing *Vyadhikshamatva*.

Future research should emphasize well-designed clinical trials, standardization of classical formulations, and careful evaluation of herb–drug interactions to ensure safety. The ultimate objective is a personalized, dosha-based therapeutic model that integrates the strengths of both systems to improve global outcomes in urticaria [as cited previously].

References

1. Pu Y, He L, Wang X, Zhang Y, Zhao S, et al. Global, regional, and national levels and trends in burden of urticaria: A systematic analysis for the Global Burden of Disease study 2019. *J Glob Health*. 2024;14:04095. doi: 10.7189/jogh. 14.04095
2. Gonçalo M, Giménez-Arnau A, Kulthanan K, et al. The global burden of chronic urticaria for the patient and society. *Br J Dermatol*. 2021;184(2): 226-236. doi: 10.1111/bjd.19561
3. Kim HB, Um JY, Chung BY, Park CW, Kim HO. Advances in pathophysiology and therapeutic paradigm shifts in chronic spontaneous urticaria: A narrative review. *Dermatol Ther*. 2025;15(1):1600. doi: 10.1007/s13555-025-01600-1
4. Konstantinou GN, Konstantinou GN. Psychiatric comorbidity in chronic urticaria patients: a systematic review and meta-analysis. *Clin Transl Allergy*. 2019;9:42. doi: 10.1186/s13601-019-0278-3
5. Tawil S, Irani C, Kfoury R, Abramian S, et al. Association of chronic urticaria with psychological distress: a multicentre cross-sectional study. *Acta Derm Venereol*. 2023;103:2939. doi: 10.2340/actadv.v103.2939
6. Zuberbier T, Abdul Latiff AH, Abuzakouk M, et al. The international EAACI/ GA²LEN/EuroGuiDerm/APAAACI guideline for the definition, classification, diagnosis, and management of urticaria. *Allergy*. 2022;77(3):734-766. doi: 10.1111/all.15090
7. Xiang YK, Fok JS, Podder I, Yücel MB, et al. An update on the use of antihistamines in managing chronic urticaria. *Expert Opin Pharmacother*. 2024;25(7):915-929. doi: 10.1080/14656566.2024.2345731
8. Kocatürk E, Chu DK, Türk M, Röckmann H, et al. Management of chronic spontaneous urticaria made practical: what every clinician should know. *J* Allergy Clin Immunol Pract.2025;13(5):1313-1325.doi:10.1016/j.jaip. 2025.01.028
9. Casale TB, Gimenez-Arnau AM, Bernstein JA, et al. Omalizumab for patients with chronic spontaneous urticaria: a narrative review of current status. *Dermatol Ther*. 2023;13:1040. doi: 10.1007/s13555-023-01040-9
10. Nochaiwong S, Chuamanochan M, Ruengorn C, et al. Evaluation of pharmacologic treatments for H1 antihistamine–refractory chronic spontaneous urticaria: a systematic review and network meta-analysis. *JAMA Dermatol*. 2021;157(10):1188-1198. doi: 10.1001/jamadermatol.2021.3043
11. Maurer M, Giménez-Arnau AM, Bernstein JA, et al. Dupilumab in patients with chronic spontaneous urticaria (LIBERTY-CSU CUPID): Two randomized, double-blind, placebo-controlled, phase 3 trials. *J Allergy Clin Immunol*. 2024;154(3):636-646. doi: 10.1016/j.jaci.2024.03.019
12. Pacor ML, Di Lorenzo G, Corrocher R. Efficacy of leukotriene receptor antagonist in chronic urticaria. A double-blind, placebo-controlled comparison of treatment with montelukast and cetirizine in patients with chronic urticaria with intolerance to food additive and/or acetylsalicylic acid. *Clin Exp Allergy*. 2001;31(10):1607-1614. doi: 10.1046/j. 1365-2222.2001.01189.x
13. Siddiqui A, Bai A, Kumar H, Mandhwani YR, et al. Chronic urticaria and vitamin D supplementations: a systematic review. *Eur J Med Res*. 2025;30(1):152. doi: 10.1186/s40001-025-02852-5
14. Maheshwari S, Mishra M. Urticaria: An Ayurvedic point of view. *World J Pharm Res*. 2021;10(5):1234-1242.
15. Madhavakara. *Madhava Nidana* (Roga Vinishchaya). **Chapter: Sheetapitta–Udarda–Kotha Nidana**, Verses **1–5**. Varanasi: Chaukhambha Sanskrit Series Office.
16. Paradkar H, Shiksha G, Anaya P. Management of Sheetapitta (chronic urticaria) using Ayurvedic Shodhana and Shamana therapies. *J Ayurveda Integr Med.* 2024;15(4):100892. doi: 10.1016/j.jaim.2024.100892
17. Nidhin MM, Sruthi N, Govinda KS, Devika B. Commonly practiced Rasayogas in Sheetapitta w.s.r to urticaria: A review. *Int J Appl Ayurved Res*. 2019;6(3): 45-52.
18. Zalawadia R, Gandhi C, Patel V, et al. The protective effect of Tinospora cordifolia on various mast cell mediated allergic reactions. *Pharm Biol*. 2009;47(11):1036-1040. doi: 10.3109/13880200903008690
19. Yates CR, Bruno EJ, Yates MED. Tinospora cordifolia: A review of its immunomodulatory properties. *J Diet Suppl*. 2022;19(4):438-451. doi: 10.1080/19390211.2021.1873214
20. Shin HS, See HJ, Jung SY, et al. Turmeric (Curcuma longa) attenuates food allergy symptoms by regulating type 1/type 2 helper T cells (Th1/Th2) balance in a mouse model of food allergy. *J Ethnopharmacol*. 2015;168:103-111. doi: 10.1016/j.jep.2015.03.048
21. Kong ZL, Sudirman S, Lin HJ, Chen WN. In vitro anti-inflammatory effects of curcumin on mast cell-mediated allergic responses via inhibiting FcεRI protein expression and protein kinase C delta translocation. *Cytotechnology*. 2020;72(3):351-361. doi: 10.1007/s10616-019-00359-6
22. Gopinath H, Karthikeyan K. Neem in dermatology:

shedding light on the traditional panacea. *Indian J Dermatol*. 2021;66(6):660-665. doi: 10.4103/ijd.IJD_267_21

23. Debnath S, Das M, Mondal S, Sarkar BK, Babu G. Neem (Azadirachta indica A. Juss): a multifaceted tree & an elixir in the traditional system of Indian medicine. *Discov Plants*. 2025;3:196. doi: 10.1007/s44372-025-00196-2
24. Tharakan A, Shukla H, Benny IR, et al. Immunomodulatory effect of Withania somnifera (Ashwagandha) extract—a randomized, double-blind, placebo controlled trial with an open label extension on healthy participants. *J Ayurveda Integr Med*. 2023;14(3):100824. doi: 10.1016/j.jaim.2023.100824
25. Choudhary D, Bhattacharyya S, Joshi K. Body weight management in adults under chronic stress through treatment with Ashwagandha root extract: A double-blind, randomized, placebo-controlled trial. *J Evid Based Complementary Altern*
26. *Med*.2017;22(1):96-106.doi: 10.1177/2156587216641830
27. Dogiparthi LK, Bukke SPN, Mortha S, et al. Herbal remedies for urticaria: A comprehensive
32. doi: 10.1111/j. 1468-3083.2007.02324.x

global perspective on traditional practices, efficacy, and future directions. *Nat Prod Commun*. 2025;20(1):1934578X251320162. doi: 10.1177/1934578X251320162

28. Kesarwani K, Gupta R. An appraisal of the bioavailability enhancers in Ayurveda in the light of current scientific evidence. *Int J Ayurveda Med*. 2013;4(3):1-10.
29. de Carvalho JF. Urticaria successfully treated with mindfulness and nutraceutical supplements. *J Integr Med*. 2021;19(3):276-278. doi: 10.1016/j.joim.2021.02.002
30. Staubach P, Eckhardt-Henn A, Dechene M, et al. Quality of life in patients with chronic urticaria is differentially impaired and determined by psychiatric comorbidity. *Br J Dermatol*. 2006;154(2):294-298. doi: 10.1111/j. 1365-2133.2005.06989.x
31. Engin B, Uguz F, Yilmaz E, Ozdemir M, Mevlitoglu I. The levels of depression, anxiety and quality of life in patients with chronic idiopathic urticaria. *J Eur Acad Dermatol Venereol*. 2008;22(1):36-40.