

AYURVEDIC PERSPECTIVES ON PEDIATRIC ALLERGIC RHINITIS: EVIDENCE-BASED REVIEW

Dr. Amit Kataria^{*1}, Dr. Upasana² and Dr. Shruti Mehta³

¹Professor, Department of Kaumarbhritya, Institute for Ayurved Studies and Research, Shri Krishna AYUSH University, Kurukshetra, Haryana.

²Ayurvedic Medical Officer, State Ayurvedic Dispensary Madhan, Mainpuri, Uttar Pradesh.

³PG Scholar Department of Kaumarbhritya, Institute for Ayurved Studies and Research, Shri Krishna AYUSH University, Kurukshetra, Haryana.

Article Received on
21 November 2024,

Revised on 11 Dec. 2024,
Accepted on 01 Jan. 2025

DOI:10.20959/wjpr20251-36970



***Corresponding Author**

Dr. Amit Kataria

Professor, Department of
Kaumarbhritya, Institute for
Ayurved Studies and
Research, Shri Krishna
AYUSH University,
Kurukshetra, Haryana.

ABSTRACT

Allergic Rhinitis (AR) is a prevalent and significant health issue among children, leading to frequent outpatient visits. The chronic nature of the disease, along with its association with comorbidities such as asthma and eczema, negatively impacts the quality of life, school performance, and cognitive function in children. These challenges have led many parents to seek alternative therapies. Furthermore, concerns about the long-term side effects of corticosteroids and antihistamines have increased. Ayurvedic herbal medications, with properties like antihistaminic, mast cell stabilizing, and immunomodulatory effects, either individually or in combination, show promise in alleviating AR symptoms. Additionally, these herbs have demonstrated a reduction in objective parameters, such as decreased levels of immunoglobulin E (IgE), absolute eosinophil count (AEC), and erythrocyte sedimentation rate (ESR) after use. This review aims to compile a list of such herbal remedies, highlighting

their clinical efficacy, safety profile, and their ability to reduce these key inflammatory markers in managing AR in the pediatric population.

KEYWORDS: Ayurveda, *Vataja Pratishyaya*, TNSS.

INTRODUCTION

Over the past decade, Allergic Rhinitis (AR) has become a significant global health concern, affecting approximately 10% to 25% of the world's population, with a rising prevalence.^[1] AR is characterized by inflammation of the nasal mucosa triggered by an immunoglobulin E (IgE)-mediated response to specific allergens, leading to symptoms such as sneezing, nasal discharge, nasal obstruction, and nasal itching.^[2] This condition profoundly affects children's daily lives, causing daytime fatigue, cognitive and memory impairments, irritability, mood disturbances, sleep disruptions, and limitations in activities both at school and home, ultimately diminishing their quality of life.^[3]

In Ayurvedic literature, AR closely resembles the condition known as *Vataja Pratishyaya*.^[4] Factors such as exposure to wind (*Anila*), dust (*Rajah*), and irregular sleep patterns (*Ati Swapna Prajagara*) can vitiate the *doshas*, particularly *Vata*, leading to manifestations in the nasal passages. The clinical features of *Vataja Pratishyaya* include sneezing (*Kshavathu*), rhinorrhea (*Nasa Srava*), nasal congestion (*Nasauparodha*), dry mouth (*Mukha Shosha*), headache (*Shirashoola*), and itching of the nose (*Nasa- Kandu*) mirroring the symptoms of AR.^[5]

Conventional treatments for AR primarily focus on symptomatic relief but often come with adverse effects such as sedation, drowsiness, and anticholinergic side effects, along with incomplete relief and frequent recurrences. Thus, a single herb or an herbal compound can provide all the necessary properties required for patients with AR. When combined with various *Panchakarma therapies* and yoga, these interventions become highly effective in alleviating AR symptoms. This paper focuses on evidence-based modalities that support these approaches.

AIMS AND OBJECTIVES

- To find out evidence based compound formulations & other procedure based modalities employed in the treatment of AR.
- To find out mechanism behind these compound formulations & procedure based modalities to treat AR.

MATERIALS AND METHODS

The material for this review paper was collected from different articles, Ayurvedic Literatures, thesis, different authentic websites like Pubmed, Ayu, JAIMS, Research gate,

Google scholar by using key words – allergy rhinitis, antihistaminic herbs, anti-allergic herbs and mast cell stabilizer herbs. Screenings of herbs were limited to those described in Indian medicines or Ayurveda literature. Papers published in English language and peer reviewed journals were considered for present review paper.

REDUCTION OF IMMUNOGLOBULIN E (IGE) LEVELS

1) *Shatyadhi Churna*- Study evaluates the efficacy of *Shatyadhi Churna* in managing *Vataja Pratisyaya* (Allergic Rhinitis) in children aged 6–16 years, compared to Levocetirizine (LCZ). A two-arm, randomized, open-label trial was conducted with 30 participants-16 received *Shatyadhi Churna* for 4 weeks, while 14 received LCZ for 2 weeks. In the group receiving *Shatyadhi Churna*, the mean IgE levels decreased from 372.72 ± 341.15 before treatment to 234.77 ± 282.42 after treatment, indicating a notable reduction. Conversely, in the Levocetirizine group, the mean IgE levels remained unchanged at 460.25 ± 336.80 before and after treatment, suggesting no measurable effect on IgE levels with this intervention.

Shatyadhi Churna is a herbal formulation combining *Shati*, *Amalaki*, *Trikatu*, and *Shunti* in powder form along with *Guda* (Jaggery) and *Ghrita* (Clarified butter) as *Anupana* (co-administers with medicine)^[6]

The *Srava* suggests *Vata* involvement in the illness,^[7] and the medications provided are *Ushna Virya Pradhana*, thus alleviating the vitiated *Vata*. *Shunti*,^[8] *Pippali* and *Maricha*^[9] have mast cell stabilizing property making the medicine beneficial in treating *Nasasrava* (Rhinorrhea) symptoms. The medications also suppress sneeze by reducing Th2 and Th17 responses and mast cell activation, reducing sneeze complaints by 92.5%.^[10]

Nasavarodha symptoms are related to the *Avarana* of *Udana Vayu* by *Prana Vayu*.^[11] The medications *Srotoshodhana* and *Vatanulomana karma* help rectify *Avarana* and restore *Prakrutagati* of the *Vayu*. All *Shatyadhi churna* medications have anti-inflammatory action, reducing nasal congestion by lowering inflammation.

2) IMMBO- Randomized clinical study, conducted on 250 patients, compared the efficacy of IMMBO, an Ayurvedic herbo-mineral formulation, with a Levocetirizine-Montelukast combination over 28 days. The IMMBO group demonstrated a significantly greater reduction in Total Nasal Symptom Scores (TNSS) compared to the Levocetirizine + Montelukast group (-5.70 vs. -3.31 ; $p < 0.01$), indicating superior symptomatic relief. Additionally, the reduction

in IgE levels was significantly greater in the IMMBO group (-351.54 vs. -208.79; $p < 0.05$), highlighting its enhanced immunomodulatory effect.

IMMBO is a judicious combination of eighteen herbs (Cedrus deodara, Curcuma longa, Cypus rotundus, Emblica officinalis, Emblica ribes, Holarrhena antidysentrica, Picrorrhiza kurroa, Berberis aristata, Piper longum, Piper longum (Root), Piper nigrum, Plumbago zeylanica, Saussurea lappa, Terminalia belerica, Terminalia chebula, Zingiber officinalis, Boerhavia diffusa, Operculina terpathum) and Mandoor Bhasma.^[12]

IMMBO is made utilizing Mandoor Bhasma with eighteen herbs, following the principals of Ayurveda. There is no information available on its method of action as yet.

3) *Shirishavaleha*- The Study entitled The Effectiveness of *Shirishavaleha* in the Management of *Vataja Pratishyaya* (Allergic rhinitis) In Children a Randomized Control Clinical Trial. The effectiveness of *Shirishavaleha* is compared with a control drug levocetirizine for 4 weeks at 6- 16 years old. The assessment was based primarily on the *Vataja Pratishyaya* severity score scale, quality of life questionnaire, and IgE and AEC levels. The Mean IgE obtained within Group-A before treatment was 398.86 ± 272.09680 and after treatment was 522.77 ± 282.42 , whereas in Group-B, mean value obtained before and after treatment were 468.4390 ± 339.90 and 442.73 ± 357.28916 , respectively. On comparing both the groups, difference between Means were computed as -149.407 with P value 0.044. In IgE and AEC values No significant results were found within the group and between the groups Mode of action of *shirishavaleha*- *Shirish* has *Katu Tikta Kashaya Rasa Lghu Ruksha Teeksha Guna* and *Ishad Ushna Veerya* and *Tridosahara*, *Vishaghana*, and *Vednasthapan* property and most of the *Prakshepa Drvya* have *Ushna Teekshna* and *Deepan* properties and immunomodulatory and antihistaminic properties. The Drug was found effective in reducing symptoms of *Vataja Pratishyaya*.^[13]

EFFECT ON AEC AND ESR

1) *Tryushanadi vati* with and without *pathya*- A study on *Tryushanadi Vati* for managing *Pratishyaya* (rhinitis) in children found that combining it with *Pathya* for seven days resulted in greater efficacy. While both groups showed significant improvement in nasal discharge, sneezing, and fatigue, the *Tryushanadi Vati* with *Pathya* (T Vati + P) group achieved a higher overall efficacy (57.51%) compared to *Tryushanadi Vati* alone (46.87%), highlighting the synergistic benefit of *Pathya*.

In terms of objective outcomes, both groups showed statistically significant improvements. The mean difference in ESR levels before and after treatment was 5.26 ± 3.57 in the T Vati + P group and 3.46 ± 5.30 in the *Tryushanadi Vati* alone group, indicating a greater reduction in inflammatory markers with the combined therapy. Similarly, the mean difference in Absolute Eosinophil Count (AEC) was identical in both groups at 62.33 ± 101.65 , demonstrating a comparable reduction in eosinophilic activity.^[14]

The polyherbal formulation was selected from the Ayurveda classic *Vangasen Samhita* which contained the following ingredients- *Sunthi*, *Marich*, *Pippali* and Jaggery.

Mode of Action of medication *Tryushanadi Vati*- *Shunthi* is having anti-inflammatory, anti-tussive, immuno-modulatory properties with antibacterial activity. *Pippali* is having analgesic, anti-inflammatory, immunomodulatory and anti-microbial properties. *Pippali* and *Maricha* are tannin-rich medications that have a surface action on the pharyngolaryngeal mucosa and control it to minimize exudation. In addition to establishing a barrier against the interaction of any antigen (pathogen/allergen), tannins also have a local antibacterial effect, killing any germs that come into contact. *Maricha*, *Pippali*, and systemic anti-bacterial and anti-microbial^[15] effects aid in treating systemic infection of diverse sources coupled with qualities of *Vata*, and *Kapha* suppression.^[16]

2)*Rajanyadi churna*- A case of perennial Allergic Rhinitis, diagnosed as *Vata-Kaphaj Pratishyaya* in Ayurveda, was effectively managed with a combination of *Rajanyadi Churna* and *Guduchi Kwath* (~Guduchi decoction) for 15 days, followed by *Shaman Snehapan* (~internal oleation) with *Mahatiktak Ghrita*. The treatment led to a notable reduction in symptoms. The Absolute Eosinophil Count (AEC) decreased significantly from 704 cells/cu mm to 360 cells/cu mm, while eosinophils in CBC reduced to 4.1%, indicating a marked improvement in allergic response. The primary symptom of sneezing also decreased significantly to 3–4 times/day post-treatment, highlighting the therapeutic efficacy of the Ayurvedic regimen.^[17]

Ingredients of *Rajanyadi churna*- *Rajani*, *Darvi*, *Saral*, *Pippali*, *Bruhti*(*Laghu*), *Bruhti*(*Kantakari*), *Prishnaparni*, *Shatavah*.

Rajanyadi Churna is a polyherbal combination with *Tikta Rasa* and *Ushna Veerya* qualities that pacifies *Saam Kapha Dosha*, which causes Allergic Rhinitis. Its synergistic impact

reduces the sickness, as allergens can cause immune system imbalance, leading to symptoms like sneezing, itching, inflammation, and asthma. A healthy gut microbiota can help manage the immune system and minimize extreme allergic responses.^[18] As stated in the published case report, it strengthens the hypothesis of gut mediated/associated immune response.^[19] *Rajanyadi Churna's Deepan-Pachan* qualities, which are beneficial for digestive tract problems, have shown outcomes in immune-related diseases like Allergic Rhinitis.

3) *Haridrakhanda*- A study evaluating the efficacy of *Haridrakhanda* in managing allergic rhinitis in children aged 6 to 14 years demonstrated significant clinical benefits. Administered with milk as an *Anupana* to enhance efficacy and palatability, the treatment resulted in statistically significant improvements in both subjective and objective parameters, as measured by the Total Nasal Symptom Score.

The therapy significantly reduced allergy markers. The Absolute Eosinophil Count (AEC) decreased from a mean score of 0.90 before treatment to 0.37 after treatment, reflecting a 59.26% improvement ($P < 0.05$). Similarly, the Erythrocyte Sedimentation Rate (ESR) showed a 45.16% improvement, with the mean score decreasing from 1.03 to 0.57 post-treatment, also achieving statistical significance ($P < 0.05$). These findings highlight the therapeutic potential of *Haridrakhanda* in alleviating allergic rhinitis symptoms and modulating inflammatory markers.^[20]

Ingredients of *Haridrakhanda*- *Haridra*, *Go-ghruta*, *Go-dugdha*, *Sharkara*, *Twak*, *Ela*, *Patra*, *Nagakeshara*, *Shunthi*, *Maricha*, *Pippali*, *Vidanga*, *Trivrit*, *Haritaki*, *Vibhitaki*, *Amalaki*, *Mustha*, *Loha Bhasma*.^[21]

Mode of action of *Haridrakhanda*- *Haridrakhanda* is a medicine containing Curcumin longa, a primary constituent that lowers inflammation in the nasal turbinates and respiratory tract. It also alleviates *Vata-Kapha Dosha* through its *Katu-Tikta Rasa* and *Ushna Guna*, aiding in managing *Pratishyaya*, a *Vata-Kapha Pradhana Vyadhi*. *Haridra's Rasayana*, *Ojovardhana*, *Balya*, and *Dhatu Poshaka* qualities enhance *Vyadhikshamatva* (immunity). Curcuminoids in turmeric are natural anti-oxidants that strengthen immunity and prevent illness recurrence. *Haridra* also has anti-histaminic properties, lowering symptoms caused by histamine inhalation. The essential properties of *Haridrakhanda* include *Katu-Tikta Rasa*, *Ushna Veerya*, *Katu Vipaka*, *Laghu-Ruksha Guna*, *Teekshna Guna*, *Twak*, *Ela*, *Patra*, *Pippali*, *Vidanga*, *Trivrt*, *Go-ghruta*, and *Go-dugdha*, which contribute to immunity improvement.

Other ingredients like *Pippali*, *Vidanga*, *Trivrt*, *Go-Ghruta*, and *Go-Gugdha* also contribute to the treatment.

4)*Vachadi Syrup*- An open-labeled clinical trial evaluated the efficacy of *Vachadi Syrup* in managing *Pratishyaya* (rhinitis) in 30 children (4–12 years). Administered at age-appropriate doses every 8 hours for 7 days, the syrup demonstrated highly significant improvements in both clinical symptoms and laboratory parameters. With its *Tikta*, *Kashaya*, and *Katu Rasa*, *Ushna Virya*, and *Katu Vipaka* properties, *Vachadi Syrup* effectively alleviates *Vata-Kapha* imbalance, reducing *Pratishyaya* symptoms. The study also confirmed its safety and efficacy as a herbal remedy.

In terms of objective outcomes, Absolute Eosinophil Count (AEC) decreased from a mean of 404.36 before treatment to 367.4 on day seven, reflecting a 9% reduction (mean difference: 36.9), which was statistically significant ($p < 0.011$). Similarly, the Erythrocyte Sedimentation Rate (ESR) decreased from 21.7 to 17.9, showing a 17% reduction (mean difference: 3.77), with a highly significant result ($p < 0.001$). These findings highlight *Vachadi Syrup's* effectiveness in reducing both clinical and inflammatory markers in children with *Pratishyaya*.

Ingredients of *Vachadi Syrup*- *Vacha*, *Yavani*, *Aamalaki*, *Vibhitaki*, *Haritaki*, *Shunti*.

Mode of action of *Vachadi syrup*- The *Vachadi syrup* contains *Vacha*, *Yavani*, *Amalaki*, *Vibhitaki*, *Haritaki* and *Shunthi*. Among these, *Vacha*, *Yavani*, *Haritaki*, and *Shunthi* possess properties such as *Ushna Veerya* (hot potency), *Laghu* (lightness), and *Teekshna Guna* (sharpness). These qualities help in digesting *Ama* (toxins), promoting healthy *Vata* movement (*Vatanulomana*), and balancing *Vata* and *Kapha doshas*. On the other hand, *Amalaki* and *Vibhitaki*, with their *Madhura Vipaka* (sweet post-digestive effect), support the balance of all three doshas *Vata*, *Pitta*, and *Kapha* making them effective *Tridosha* agents. Together, these herbs work in synergy to improve digestive fire (*Agnimandya*), clear blockages in bodily channels (*Srotodushti*), and restore normal *Vata* function. As a result, *Vachadi Syrup* aids in *Samprapti Vighatana*, or breaking the disease process at its root.^[22]

5)*Vyoshadi Gutika*- A clinical trial evaluating the effectiveness of *Vyoshadi Gutika* in managing *Vataja Pratishyaya* in children aged 5–16 years demonstrated highly significant therapeutic outcomes. Forty patients presenting with classical symptoms were administered the drug based on Young's rule for 35 days.

The treatment resulted in notable improvements in inflammatory markers. The Absolute Eosinophil Count (AEC) showed a 10.53% reduction, while the Erythrocyte Sedimentation Rate (ESR) decreased by 27.65%, indicating a significant anti-inflammatory effect. These findings highlight *Vyoshadi Gutika's* efficacy in alleviating both clinical symptoms and associated inflammatory responses in children with *Vataja Pratishyaya*.

Vyoshadi Gutika Yoga by the name of *Vyosha (Trikatu- Pippali, Maricha, Sunthi), Chavya, Chitraka, Jiraka, Talisa, Amlavetasa, Tintidika, Tvak, Sukshma Ela, and Tvakpatra*.

Mode of action of *Vyoshadi Gutika- Kshavathu*, a condition resulting from *Kapha* contaminating *Shringataka Marma* and vitiated *Vata*, can be resolved by resolving *Vata* and *Kapha Doshas*. *Pippali, Sunthi, Chavya, Chitraka, Jiraka, Talisa, Amlavetasa, Tintidika, Sukshma Ela, and Tvak patra* possess *Vata Kapha Shamaka* qualities that help smooth the membrane's functioning. *Nasa Srava, Amlavetasa, Maricha, Chavya, Chitraka, Tvak, and Jiraka* have *Ruksha and Tikshna Guna* qualities. Nasal dryness is a condition largely induced by *Vata Dosha* imbalance. *Snigdha Guna, Vatanulomaka Karma, Snigdha Guna, and Vata-Pittaghna Doshakarma* of *Guda* help minimize nasal dryness. *Nasa Anaha, Pramathi Karma, Bhedana Karma, Katu and Tikta Rasa* of *Jiraka, Tvak, and Tvak Patra* help open channels and eradicate *Srotoavarodha*. *Vyoshadi Gutika* medications possess anti-inflammatory characteristics, treating nasal congestion and throat inflammation. *Sunthi* provides relief in *Swarabheda* due to *Laghu, Snigdha Guna, Katu Rasa, Ushna veerya, Katu Vipaka, and Kapha Vatashamaka Doshakarma* qualities. *Shirashoola*, a headache caused by vitiated *Dosha* accumulation, can be reduced by *Vatanulomaka* and *Tridoshahara* characteristics of *Sukshma Ela*.^[23]

6) *Murchita tilataila*- An 11-year-old male patient visited the *Kaumarbhritya* OPD at Shri BMK Ayurved Hospital on September 1, 2020, with a 2–3-year history of allergic rhinitis triggered by weather changes and allergens. He was treated for seven days with *Mukhabhyanga* using *Murchita Tilataila*, followed by *Nadi Sweda, Nasya* with *Anutaila* (4 drops per nostril), *Gandusha* with *Haridra Kashaya*, and *Dhoompana* with *Haridra Dhoomvarti*. The therapy resulted in a marked reduction in the Absolute Eosinophil Count (AEC), which decreased from 1200 cells/ μ L to 740 cells/ μ L post-treatment, indicating a significant improvement in the allergic response. This case highlights the efficacy of Ayurvedic interventions in managing allergic rhinitis by reducing inflammatory markers and alleviating clinical symptoms.^[24]

Nasya is a key *Shodhanaprakriya* in this scenario, as it can expeak deep buried *Doshas* and heal them from their roots. *Anutaila*, with its *Sukshmaguna*, can penetrate the minute *Srotas* of *Nasa*, dissolve vitiated *Dosha*, and clear the body's channels. It nourishes *Gandhaindiriya* and other *Indriyas*,^[25] avoiding issues like conjunctivitis and otitis media. It also act as immuno-modulator due to its *Balya* and *Brihmhana* properties.^[26] The immunomodulation will reduce the inflammatory process in nasal cavity and sinuses. *Haridra*, a component of livelihood since ancient times, contains anti-inflammatory, anti-histaminic, and wound-healing activity. *Dhoompana* with *haridradhoomvarti* clears channels, drains excessive fluids, and heals wounds caused by itching. And *Gandusha* by *Haridrakashya* helps to maintain the strength of *Indriyas* and their respective strengths^[27] as well as moisten the throat. Both medications and techniques have significant outcomes in *Nasasrava*, itching, sneezing, and nasal issues.

7) *Bharangi Syrup*: A study evaluating the efficacy of *Bharangi Syrup* in managing *Pratishyaya* (rhinitis) in preschool children (3–6 years) demonstrated statistically significant therapeutic outcomes. Thirty patients from the OPD of the College of Ayurved & Research Center, Pune, received the syrup for seven days, with follow-ups on the 3rd, 5th, and 7th days.

The treatment resulted in a significant reduction in Absolute Eosinophil Count (AEC). The median AEC value decreased from 3 before treatment to 1 after treatment. Statistical analysis using the paired t-test confirmed that the P-value was < 0.05, indicating a significant improvement in AEC levels. These findings highlight the efficacy of *Bharangi Syrup* in reducing allergic responses and alleviating symptoms of *Pratishyaya* in preschool children.

Ingredients of *Bharangi Syrup*- *Bharangi Mula*, *Sita*.

Bharangi syrup is effective in treating various ailments, including *Nasasrava*, *Kshavathu*, *Ghranoparodha*, *Shirshoola*, *Swarbheda*, *Aruchi*, and *Kasa*. Its *Ushna*, *Tikshna Guna* and *Kapha-Vataghna* attributes make it a potent remedy for *Nasasrava*, minimizing symptoms. It also relieves *Vata Kapha* and lowers symptoms in *Kshavathu*. *Bharangi's Ushna Virya* and *Vatanuloman* characteristic ease the allevation of *Vata* in *Shirshoola*, and its *Kapha-Vataghna* attribute makes it beneficial for *Swarbheda*. Its *Deepaniya* property and *Katu*, *Tikta* as a dominating *Rasa* decrease *Aruchi*. Lastly, *Bharangi Syrup* alleviates *Kapha Vata* and reduces *Kasa* symptoms.^[28]

EFFECT ON SIGN AND SYMPTOMS (*Kshavathu, Ghranoparodha, Shirashoola, Kasa, Nasasrava, Swarabheda, Netrasrava*)

1) *Ardraka Swaras*- This study evaluates *Ardraka Swaras* (ginger juice) in managing *Pratishyaya* (rhinitis) through an open trial on 30 patients over seven days. Results showed significant improvement ($P < 0.05$) in symptoms like nasal discharge, sneezing, congestion, cough, fever, headache, and hoarseness, with marked relief by day seven. A detailed Ayurvedic literature review confirmed its relevance, and no adverse effects were observed, establishing *Ardraka Swaras* as a safe and effective remedy for *Pratishyaya*.

Ardraka Swaras-Due to *Ushna, Tikshna, Rukshagunas, Deepan Guna Katu rasa, Vatanuloman* and *Vipaka* of *Ardraka Swaras* are *Vata Kaphahara*. It was seen to be more effective in *Vata Kaphaja* types of *Nasasrava, Kshavathu, Ghranoparodha, Jwara, Kasa, Shirashoola*.^[29]

2) *Katphaladi Yoga*- This study assesses the efficacy of *Katphaladi Yoga* in treating *Pratishyaya* (Allergic Rhinitis) in children aged 5–15 years. A clinical trial on 30 patients at SJG Ayurveda Medical College involved administering *Katphaladi Yoga* (4–14 *Masha*) with honey thrice daily for 21 days. Results showed significant symptom relief, with complete cure observed in all patients by day 21. The study highlights the potential of *Katphaladi Yoga* as an effective treatment for *Pratishyaya* and calls for further research on its standardization.

Mode of action- *Katphaladi Yoga* is a complex formulation of eight substances, including *Ushna, Tikshna, and Ruksha Guna*, which can enter minute channels. Its fundamental element is *Katu Tikta Rasa*, which causes *Srotoshodhana, Kashaya Rasa*, which lessens *Nasasrava* and *Netrasrava*, and *Ushna Veerya*, which calms the *Vata* and *Kapha Doshas*. It also has *Vedanasthapana* activity, affecting *Shirashoola*. *Katphaladi Yoga* works synergistically to treat *Pratishyaya* or allergic rhinitis. The medicine's nature is *Usna* and *Tiksna*, counteracting the *Avarana* of *Udana Vayu*, limiting the allergen's direct action on nasal mucosa. The mucosa cavity inhibits crust development, and *Deepana* and *Pachana* promote digestive fire, regulating *Agni* and healing *Pratishyaya* caused by *Vishamagni* and *Mandagni*. *Katphaladi Yoga* may be a preferred treatment for controlling and curing *Pratishyaya* and preventing recurrence.^[30]

3) *Chitraka Haritaki Avaleha*- *Chitraka Haritaki Avaleha* was taken as a trial drug. In the present study total 68 number of patients were registered for the trial and were randomly distributed in two groups i.e. 30 students in group A, 30 students in group B were completed

the course of treatment. The observations were recorded before and after study. Statistical tests were applied. Result drawn on the basis of statistical tests.

Mode of action

As the name suggests, the two main ingredients in this formulation are *Chitraka* and *Haritaki*. *Chitraka* is well known in *Ayurveda* for its powerful ability to digest *Ama* (undigested toxins) and is widely used for *Deepana* and *Pachana* (enhancing appetite and digestion). With its *Katu Vipaka* and *Ushna Veerya*, *Chitraka* is especially effective in breaking down thick, sticky *Kapha* secretions commonly seen in respiratory issues like *Vataja Pratishyaya*. *Haritaki*, the second key ingredient, is rich in five *Rasas* except for salt, with a dominance of *Kashaya Rasa*. It supports the absorption of excess bodily secretions and helps in regulating *Vata*, particularly by directing the *Vata* downward, an important function in managing *Vata* disorders. Together, *Chitraka* and *Haritaki* form a synergistic combination that helps relieve symptoms of *Vataja Pratishyaya* by improving digestion, clearing *Ama*, balancing *Vata-Kapha*, and reducing excessive nasal secretions. Additionally, ingredients like *Amalaki* and *Guduchi*, often part of such formulations, contribute rejuvenating effects, supporting overall immunity and tissue repair.^[31]

4) *Shirisharishta*- The study entitled 'Evaluation on the efficacy of *Shirisharishta* in *Pratishyaya* (Allergic Rhinitis)' was undertaken with the objective of evaluating the efficacy of *Shirisharishta* in *Pratishyaya* i.e. Allergic Rhinitis in children of 6-12 yrs in the duration of 7 days.

Ingredients of *Shirisharishta*- *Shirisha*, *Pippali*, *Priyangu*, *Kushta*, *Ela*, *Nilini*, *Haridra*, *Daruharidra*, *Sunti* and *Nagakeshara*.

Mode of action- Most of the ingredients used in this formulation possess *Ushna Veerya* (hot potency) and are known to be effective against *Vata* and *Kapha doshas*. This makes the medicine particularly suitable for managing *Pratishyaya*, which is primarily a *Vata-Kapha* dominated condition. According to Ayurvedic understanding, the underlying causes of *Pratishyaya* often resemble the concept of *Dushi Visha* (a type of lingering toxin in the body). *Shirisharishta*, one of the key formulations used, is especially recommended in conditions associated with *Visha* (toxins). Interestingly, modern science attributes the root causes of allergic rhinitis to endotoxins and exotoxins, which aligns closely with the Ayurvedic view of

Visha. Therefore, *Shirisharishta* may provide relief by addressing both the *dosha* imbalance and the toxin-related aspects of the disease.^[32]

PANCHAKARMA THERAPIES

NASYA AND DHOOMPANA

Nasya Karma is considered the primary treatment among the *Panchakarma* procedures for managing diseases located above the clavicle (*Urdhwajatrugat Rogas*). In cases of *Pratishyaya* (rhinitis), the medicated oil used for *Nasya* acts due to its *Sukshma* (subtle) and *Vyavayi* (spreading) properties, enabling it to penetrate microchannels, clear sinus ostia obstructions, and promote sinus drainage and ventilation. *Pradhamana Nasya* (nasal insufflation of medicinal powders) induces irritation, which helps liquefy thick mucus and facilitate its expulsion. However, oil-based *Nasya* is not recommended in *Nava Pratishyaya* (acute rhinitis), as the nasal mucosa produces excessive secretions during the early stage, leaving little space for proper absorption of the medicine. In contrast, *Jeerna Pratishyaya* (chronic rhinitis) is marked by reduced secretions, making it more suitable for *Nasya* therapy. In *Dhoompana* (medicated smoking), the inhaled fumes act as a gaseous form of medicine, enhancing bioavailability. Upon combustion, the *Dhoompana* substances release smoke, carbon dioxide, and soot. The carbon component is believed to stimulate the brain's respiratory center, potentially restoring normal respiratory function. Additionally, *Dhoompana* may help cleanse the respiratory tract through its disinfectant properties.

NASYA WITH DHOOMPANA

SHODHANA AND SHAMANA THERAPIES FOR PRATISHYAYA: There is a need to classify *Shodhana* (Biocleansing) and *Shamana* (Palliative) therapies for *Pratishyaya*, particularly in pediatrics, along with their indications and contraindications. Digestive fire imbalance and *Ama* accumulation lead to *Dosha* vitiation, causing symptoms. *Shamana* therapy is effective in acute stages to digest vitiated *Doshas*, while *Shodhana* procedures like *Nasya* are recommended for chronic or recurrent cases. Improper milk and sleep intake can contribute to *Pratishyaya* in infants. *Dhoopana* (herbal fumigation) is beneficial in the acute stage, enhancing bioavailability through gaseous medicine. While *Nasya* is unsuitable for children under seven, *Dhoopana* offers a viable nasal treatment alternative.^[33]

NASYA WITHOUT DHOOMPANA

1) *Haridra Taila Nasya*- A single-arm open-label clinical trial assessed the efficacy of *Haridra Taila Nasya* (2 drops twice daily) and *Haridra Khanda* (3g twice daily with milk) in 20

children (3–6 years) with *Pratishyaya*. Symptoms were evaluated on days 1, 4, and 8 using a scoring system. Results showed a statistically significant reduction in symptoms ($P = 0.005$), confirming the treatment's effectiveness.

Recent research suggests that *Haridra* *Curcuma Longa*, also known as curcumin, may have positive effects on rhinitis symptoms. Curcumin has anti-inflammatory properties, which can reduce nasal inflammation and improve symptoms like congestion and runny nose. It also has antioxidant activity, which can reduce oxidative damage and reduce rhinitis symptoms. Curcumin has been shown to affect molecular targets involved in inflammatory pathways, indicating it may directly reduce underlying inflammation. Using curcumin as a supplement or therapeutic option may provide relief from symptoms and improve overall quality of life. Daily administration of *Haridra Taila* may make mucosa healthier and *Taila* may act like barrier in preventing the attack of microbes and allergens into nasal mucosa. Thus, both *Haridra Khanda* and *Haridra Taila* helps in management of *Pratishyaya* in children which is the need of an hour in pediatric practice in this present scenario.^[34]

3) *Mustadi Taila Nasya*: *Panchakarma*, particularly *Nasya*, is the preferred treatment for this condition. *Mustadi Taila Nasya*, rich in *Katu* and *Tikta Rasa*, *Ushna Virya*, and *Vatahara* properties, possesses strong anti-inflammatory effects. *Musta*, the key ingredient, contains terpenoids with anti-inflammatory activity eight times more potent than hydrocortisone. This helps reduce nasal mucosal inflammation, alleviating congestion and sinus discomfort.^[35]

4) *Anu Taila Nasya* with oral medication: An 8-year-old male with allergic rhinitis showed satisfactory results after three months of treatment. While modern medicine offers symptomatic relief, recurrence is common. Ayurveda, through targeted formulations and *Pathya-Apathya*, provides a promising approach. This study confirms *Nasya* as an effective treatment for allergic rhinitis. Due to *Sukshmaand Vyavayi Guna*, *Anutaila* possess a good spreading capacity through minute channels. *Tikta*, *Katu Rasa*, *Laghu Tikshna Guna*, *Ushna Veerya* and *Katu Vipaka* does *Srotho Shodakatwa* (Clearance of obstruction in *Srotasas* i.e., channels of the body). By the above two properties the *Nasyadrug* removes the obstruction of natural sinus ostia and facilitate the drainage of purulent discharge. Therefore, *Anu Taila* exerts a marked anti-inflammatory effect on the nasal mucosa by inhibiting the release of inflammatory mediators from the Mast cells and Basophils, and by blocking the inflammatory effect of Leucocytes in the nose.^[36]

DISCUSSION

The findings underscore the efficacy of Ayurvedic formulations in managing allergic rhinitis through their anti-inflammatory, immunomodulatory, and mast cell-stabilizing properties. *Shatyadhi Churna* significantly reduced IgE levels, unlike Levocetirizine, while IMMBO outperformed Levocetirizine-Montelukast in symptom relief and IgE reduction. *Tryushanadi Vati* with Pathya, *Rajanyadi Churna*, *Haridrakhanda*, *Vachadi Syrup*, *Vyoshadi Gutika*, *Murchita Tilataila Nasya*, and *Bharangi Syrup* effectively reduced AEC and ESR, indicating their potential in mitigating allergic responses. Additionally, Ayurvedic interventions such as *Ardraka Swaras*, *Katphaladi Yoga*, *Chitraka Haritaki Avaleha*, and *Shirisharishta* demonstrated symptom relief by regulating *Agni*, digesting *Kapha*, and detoxifying allergens. *Panchakarma* therapies, particularly *Nasya* and *Dhoompana*, play a crucial role in cleansing nasal passages and enhancing bioavailability. *Haridra Taila* and *Mustadi Taila Nasya* reduce inflammation, while *Anu Taila Nasya* stabilizes mast cells and clears sinus obstructions. These results highlight Ayurveda as a promising, holistic approach for allergic rhinitis management, potentially offering better long-term outcomes than conventional treatments.

CONCLUSION

Allergic rhinitis is a frequent condition in children that can affect their quality of life, cognitive function, and academic performance. Growing global interest in Ayurvedic treatments highlights their perceived safety and efficacy. Studies suggest that herbal formulations with antihistaminic, mast cell-stabilizing, and immunomodulatory properties offer promising results in symptom management.

REFERENCES

1. Passali D, Cingi C, Staffa P, Passali F, Muluk NB, Bellussi ML. The international study of the allergic rhinitis survey: Outcomes from 4 geographical regions. *Asia Pac Allergy*, 2018; 8: e7.
2. Varshney J, Varshney H. Allergic rhinitis: An overview. *Indian J Otolaryngol Head Neck Surg*, 2015; 67: 143-9.
3. Brożek JL, Bousquet J, Agache I, Agarwal A, Bachert C, Bosnic-Anticevich S, et al. Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines-2016 revision. *J Allergy Clin Immunol*, 2017; 140: 950-8.

4. Hiremath VR, Prasad BS. Diagnostic importance of nasal smear eosinophil in Vataja Pratishayaya (allergic rhinitis): An observational study. Indian J Anc Med Yoga, 2014; 7: 121.
5. Ashtanga Hridaya, Uttaraasthana, Adhyaya 19/3-4. Available from: <http://vedotpatti.in/samhita/Vag/ehrudayam>. [Last accessed on 2023 Mar 14]
6. Dileep A, Kumar MA, Shrikrishna R. The efficacy of Shatyadhi Churna in the management of Vataja Pratisyaya (allergic rhinitis) in children: A randomized controlled clinical trial. J Ayurveda, 2024; 18: 109-16.
7. Charak Samhita, Chikitsasthana, Adhyaya 26/105. Available from: <https://niimh.nic.in/ebooks/ecaraka>. [Last accessed on 2023 Mar 14].
8. Kawamoto Y, Ueno Y, Nakahashi E, Obayashi M, Sugihara K, Qiao S, et al. Prevention of allergic rhinitis by ginger and the molecular basis of immunosuppression by 6-gingerol through T cell inactivation. J Nutr Biochem, 2016; 27: 112-22.
9. Aswar U, Shintre S, Chepurwar S, Aswar M. Antiallergic effect of piperine on ovalbumin-induced allergic rhinitis in mice. Pharm Biol, 2015; 53: 1358-66.
10. Bui TT, Piao CH, Song CH, Shin HS, Shon DH, Chai OH. Piper nigrum extract ameliorated allergic inflammation through inhibiting Th2/Th17 responses and mast cells activation. Cell Immunol, 2017; 322: 64-73.
11. Ashtanga Hridaya, Nidanasthana, Adhyaya 16/51. Available from: <http://vedotpatti.in/samhita/Vag/ehrudayam>. [Last accessed on 2023 Mar 14]
12. Prakash VB, Rao YK, Prakash S, et al. Proof of efficacy study to evaluate an Ayurvedic formulation in the treatment of allergic rhinitis: an open-label randomized controlled clinical trial. Cureus, 2023 Oct 8; 15(10): e46663. doi: 10.7759/cureus.46663.
13. Bhandari S. The effectiveness of *Shirishavaleha* in the management of *Vataja Pratishyaya* (allergic rhinitis): A randomized controlled clinical trial [dissertation]. New Delhi: All India Institute of Ayurveda, 2023.
14. Rathi RB, Gulhane A, Rathi B. A comparative study on the efficacy of *Tryushanadi Vati* with and without Pathya in children suffering from *Pratishyaya* (allergic rhinitis). Int J Ayurvedic Med, 2022; 13(3): 770-6.
15. Khan M and Siddiqui M. Antimicrobial activity of fruits of *Piper longum*. Indian Journal of Natural products and Resources, 2007; 6(2): 111-113.
16. Sastry JLN. DravyagunaVijnana 2nd ed.Vol.2. Varanasi; Chaukhambha Orientalia, 2005; p.209-214.

17. Sharma R, Bhat P. Management of allergic rhinitis with *Rajanyadi Churna* and *Guduchi Kwatha*: A case report. J Ayurveda Integr Med, 2023 Jul 19; 14(4): 100740. doi: 10.1016/j.jaim.2023.100740.
18. Huang J, Zhang J, Wang X, Jin Z, Zhang P, Su H, et al. Effect of probiotics on respiratory tract allergic disease and gut microbiota. Front Nutr, 2022 Feb 22; 9: 821900. <https://doi.org/10.3389/fnut.2022.821900>. PMID: 35295917; PMCID: PMC8920559.
19. Nakanekar A, Kulkarni S, Khobarkar P, Belsare M. Integrative management of critical case of Covid 19 with Ayurveda and Modern medicine: a case report. J Ayurveda Integr Med, 2022; 13(1): 100496. <https://doi.org/10.1016/j.jaim.2021.07.012>
20. Shreelakshmi S, Raju CMM. A clinical study to evaluate the efficacy of *Haridrakhand* in the management of allergic rhinitis in paediatric age group. Int J Ayurveda Pharma Res, 2022; 10(8): 14-20. doi: 10.47070/ijapr.v10i8.2488.
21. Bhavaprakasa, hindi commentary: edited by sri *brahmsankara misra* and *sri rupalalaji vaisya* tenth edition *puspa varga* 62-63, chaukhambha Sanskrit sansthan, Varanasi, 2002 p.no.509
22. Chandravanshi L, Kumar VKC, Jartarghar N. Efficacy of Vachadi syrup in the management of Pratishyaya in children. Int J Res Ayurveda Pharm, 2017; 8(4): 212-215. doi: 10.7897/2277-4343.084212.
23. Archana, Verma, K., & Singh, S. K. (2024). Clinical evaluation of Vyoshadi Gutika in Vataja Pratishyaya (Allergic Rhinitis). International Ayurvedic Medical Journal, 12(11). <https://doi.org/10.46607/iamj0212112024>
24. Hulyalkar, K., Prakash, S., & Mangane, M. P. (2021). An Ayurvedic management of allergic rhinitis: Case report. Indian Journal of Ancient Medicine and Yoga, 14(4): 137–139.
25. Caraka, Kaviratna, A.-C., & Kavibhusan, P. S. (1888). In Charak-Samhita (2nd ed., Vol. 1, Ser. 2, pp. 89–90). Printed by D. C. Dass.
26. Patel, J. R. (2017). Ayurvedic Management of Chronic Simple Rhinitis-A Case Study. Journal of Ayurveda and Integrated Medical Sciences (JAIMS), 2(3). <https://doi.org/10.21760/jaims.v2i3.8250>
27. Agnivesha. Charak Samhita, Comm. Chakrapanidatta Ed. R. K. Sharma, Bhagwandash, Chowkhamba Sanskrit series, Varanasi, 1984 Sytrashtana 5/78.
28. Lonkar, P. H. (2020). Study of role of Bharangi syrup in the management of Pratishyaya in preschool age group (3 to 6 years). International Ayurvedic Medical Journal, 8(5).

29. Pudale SD, Pai P. Study on the efficacy of Ardraka Swaras on Pratishyaya in children of age group 1 to 5 years. *Deerghayu International*, 2015; 31(1): 3-17.
30. Budihal S.N, PujarB.V “Clinical Study To Evaluate The Efficacy Of Katphaladi Yoga On Pratishyaya W.S.R. To Allergic Rhinitis” *IRJAY*. [online], 2022; 5(11): 10-17. Available from: <https://irjay.com> DOI link- <https://doi.org/10.47223/IRJAY.2022.51102>.
31. Yadav TJ, Tukaram CS. A randomized controlled clinical study on the efficacy of Chitrakaharitaki Avaleha in Vataj Pratishyaya W.S.R. to allergic rhinitis in children. *PIJAR*, 2017; 1(3): 52.
32. Balakrishnan D. Evaluation on the efficacy of Shirisharishta in Pratishyaya (allergic rhinitis) [dissertation]. Bangalore: Rajiv Gandhi University of Health Sciences, Karnataka; Alva's Ayurveda Medical College, Moodbidri; Year, 2010-2011.
33. Monika, Rath B, Rath B, Balakrishnan D. An Ayurvedic conceptual study on Pratishyaya (rhinitis) with special emphasis on pediatric population—a review. *Int J Life Sci Pharma Res*, 2023; 13(5): L106-L117. doi: 10.22376/ijlpr.2023.13.5.L106-L117.
34. Mallannavar V, Basetty B, Babu AC, Shailaja U. Clinical study to evaluate the effect of Haridra Taila Pratimarsha Nasya and oral administration of Haridra Khanda in the management of Pratishyaya in children. *Int J Novel Res Dev*, 2024; 9(2): b461.
35. Saini N, Gupta A, Chavan SG, Vandana, Roopali. A review article on Vataja Pratishyaya with special reference to allergic rhinitis. *World Journal of Pharmaceutical and Medical Research*, 2023; 9(8): 112-118.
36. Shende, P. V., Thokal, D. S., Ramteke, R. D., & Kamavisdar, R. (2022). Ayurvedic approach to the management of allergic rhinitis: A case study. *World Journal of Pharmaceutical Research*, 11(13): 1737–1741.