



Review Article

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A REVIEW ON PHARMACODYNAMICS OF LAXMIVILAS RASA (NARDIYA) WITH SPECIAL REFERENCE TO ALLERGIC RHINITIS

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ABSTRACT

Allergic Rhinitis is an immunological inflammatory response of the nasal mucosa to airborne allergens. Although Allergic Rhinitis is not a life-threatening disease, the symptoms of Allergic Rhinitis can affect the overall quality of life. Allergic Rhinitis is characterized by watery nasal discharge, nasal obstruction, nasal mucosal pallor, sneezing, and itching in the eyes, palate, and pharynx. Pratishtyaya (rhinitis/nasal disorder) is a broad term mentioned in Ayurveda in which many types of rhinitis are covered. Characteristically, Pratishtyaya (rhinitis) is the disease in which kapha (mucus-related bodily humor) and other dosha (functional bio-elements: vata, pitta, kapha) get dragged towards vayu (principle of movement/air) and are expelled out through the nostrils. Rasaushadhis (herbo-mineral Ayurvedic formulations) are considered highly effective even in minute doses and act quickly at the target site. Laxmivilas Rasa (nardiya) (classical herbo-mineral formulation) is a time-tested formulation widely used by ayurvedic practitioners for correcting this disease. This formulation is mainly indicated in the management of specific disease conditions originating from vata (movement-regulating principle) and kapha (structure and lubrication principle) dosha (bio-regulatory factors). The modern scientific era requires explanations and logic behind the mode of action of various ayurvedic treatments. Hence, this review is an attempt to explain the mode of action (pharmacodynamics) of this formulation. Since analysis of the mode of action provides deep insight into the usage of formulations with a better understanding. This helps physician to use the medicine in contexts other than those traditionally indicated.

Keywords: Rasaushadhis (herbo-mineral formulations), Pharmacological, Pharmacodynamics, Pratishtyaya (rhinitis), Laxmivilas Rasa (classical formulation).

INTRODUCTION

Allergic Rhinitis is an immunologically mediated inflammation of the nasal mucosa caused by hypersensitivity to environmental allergens such as pollen, dust, or animal dander. It is characterized by nasal obstruction, sneezing, itching, watery discharge, and conjunctival irritation. Although not a life-threatening condition, its persistent symptoms can significantly impair daily activities, concentration, and overall quality of life. The disease is commonly associated with seasonal or perennial exposure to allergens, leading to chronic inflammation and hypersensitivity reactions of the upper respiratory tract.¹

In Ayurveda, similar clinical features are described under the term pratishtyaya (rhinitis/nasal disorder). The condition arises when vata (principle of movement) and kapha dosha (mucus and structural bio-element) gets vitiated and obstructed the urdhvajatru pradesha (region above the clavicle/head and neck region). Acharya Sushruta describes pratishtyaya (rhinitis) as the movement of vitiated doshas (functional bio-elements: vata, pitta, kapha) towards the nasal passages, resulting in excessive nasal discharge and sneezing. among its subtypes, vata-kaphaja pratishtyaya (rhinitis due to combined vata and kapha imbalance) most closely resembles allergic rhinitis, where kapha (mucus principle) causes congestion and discharge while vata (movement principle) induces dryness, itching, and sneezing. this correlation

allows the application of ayurvedic formulations aimed at dosha shamana (pacification of vitiated doshas) and srotoshodhana (cleansing of body channels) to manage Allergic Rhinitis effectively.²

Modern pharmacological management of Allergic Rhinitis typically includes antihistamines, corticosteroids, and leukotriene receptor antagonists. while these provide symptomatic relief, their prolonged use may cause adverse effects such as mucosal dryness, sedation, or tachyphylaxis. This limitation has prompted interest in traditional formulations that offer sustainable and holistic relief without significant side effects. Rasaushadhis (herbo-mineral preparations) in Ayurveda are known for their rapid onset of action, high potency in small doses, and broad therapeutic spectrum.³

Among these, Laxmivilas Rasa (nardiya) (classical herbo-mineral formulation) is a well-known Rasaushadhi (herbo-mineral medicine) mentioned in authoritative Rasashastra (ayurvedic pharmacology and alchemy) texts, indicated for kapha-vata (mucus and movement imbalance) predominant disorders. it is used in conditions such as chronic rhinitis, sinusitis, cough, asthma, and other respiratory diseases where kapha (mucus principle) accumulation and vata (movement principle) disturbance coexist. the formulation contains abhakra bhasma (calcined mica ash), shuddha parada (purified mercury), shuddha

gandhaka (purified sulphur), karpooora (camphor), jatiphala (nutmeg), and dhatura beej (dhatura seeds), which collectively possess ushna veerya (hot potency), katu rasa (pungent taste), tikshna guna (sharp/penetrating quality), and katu vipaka (pungent post-digestive effect). these properties help in pacifying vata (movement principle) and kapha dosha (mucus bio-element), enhancing agni (digestive and metabolic fire), and clearing obstructed srotas (body channels).⁴

Understanding the pharmacodynamics of Laxmivilas Rasa (classical formulation) through both ayurvedic and modern perspectives is essential to bridge traditional knowledge with contemporary science. ayurvedically, its mode of action can be explained through rasa-panchaka (five pharmacological attributes: taste, quality, potency, post-digestive effect, and specific action) and prabhava (specific unexplained action), while modern pharmacology interprets its effects through anti-inflammatory, antioxidant, and immunomodulatory mechanisms. therefore, a detailed evaluation of its pharmacodynamics in the context of Allergic Rhinitis provides a scientific basis for its classical use and supports its application in evidence-based ayurvedic clinical practice.⁵

The present conceptual review is based on a comprehensive literary and analytical study of Laxmivilas Rasa (classical herbo-mineral formulation) with special reference to its pharmacodynamics in vata-kaphaja pratishyaya (Allergic Rhinitis due to imbalance of vata – movement principle and kapha – mucus principle). classical ayurvedic texts such as Rasendra Sara Sangraha(classical text of Rasashastra– Ayurvedic Alchemy), Rasa Tarangini (ayurvedic pharmacetics text), and Bhaishajya Ratnavali (classical ayurvedic compendium of formulations) were examined to collect data on the formulation’s composition, rasa-panchaka (five pharmacological attributes: taste, quality, potency, post-digestive effect, and specific action), and therapeutic indications. commentaries, Nighantus (ayurvedic lexicons of medicinal substances), and Rasashastra(ayurvedic pharmacetics and alchemy) references were reviewed to interpret the dravya guna (properties and qualities of substances) and karma (therapeutic actions) of each ingredient.

Relevant modern scientific literature was compiled from databases including Pubmed, AYU journal, JAISMS, and Research gate to analyze pharmacological studies and clinical trials related to Laxmivilas Rasa (classical formulation) and its constituent drugs. the ayurvedic pharmacodynamic analysis was performed by correlating each ingredient’s rasa (taste), guna (quality), veerya (potency), vipaka (post-digestive effect), and prabhava (specific unexplained action) with their probable mode of action in allergic rhinitis, while the modern interpretation included the biochemical and pharmacological properties of their active compounds.

Comparative evaluation of both ayurvedic and modern findings was carried out to establish a logical explanation of the formulation’s mechanism of action and its role in breaking the samprapti (pathogenesis of disease) of allergic rhinitis.

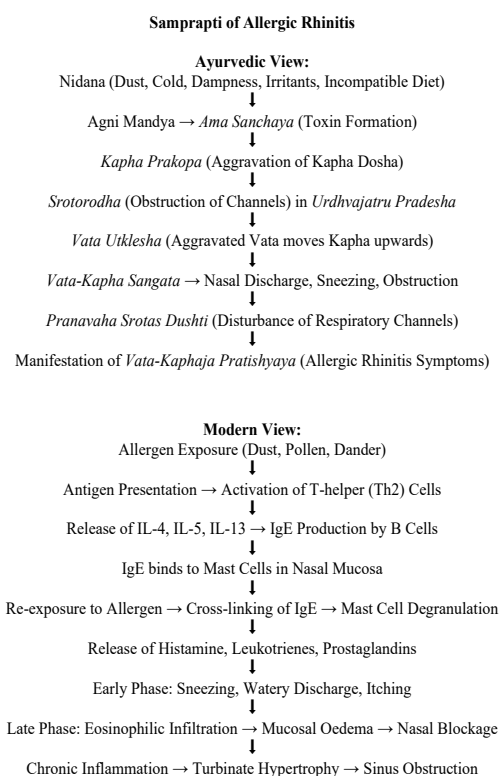
CONCEPTUAL STUDY

Allergic Rhinitis and its samprapti (pathogenesis of disease)

Allergic Rhinitis is a chronic inflammatory condition of the nasal mucosa caused by an IGE-mediated immune response to airborne allergens such as dust, pollen, and animal dander. when a sensitized person inhales allergens, antigen-presenting cells activate t-helper cells, which release interleukins and stimulate b cells to produce ige antibodies. these antibodies attach to mast cells in the nasal mucosa. upon re-exposure, the allergen binds to

ige on mast cells, triggering the release of histamine, leukotrienes, and prostaglandins, which lead to sneezing, nasal congestion, and watery discharge. this allergic process occurs in two phases: the early phase, characterized by histamine release and immediate symptoms, and the late phase, dominated by cytokine release and eosinophil infiltration, resulting in chronic inflammation and nasal obstruction. persistent Allergic Rhinitis may cause turbinate hypertrophy and sinus blockage, significantly affecting sleep and daily quality of life.⁶

in Ayurveda, this condition is closely correlated with vata-kaphaja pratishyaya (rhinitis due to imbalance of vata – movement principle and kapha – mucus principle). according to Charaka Samhita (classical Ayurvedic text) and Sushruta Samhita (classical surgical text of Ayurveda), pratishyaya (rhinitis/nasal disorder) occurs when vitiated vata (principle of movement) and kapha dosha (mucus and structural bio-element) accumulate in the urdhvajatru pradesha (region above the clavicle/head and neck region) and obstruct the nasal passages. kapha (mucus principle) becomes aggravated due to exposure to cold, dust, or damp conditions, leading to srotorodha (blockage of body channels). vata dosha (movement-regulating principle), disturbed by this obstruction, propels the aggravated kapha (mucus principle) towards the nasal passages, causing sneezing, discharge, heaviness of the head, and nasal congestion. agnimandya (weak digestive fire) and ama sanchaya (accumulation of toxins/undigested metabolites) further intensify the pathology, resulting in the manifestation of pratishyaya lakshana (symptoms of rhinitis) such as nasa srava (nasal discharge), kshavathu (sneezing), nasavarodha (nasal obstruction), and kandu (itching).⁷



The hypersecretion of mucus and nasal obstruction due to inflammatory changes correspond to kapha prakopa (aggravation of kapha – mucus principle), while sneezing and itching are indicative of vata utklesha (aggravation/excitation of vata – movement principle). the chronic mucosal irritation and redness seen in prolonged Allergic Rhinitis can be related to secondary

pitta (heat and metabolic principle) involvement. thus, the samprapti (pathogenesis of disease) of Allergic Rhinitis involves kapha-prakopa (aggravation of mucus principle), vata-vyapara (functional activity/disturbance of vata), agni mandya (weak digestive and metabolic fire), and ama sanchaya (accumulation of toxins/undigested metabolites), which collectively cause obstruction in the pranavaha srotas (respiratory channels).⁸

Concept of Pharmacodynamics in Ayurveda and Modern Science

Pharmacodynamics, in modern scientific terms, refers to the study of how drugs exert their biological and physiological effects on the body. It explains what the drug does to the body, including its mechanism of action, dose–response relationship, receptor binding, and overall therapeutic and toxic effects. The discipline focuses on molecular interactions between the drug and cellular components such as enzymes, receptors, and ion channels, which ultimately produce desired physiological outcomes. In the context of allergic rhinitis, pharmacodynamics helps in understanding how antihistamines, corticosteroids, and leukotriene antagonists modulate the immune and inflammatory responses to relieve symptoms like sneezing, nasal blockage, and itching.⁹

In Ayurveda, the concept of pharmacodynamics is explained through rasa-panchaka (five pharmacological attributes: rasa – taste, guna – quality, veerya – potency, vipaka – post-digestive effect, and prabhava – specific action). These five parameters together determine the mode of action, efficacy, and therapeutic scope of any dravya (substance). Rasa (taste) directly influences dosha shamana (pacification of vitiated doshas), while guna (quality) and veerya (potency) decide the strength and direction of the drug's activity. Vipaka (post-digestive effect) governs the drug's long-term metabolic impact, and prabhava (specific unexplained action) accounts for unique effects that cannot be explained by other attributes. Thus, while modern pharmacodynamics describes the interaction of chemical molecules with biological systems, ayurvedic pharmacodynamics interprets the interaction of dravya guna (properties of substances) with dosha (bio-regulatory elements), dhatu (body tissues), and srotas (body channels) to restore balance and homeostasis.¹⁰

From an Ayurvedic viewpoint, the pharmacological response is not only biochemical but also energetic and functional. For instance, katu rasa (pungent taste), tikshna guna (sharp/penetrating quality), and ushna veerya (hot potency) are known to pacify kapha (mucus principle) and regulate vata (movement principle), making them valuable in disorders like pratishyaya (allergic rhinitis). These attributes facilitate srotoshodhana (cleansing of body channels), enhance agni deepana (stimulation of digestive and metabolic fire), and aid in ama pachana (digestion of toxins/undigested metabolites). Thus, Ayurvedic pharmacodynamics is multidimensional, incorporating physical, chemical, and energetic aspects of drug activity, aimed at restoring dosha samya (balance of doshas) and proper prana vata (vital life force governing respiration) flow, rather than just symptom suppression.¹¹

When compared, both modern and Ayurvedic pharmacodynamics share a similar goal—understanding how a substance influences body function to bring about therapeutic benefit. Modern science focuses on molecular mechanisms, while Ayurveda emphasizes functional harmony within biological systems. In the case of Laxmivilas Rasa (classical herbo-mineral formulation), its ayurvedic pharmacodynamics explains its kapha-vata shamana (pacification of mucus and movement principles), srotoshodhana (channel cleansing), and agni deepana (metabolic stimulation) properties, whereas modern pharmacodynamics interprets its

effects in terms of anti-inflammatory, antioxidant, and immunomodulatory actions. Together, these perspectives offer a comprehensive understanding of how the formulation acts on both physical and energetic levels to manage Allergic Rhinitis effectively.¹²

Laxmivilas Rasa – Composition and Therapeutic Role
Laxmivilas Rasa (Nardiya) (classical herbo-mineral formulation) is a classical Rasaushadhi (herbo-mineral medicine) described in Rasendra Sara Sangraha (classical text of Rasashastra– Ayurvedic alchemy), Bhaishajya Ratnavali (classical Ayurvedic compendium of formulations), and Rasa tarangini (Ayurvedic pharmaceuticals text). It is mainly indicated in kasa (cough), shwasa (dyspnoea/breathlessness), jwara (fever), and pratishyaya (rhinitis), where vata (principle of movement) and kapha dosha (mucus and structural bio-element) are predominant. The chief ingredients of this formulation include shuddha parada (purified mercury), shuddha gandhaka (purified sulphur), abhraka bhasma (calcined mica ash), karpooora (camphor), jatiphala (nutmeg – *Myristica fragrans*), dhatura beej (seeds of *Datura metel*), vidarikand (tuber of *Pueraria tuberosa*), and shatavari (root of *Asparagus racemosus*).¹³

Therapeutically, Laxmivilas Rasa (classical formulation) performs kapha-vata shamana (pacification of kapha – mucus principle and vata – movement principle), srotoshodhana (purification of body channels), agni deepana (stimulation of digestive and metabolic fire), ama pachana (digestion of toxins/undigested metabolites), and pranavaha srotas shuddhi (cleansing of respiratory channels). It acts quickly due to its sukshma (minute/subtle penetrating nature) and tikshna guna (sharp/penetrating quality), ensuring deep tissue action and prompt relief in respiratory disorders. Its ushna veerya (hot potency) helps liquefy and expel kapha (mucus principle), while katu rasa (pungent taste) and ruksha Guna (dry quality) counter the heaviness and stickiness of kapha (mucus principle).

From a pharmacological standpoint, the formulation exhibits anti-inflammatory, antioxidant, bronchodilator, and immunomodulatory actions. Camphor provides decongestant and antiseptic effects; *Datura metel* offers bronchodilation through tropane alkaloids; *Myristica fragrans* possesses antihistaminic and antiallergic properties; and Abhraka Bhasma (calcined mica ash) enhances tissue repair and immunity. Collectively, these actions make Laxmivilas Rasa (classical herbo-mineral formulation) highly effective in relieving nasal obstruction, sneezing, and mucus accumulation seen in Vata-Kaphaja Pratishyaya (Allergic Rhinitis due to imbalance of Vata – movement principle and Kapha – mucus principle).¹⁵

Hence, both classical Ayurvedic and modern pharmacological perspectives support the use of Laxmivilas Rasa (classical formulation) as a potent remedy for disorders involving Kapha-Vata Dushti (vitiation of Kapha – mucus and Vata – movement principles), particularly in upper respiratory tract afflictions like allergic rhinitis. Its synergistic composition provides a dual mechanism—clearing the Srotas (body channels) and modulating inflammatory pathways—thereby restoring the normal function of the nasal and respiratory systems.

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Table 1: Ayurvedic Properties¹⁴

Ingredients	Rasa (Taste)	Guna (Quality)	Veerya (Potency)	Vipaka (Post-digestive Effect)	Karma (Therapeutic Action)
Shuddha Parada (Purified Mercury)	Katu (pungent), Tikta (bitter)	Laghu (light), Snigdha (unctuous), Sara (mobile)	Ushna (hot)	Katu (pungent)	Rasayana (rejuvenative), Vata-Kapha Shamana (pacifies Vata – movement and Kapha – mucus), Agnideepaka (enhances digestive fire), Srotoshodhaka (cleanses channels), Yogavahi (catalytic enhancer)
Shuddha Gandhaka (Purified Sulphur)	Katu (pungent), Tikta (bitter)	Laghu (light), Snigdha (unctuous)	Ushna (hot)	Katu (pungent)	Krimighna (antimicrobial/antiparasitic), Rasayana (rejuvenative), Vranashodhaka (wound cleansing), Kaphahara (reduces Kapha), Vatahara (reduces Vata), Tvachya (beneficial for skin)
Abhraka Bhasma (Calcined Mica)	Madhura (sweet), Kashaya (astringent)	Laghu (light), Ruksha (dry)	Ushna (hot)	Katu (pungent)	Balya (strength promoting), Rasayana (rejuvenative), Kaphahara (reduces Kapha), Vatahara (reduces Vata), Pranavaha Srotas Shodhaka (cleanses respiratory channels), Ojovardhaka (enhances vitality/immunity)
Karpooora (Camphor – <i>Cinnamomum camphora</i>)	Katu (pungent), Tikta (bitter)	Laghu (light), Tikshna (sharp), Ruksha (dry)	Sheeta (cold)	Katu (pungent)	Shwasahara (relieves dyspnoea), Kaphanissaraka (expels Kapha), Hrudya (cardiotonic), Vedanasthapaka (analgesic), Shirovirechaka (nasal cleansing action)
Jatiphala (<i>Myristica fragrans</i>)	Katu (pungent), Tikta (bitter), Kashaya (astringent)	Laghu (light), Tikshna (sharp), Snigdha (unctuous)	Ushna (hot)	Katu (pungent)	Deepana (enhances digestive fire), Pachana (digestion), Kaphahara (reduces Kapha), Vatahara (reduces Vata), Krimighna (antimicrobial), Medhya (nootropic/brain tonic)
Dhatura Beej (<i>Datura metel</i>)	Katu (pungent), Tikta (bitter)	Laghu (light), Tikshna (sharp), Ruksha (dry)	Ushna (hot)	Katu (pungent)	Vata-Kapha Shamaka (pacifies Vata and Kapha), Kasa-Shwasahara (relieves cough and dyspnoea), Vedanasthapaka (analgesic), Stambhana (restrictive action)
Vidarikand (<i>Pueraria tuberosa</i>)	Madhura (sweet)	Guru (heavy), Snigdha (unctuous)	Sheeta (cold)	Madhura (sweet)	Balya (strength promoting), Rasayana (rejuvenative), Brimhana (nourishing), Vata-Pittahara (reduces Vata and Pitta), Kshaya-Roga Nashaka (useful in wasting disorders)
Shatavari (<i>Asparagus racemosus</i>)	Madhura (sweet), Tikta (bitter)	Guru (heavy), Snigdha (unctuous)	Sheeta (cold)	Madhura (sweet)	Rasayana (rejuvenative), Balya (strength promoting), Vata-Pittahara (reduces Vata and Pitta), Ojovardhaka (enhances immunity/vitality), Tridosha Shamaka (balances all three Dosha)

Therapeutic actions

Kapha-Vata Shamana (pacification of Kapha and Vata), Srotoshodhana (cleansing of body channels), Agni Deepana (stimulation of digestive and metabolic fire), Ama Pachana (digestion of toxins/undigested metabolites), and Pranavaha Srotas Shuddhi (cleansing of respiratory channels). It acts rapidly due to its Sukshma (minute/subtle penetrating nature) and Tikshna Guna (sharp/penetrating quality), allowing deep tissue penetration and early relief in respiratory disorders.

Evidence from Scientific Literature

Classical and modern scientific studies have highlighted the pharmacological potential of Laxmivilas Rasa (classical formulation) in respiratory and inflammatory conditions. Research findings indicate that the formulation possesses strong antioxidant, anti-inflammatory, and mucolytic properties, which play a vital role in reducing nasal congestion and hypersensitivity reactions. The metallic and herbal components act synergistically to balance vata (movement principle) and kapha dosha (mucus bio-element), cleanse srotas (body channels), and strengthen immune defense.¹⁷

Experimental studies demonstrate that karpooora (camphor) exerts decongestant, antimicrobial, and antiseptic activities by improving nasal airflow and reducing mucosal swelling. *Datura metel* contains tropane alkaloids such as atropine and scopolamine that provide bronchodilator and anti-allergic effects, supporting easier breathing and reduction in nasal obstruction.

Jatiphala (*Myristica fragrans*) shows antihistaminic and anti-inflammatory actions, helping to alleviate sneezing and itching, while abhraka bhasma (calcined mica ash) and shuddha gandhaka (purified sulphur) enhance immunomodulation, act as tissue rejuvenators,¹⁸ and promote detoxification at the cellular level.¹⁹

Several clinical and observational studies published in journals have reported significant efficacy of Laxmivilas Rasa (classical formulation) in conditions such as chronic rhinitis, sinusitis, and upper respiratory tract infections. These disorders share a common Kapha-Vata (mucus and movement imbalance) predominance and pathophysiological features comparable to allergic rhinitis, including mucosal inflammation, nasal blockage, and excessive secretion. The outcomes from these studies revealed improvements in nasal patency, reduction in sneezing frequency, and normalization of mucosal tone, further supporting the classical Ayurvedic understanding of Kapha-Vata Shamana (pacification) and Srotoshodhana (channel cleansing).

Collectively, these scientific validations reinforce that Laxmivilas Rasa (classical herbo-mineral formulation) effectively breaks the Samprapti (pathogenesis of disease) of Vata-Kaphaja Pratishyaya (allergic rhinitis) by acting at both systemic and local levels. Its ingredients not only provide symptomatic relief but also address the underlying inflammatory and immunological mechanisms responsible for allergic rhinitis, thereby establishing it as a rational and evidence-based Ayurvedic formulation for respiratory health.

Table 2: Topic related Research Paper

Year	Title and Study Type	Key Findings and Notes
2015	Pharmaco-Therapeutic Profile of Laxmivilas Rasa – Review Article ²⁰	Describes broad spectrum use including upper respiratory/chronic rhinitis (Kapha-Vata disorders) and research gaps.
2016	Toxicological Studies of Naradiya Laxmivilas Rasa – Animal Study ²¹	Chronic toxicity showed mild organ weight changes; suggests cautious use.
2017	Preclinical Lipid Profile Study of Naradiya Laxmivilas Rasa – Animal Study ²²	Affected serum lipid and HDL levels after chronic administration.
2018	Effect of Naradiya Laxmivilas Rasa and Goghrita Nasya in Vertigo (Bhrama) – Clinical Trial ²³	100 patients showed significant improvement; supports Vata-dominant conditions.
2020	Critical Review on Laxmivilas Rasa w.s.r. Rasa Yog Sagar – Review ²⁴	Compiles classical formulation, dosage, indications.
2023	Integrative Approach with Ayurveda and TCM – Case Report ²⁵	Improvement in post-viral olfactory dysfunction (Kapha-Vata involvement).
2024	Ayurveda management of allergic rhinitis: Protocol for a Randomised Controlled Trial ²⁶	Use of NLR along with anu tail nasya reduced the symptoms associated with AR

Hypothetical Samprapti (pathogenesis of disease) Breakdown (Ayurvedic and Modern)

Ayurvedic View: In Ayurveda, the Samprapti (pathogenesis of disease) of Allergic Rhinitis begins with Nidana (causative factors) such as dust, pollen, cold exposure, and incompatible food combinations (Viruddha Ahara – incompatible diet). These causative factors aggravate Kapha Dosha (mucus bio-element) and impair Agni (digestive and metabolic fire), leading to the accumulation of Ama (toxic byproduct of incomplete digestion). The aggravated Kapha (mucus principle) blocks the Srotas (microchannels), especially in the Urdhvajatru Pradesha (region above the clavicle/head and neck region) and Pranavaha Srotas (respiratory channels).

When Vata (principle of movement) becomes associated with Kapha (mucus principle) in this obstructed region, it propels the accumulated Kapha upwards, resulting in Kshavathu (sneezing), Nasa Srava (nasal discharge), and Nasavarodha (nasal obstruction). Thus, the pathogenesis of Vata-Kaphaja Pratishyaya (rhinitis due to imbalance of Vata and Kapha) unfolds as:

Nidana (allergen exposure) → Kapha Prakopa (aggravation of Kapha) and Agni Mandya (weak digestive fire) → Ama Sanchaya (accumulation of toxins) → Vata-Kapha Sangata (association of Vata and Kapha) → Srotorodha (obstruction of channels) in Pranavaha Srotas (respiratory channels) → Clinical manifestation of Pratishyaya (rhinitis) with sneezing, nasal discharge, and heaviness of head.²⁷

Modern View: In modern immunopathology, Allergic Rhinitis is understood as an IgE-mediated Type-I hypersensitivity reaction. Upon exposure to airborne allergens like pollen or dust mites, antigen-presenting cells activate T-helper (Th2) cells, which release cytokines (IL-4, IL-5, IL-13) that stimulate B cells to produce allergen-specific IgE. These IgE antibodies bind to mast cells in the nasal mucosa. On subsequent allergen exposure, cross-linking of IgE leads to mast cell degranulation and the release of histamine, leukotrienes, and prostaglandins.²⁸

This process causes vasodilation, mucosal edema, itching, and sneezing—the early phase reaction. In the late phase, eosinophils and basophils infiltrate the mucosa, releasing more inflammatory mediators, which perpetuate nasal obstruction and chronic

inflammation.²⁹

Correlation between the Two Views

The inflammatory cascade and mucus hypersecretion in modern terms correspond to Kapha Prakopa (aggravation of mucus principle) and Ama Sanchaya (toxin accumulation), while sneezing and irritation parallel Vata Utklesha (aggravation of Vata – movement principle). Chronic mucosal congestion and blockage of sinuses equate to Srotorodha (obstruction of channels) in Pranavaha Srotas (respiratory channels). The late-phase immune infiltration matches the concept of persistent Dosha Dushti (vitiation of bio-elements) and Amajanya Shotha (toxin-induced inflammation/swelling). Both frameworks describe a cycle of hypersensitivity, obstruction, and inflammation that maintains the disease.

Point of Intervention – Role of Laxmivilas Rasa (classical herbo-mineral formulation)

Laxmivilas Rasa (classical formulation) intervenes at multiple stages of this Samprapti (pathogenesis). Through its Ushna Veerya (hot potency), Katu Rasa (pungent taste), and Tikshna Guna (sharp/penetrating quality), it digests Ama (toxins), liquefies and expels Kapha (mucus principle), and clears Srotorodha (channel obstruction). Its Sukshma Guna (minute/subtle penetrating nature) ensures deep penetration, restoring the normal function of Prana Vata (vital life force governing respiration) and maintaining free airflow in nasal passages. From a modern pharmacodynamic standpoint, it reduces inflammatory mediator release, modulates immune responses, and acts as an antioxidant to prevent mucosal damage. Thus, it breaks the pathological chain by addressing both the Ayurvedic causes (Dosha-Dushya Samurchana – interaction of vitiated doshas with body tissues) and modern immunoinflammatory mechanisms, bringing equilibrium to the respiratory system.

Pharmacodynamics of Laxmivilas Rasa (classical herbo-mineral formulation)

Ayurvedic Perspective

From an Ayurvedic point of view, Laxmivilas Rasa (classical formulation) exhibits a pharmacodynamic profile dominated by katu rasa (pungent taste), ruksha (dry) and tikshna guna (sharp/penetrating qualities), ushna veerya (hot potency), and

katu vipaka (pungent post-digestive effect). These attributes collectively pacify kapha (mucus principle)³⁰ and vata dosha (movement-regulating bio-element), kindle agni (digestive and metabolic fire), and clear srotas (body channels). The formulation's Ushna Veerya (hot potency) helps liquefy and expel excess Kapha (mucus principle) from the nasal and respiratory passages, while its Tikshna (penetrating) and Sukshma Guna (minute/subtle penetrating quality) ensure deeper tissue penetration and rapid action in clearing obstruction.³¹ Karpoora (camphor) and Dhatura Beej (Datura metel seeds) work synergistically to relieve nasal congestion and restore Prana Vata (vital life force governing respiration) flow, reducing sneezing and obstruction.

Abhraka Bhasma (calcined mica ash) enhances Ojas (vital essence/immunity) and overall vitality, whereas Shuddha Gandhaka (purified sulphur) contributes to Srotoshodhana (cleansing of body channels) and antimicrobial activity, ensuring a healthy respiratory mucosa.

In Ayurveda, the pharmacodynamics of Laxmivilas Rasa (classical formulation) can thus be explained through its Dosha Shamana (pacification of vitiated doshas) and Srotoshodhana (channel cleansing) actions. It not only counteracts excessive Kapha (mucus principle) responsible for nasal discharge and congestion but also corrects Vata Utklesha (aggravation of Vata) that triggers sneezing and dryness.

Its Agni Deepana (stimulation of digestive fire) and Ama Pachana (digestion of toxins/undigested metabolites) properties restore metabolic balance, preventing recurrent hypersensitivity and mucus accumulation. The formulation acts on multiple levels — digestive, metabolic, respiratory, and immune — reflecting its Tridoshaghna (balances all three doshas) and Rasayana (rejuvenative) nature, particularly effective in Vata-Kaphaja Pratishyaya (allergic rhinitis).

Modern Perspective

From a modern pharmacological standpoint, the pharmacodynamics of Laxmivilas Rasa (classical formulation) can be attributed to bioactive compounds present in its ingredients such as camphor, alkaloids, flavonoids, essential oils, and sulphur compounds. Karpoora (camphor) acts as a nasal decongestant and anti-inflammatory agent by inhibiting prostaglandin synthesis and reducing mucosal edema.

Datura metel (Dhatura Beej) contains tropane alkaloids (atropine and scopolamine) that provide bronchodilator and anticholinergic effects, easing nasal blockage and breathing difficulty. *Myristica fragrans* (Jatiphala) possesses antihistaminic, antioxidant, and anti-inflammatory properties that help reduce allergic symptoms and mucosal irritation.

Abhraka Bhasma (calcined mica ash) and Shuddha Gandhaka (purified sulphur) show immunomodulatory, detoxifying, and antimicrobial effects that strengthen respiratory defense and prevent secondary infections.

Biochemically, these constituents exert combined actions such as inhibition of histamine release, stabilization of mast cells, reduction of oxidative stress, and modulation of cytokine pathways (IL-4, IL-5, IL-13). These mechanisms decrease mucosal inflammation, improve epithelial integrity, and restore nasal airway patency. The antioxidant and immunomodulatory effects further prevent recurrent hypersensitivity and tissue damage.

Pharmacological Support from Individual Drug Studies

Scientific investigations on the individual ingredients of Laxmivilas Rasa (classical formulation) have revealed significant pharmacological activities that align with its Ayurvedic therapeutic claims in Vata-Kaphaja Pratishyaya (allergic rhinitis). Karpoora (camphor) functions as a natural decongestant, expectorant, and nasal mucosal stimulant. It reduces nasal obstruction by enhancing airflow through vasoconstriction of mucosal vessels and provides antiseptic and antimicrobial protection against respiratory pathogens. Its mild counter-irritant action also helps relieve sinus pressure and nasal heaviness.³²

Dhatura Beej (*Datura metel*) contains tropane alkaloids such as atropine and scopolamine, which exhibit bronchodilator, anticholinergic, antioxidant, antimicrobial and anti-allergic activities.³³ These compounds inhibit excessive nasal secretions, relieve bronchospasm, and suppress histamine-induced inflammatory responses.³⁴ Its Ushna Veerya (hot potency) and Tikshna Guna (penetrating quality) parallel these effects by liquefying Kapha (mucus principle) and promoting the free flow of Prana Vata (respiratory function).

Jatiphala (*Myristica fragrans*) has been shown to possess anti-inflammatory, antioxidant, and mild sedative effects.³⁵ Modern studies indicate that nutmeg extracts inhibit cyclooxygenase and lipoxygenase pathways, reducing histamine release and inflammatory mediator synthesis. These properties help control sneezing, nasal itching, and mucosal irritation, reflecting its Kaphahara (reduces Kapha) and Vatahara (reduces Vata) actions.

Abhraka Bhasma (calcined mica ash) demonstrates immunostimulant and antioxidant capacities.³⁶ It enhances tissue repair, supports respiratory function, and improves systemic immunity by balancing oxidative stress. Shuddha Gandhaka (purified sulphur) exhibits antimicrobial,³⁷ anti-inflammatory, and detoxifying effects.³⁹ It assists in Srotoshodhana (cleansing of body channels) and prevents secondary infections in the nasal passages.

Collectively, these pharmacological findings validate the Ayurvedic concept of Kapha-Vata Shamana (pacification of mucus and movement principles) and Srotoshodhana (channel cleansing) described for Laxmivilas Rasa (classical formulation). The combination of decongestant, bronchodilator, antihistaminic, and antioxidant properties contributes to reducing nasal inflammation, clearing obstructions, and restoring normal mucosal health. These synergistic effects provide both symptomatic relief and long-term correction of the underlying pathophysiology of allergic rhinitis.

DISCUSSION

The present conceptual study on the pharmacodynamics of Laxmivilas Rasa (classical herbo-mineral formulation) with special reference to Allergic Rhinitis reveals the deep interrelation between Ayurvedic Dosha-Dushya Samurchana (interaction of vitiated bio-elements and body tissues) and the modern immunopathological mechanism of allergy. Ayurveda identifies Allergic Rhinitis as Vata-Kaphaja Pratishyaya (rhinitis due to imbalance of Vata – movement principle and Kapha – mucus principle), characterized by excessive Kapha (mucus principle) accumulation and Vata Utklesha (aggravation of Vata) in the Urdhvajatra Pradesha (region above the clavicle/head and neck region). This directly corresponds to mucosal inflammation and hypersensitivity caused by IgE-mediated reactions in modern pathology.

The Rasa-Panchaka (five pharmacological attributes: taste, quality, potency, post-digestive effect, and specific action) of Laxmivilas Rasa (classical formulation)—predominantly Katu Rasa (pungent taste), Tikshna (sharp) and Ruksha Guna (dry quality), and Ushna Veerya (hot potency)—provides a strong rationale for its action on Kapha-Vata (mucus and movement imbalance) disorders. These attributes enable it to clear Srotas (body channels), stimulate Agni (digestive and metabolic fire), and reduce Ama (toxins/undigested metabolites), thereby neutralizing the pathological stagnation responsible for allergic rhinitis.³⁴

From a pharmacological perspective, Laxmivilas Rasa (classical formulation) exhibits antioxidant, anti-inflammatory, and mucolytic actions that collectively alleviate nasal congestion and inflammation. Karpoora (camphor) acts as a decongestant and nasal mucosal stimulant, *Datura metel* (Dhattura Beej) alkaloids provide bronchodilation and anti-allergic activity, and *Myristica fragrans* (Jatiphala) exerts antihistaminic and anti-inflammatory effects. In addition, Abhraka Bhasma (calcined mica ash) and Shuddha Gandhaka (purified sulphur) play vital roles as immunomodulators and detoxifying agents. These combined properties help regulate mucosal immune responses, minimize eosinophilic infiltration, and prevent recurrent hypersensitivity reactions.³⁵

The Ayurvedic pharmacodynamic approach of Rasa-Panchaka (five drug attributes) aligns well with the modern understanding of biochemical mechanisms. The Katu Rasa (pungent taste) and Ushna Veerya (hot potency) stimulate enzymatic and metabolic activities, promoting detoxification and enhancing tissue perfusion, which corresponds to improved microcirculation and immune regulation in modern terms. Similarly, Srotoshodhana (channel cleansing) parallels the mucolytic and anti-inflammatory effects observed in pharmacological studies. This integration of classical and modern perspectives validates that Laxmivilas Rasa (classical formulation) not only treats symptoms but also rectifies the fundamental pathophysiological derangements underlying allergic rhinitis.³⁶

Overall, Laxmivilas Rasa (classical formulation) demonstrates a multifaceted mechanism that works at both systemic and local levels. It targets the core pathology by digesting Ama (toxins), clearing Kapha (mucus principle) obstruction, restoring Prana Vata (vital life force governing respiration) flow, and normalizing mucosal immunity. The synergy of its herbo-mineral ingredients provides a comprehensive therapeutic effect—balancing Doshas (bio-elements), improving Agni (metabolic fire), and reinforcing host defense. Thus, this formulation serves as a bridge between Ayurvedic pathophysiology and modern pharmacology, offering a holistic rationale for managing Allergic Rhinitis and other Vata-Kapha dominant respiratory disorders.

CONCLUSION

The pharmacodynamic evaluation of Laxmivilas Rasa (classical herbo-mineral formulation) demonstrates that it is an effective Rasaushadhi (herbo-mineral medicine) for Vata-Kaphaja Pratishyaya (allergic rhinitis) due to its combined Katu Rasa (pungent taste), Tikshna-Ruksha Guna (sharp and dry qualities), Ushna Veerya (hot potency), and Katu Vipaka (pungent post-digestive effect), which helps in liquefying Kapha (mucus principle), stimulating Agni (digestive fire), and clearing Srotas (body channels). Modern pharmacological evidence supports its anti-inflammatory, antihistaminic, bronchodilator, and antioxidant properties, validating its classical use in respiratory ailments. Acting through both Ayurvedic and modern mechanisms, it provides a dual benefit—symptomatic relief and

correction of underlying pathogenesis. Hence, Laxmivilas Rasa (classical formulation) stands as a scientifically supported, time-tested Ayurvedic formulation for allergic rhinitis, warranting further controlled clinical trials to establish its efficacy and safety on a larger scale.

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