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A COMPARATIVE CLINICAL STUDY TO EVALUATE THE EFFICACY OF DHUMA NASYA WITH DARVYADI DHUMA VARTI AND NAVANA NASYA WITH DARVYADI TAILA IN THE MANAGEMENT OF ALLERGIC RHINITIS

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ABSTRACT

Among Panchakarma procedures, Nasya Karma is considered as the prime therapy for diseases of Urdhvajatrugata Pradesha. Rapid industrialization, pollution, and changing lifestyles have increased the incidence of Allergic Rhinitis (AR), an IgE-mediated inflammatory disorder of the nasal mucosa characterized by sneezing, rhinorrhoea, nasal obstruction, and itching. In Ayurveda, symptoms of allergic rhinitis can be correlated with Kaphaja Pratishyaya, a Nasagata Roga caused by vitiation of Kapha and Vata Doshas. Nidanas like dust exposure, cold climate, and improper diet aggravate Kapha leading to nasal blockage and excessive discharge. Nasya Karma eliminates vitiated Doshas from Shirapradesha and provides Shiras Shuddhi. The present comparative clinical study was conducted on 40 subjects divided into two groups. Group A received Darvyadi Dhuma Nasya, and Group B received Navana Nasya with Darvyadi Taila. Dhuma Nasya carried out using modified Dhuma Nasya Yantra. Instrument modification improves the utility of instruments for specific procedures. It increases durability and ensures long-term use. Modification enhances precision and efficiency during treatment. Assessment was based on subjective symptoms and objective parameters (AEC, ESR). The overall effect observed

was 47.26% in Group A and 76.58% in Group B, showing better and sustained results in Group B.

KEYWORDS: Kaphaja Pratisyaya, Allergic Rhinitis, Darvyadi Dhuma Nasya Nasya**.**

INTRODUCTION

Allergic Rhinitis is an IgE-mediated hypersensitivity disorder of the nasal mucosa to airborne allergens, presenting with sneezing, nasal itching, rhinorrhoea, and obstruction.[1] The signs and symptoms of Allergic Rhinitis resembles the Lakshanas of Kaphaja pratishyaya like Nasa srava, Guruta of shiras, Kshavathu (sashabdha vata gamana), Nasavarodha and Kandu in nasa, gala, oshta and talu,[2] if not treated at the earliest may progress to Dushta Pratishyaya. Nasya Karma is considered the most effective therapy for Urdhvajatrugata Vyadhis. Navana Nasya with Darvyadi Taila, having Tikta–Katu Rasa and Kaphahara properties, helps liquefy and eliminate Kapha, relieving nasal obstruction. Dhuma Nasya[3] with Darvyadi Dhuma Varti provides Ushna, Teekshna, and Kaphavatahara effects, Dhuma Nasya carried out using Dhuma Nasya Yantra which was developed based on classical references, expert consultations, and practical considerations for modern clinical use.

Instrument modification improves the utility of instruments for specific procedures. It increases durability and ensures long-term use.

Darvyadi gana dravyas[4] (daruharidra,ingudi,apamarga, danti and surasa) possesses properties like Laghu, Ushna, Tikshna Katu and Kaphavatahara can be used for Vairechanika type of nasya. Hence, this study was undertaken to compare the efficacy of Dhuma Nasya and Navana Nasya in the management of Allergic Rhinitis (Kaphaja Pratishyaya).

MATERILAS AND METHODS

SOURCE OF DATA

Subjects were incidentally selected from OPD & IPD of Government Ayurveda Medical College and Hospital, Mysuru and Government Hi-Tech Panchakarma Hospital, Mysuru.

SOURCE OF DRUGS

Required drugs were procured from GMP certified pharmacy.

DIAGNOSTIC CRITERIA

1. The subjects having signs and symptoms of Allergic Rhinitis i.e rhinorrhea, sneezing, nasal itching and nasal congestion.
2. *Lakshanas* of *Kaphaja Pratishyaya* like Shiroguruta, Nasasrava, Kandu in Gala, Talu, Oshta, Kshavathu(sashabdha vata gamana)

INCLUSION CRITERIA

1. Subjects fulfilling the diagnostic criteria
2. Subjects in the age group between 18-50 years irrespective of gender.
3. Subjects fit for Nasya Karma.

D. EXCLUSION CRITERIA

1. Subjects who underwent any Nasal surgery.
2. Previously diagnosed subjects with Nasal Furuncle, Abnormal nasal growth, Nasal polyp, Nasal epistaxis.
3. Subjects diagnosed with other systemic illness which may interfere with the intervention.
4. Pregnant and Lactating woman.

STUDY DESIGN

A Comparative Clinical Study with Pre and Post Treatment Assessment.

SAMPLE SIZE: Total sample size consists of minimum 40 subjects, each group will be consisting a minimum 20 Subjects.

GROUPING: Purposive Sampling

STUDY DURATION: For group A group B, 30 days.

PLAN OF INTERVENTION

Subjects are divided into Group A and Group B, each group consisting of 20 subjects.

Group A Subjected to Dhuma Nasya with Darvyadi Dhuma varti and Group B Subjected to *Navana Nasya* with *Darvyadi Taila.*

	Group A	**Group B**
Poorva Karma	*Jatrurdhwa Abhyanga* with *Ksheerabala taila* followed by *Pata Sweda*.	*Jatrurdhwa Abhyanga* with *Ksheerabala* taila followed by *Pata Sweda*
Pradhana Karma	3 Puffs of *Dhuma* is inhaled through each nostril and exhaled through mouth alternatively for 3 times during early morning on an empty stomach Position; Sitting position This procedure is continued for 7 days.	*Nasya* with *Darvyadi Taila* 4 Bindu (2ml) in each nostril during early morning on an empty stomach Position; supine position This procedure is continued for 7 days.
Pashchat Karma	*Kavala* with *Ushna* jala	*Kavala* with *Ushna jala*

Modification of Dhūma Nasya Yantra

Modified Dhūma Nasya Yantra (Dhūmanetra) was designed for safe, effective, and standardized administration of Dhūma Nasya Karma.

1. Material Used — Brass

The instrument was prepared using Brass, which is non-reactive, durable, and easy to sterilize.

2. Agrabhāga[5] (Inhalation End)

Made of Brass, tapering towards the tip with an orifice of about 6 mm (equal to the little finger's circumference).

3. Dhūma Nālikā (Central Tube / Triparvikā)

Constructed as a detachable brass tube of classical lengths—

Vairechanika: 24 Aṅgula, Snaihika: 32 Aṅgula , Prayogika: 48 Aṅgula

Threaded ends enable easy interchangeability of tubes as per treatment type.

4. Mūlabhāga (L-shaped Base)

Designed in L-shape to hold and ignite the Dhūmavarti securely.

The bend prevents direct heat transmission toward the patient.

5. Karnika (Three Rings) — Triparvikā/Trikhaṇḍa

Three brass rings divide the Nālikā into three chambers.

These chambers help in filtration of fumes by settling heavy particles and reducing temperature before inhalation.

ASSESSMENT SCHEDULE

Pre-test – 0th day (Before administration of *Nasya*)

Post – test – 8th day (After completion of *Nasya karma*)

First follow up- 15th day

Second follow up - 30th day

ASSESSMENT CRITERIA

SUBJECTIVE PARAMETERS

Subjects will be assessed using the RHINITIS CONTROL ASSESSMENT TEST(RCAT)

1. Rhinorrhoea

0 None

1 Mild (symptoms clearly present but easily tolerated)

2 Moderate (symptoms bothersome but tolerable)

3 Severe (symptoms difficult to tolerate-interfere with activity**)**

2. Sneezing

0 None

1 Mild (symptom clearly present but easily tolerated)

2 Moderate (symptom bothersome but tolerable)

3 Severe (symptom difficult to tolerate – interferes with activities)

3. Nasal itching

0 None

1 Mild (symptom clearly present but easily tolerated)

2 Moderate (symptom bothersome but tolerable)

3 Severe (symptom difficult to tolerate – interferes with activities)

4. Nasal congestion

0 None

1 Mild (symptom clearly present but easily tolerated)

2 Moderate (symptom bothersome but tolerable)

3 Severe (symptom difficult to tolerate – interferes with activities)

5. Heaviness of head

0 None

1 Mild (symptom clearly present but easily tolerated)

2 Moderate (symptom bothersome but tolerable)

3 Severe (symptom difficult to tolerate – interferes with activities

OBJECTIVE PARAMETER

Table no.: 37 Showing Objective Parametes.

Objective parameters	Before treatment	After treatment
(AEC)Absolute eosi nophil count		
ESR		

OVERALL ASSESSMENT

Overall assessment will be based on improvement in subjective and objective parameters.

Complete relief	100 % relief from complaints
Marked relief	More than 75 % relief from complaints
Moderate relief	50 -75 % relief from complaints
Mild relief	25-50 % relief from complaints
No relief	Less than 25 % relief of complaints

STATISTICAL METHOD

The results will be compared and analysed by using following statistical methods

Descriptive	Non parametric	Parametric
Mean Standard deviation Frequency Percent	Chi-Square test Wilcoxon signed rank test Mann whitney U test	T tests- Independent and Paired samples Repeated measure ANOVA

All the Statistical Operations will be done through service product for Statistical Solutions (SSPS) for Windows V28 Software.

OBSERVATION AND RESULT

1. Sneezing

Before treatment, all **20 subjects** (**100%)** in both groups complained of sneezing, among which 15 subjects (75%) in Group A and 14 subjects (70%) in Group B had moderate to severe sneezing frequency.

After treatment, 17 subjects (85%) in Group A and 15 subjects (75%) in Group B showed marked reduction in sneezing episodes.

Steroids, Berberine, Berberis aristata, Linolenic acid → decreases sneezing bouts.

2. Heaviness of Head

Before treatment, 15 subjects (75%) in Group A and 18 subjects (90%) in Group B complained of heaviness of head associated with nasal blockage.

After treatment, 12 out of 15 subjects (80%) in Group A and 15 out of 18 subjects (83%) in Group B showed reduction in heaviness and reported an improved sense of lightness in the head region.

Oleanolic acid, β-sitosterol, anti-inflammatory, Furanocoumarins in Ingudi relieve congestion-related heaviness

3. Nasal Congestion / Blockage

Before treatment, all 20 subjects (100%) in both groups had nasal congestion.
In Group A, 12 subjects (60%) had unilateral and 8 subjects (40%) had bilateral congestion.
In Group B, 9 subjects (45%) had unilateral and 11 subjects (55%) had bilateral congestion.

After treatment, 19 subjects (95%) in Group A showed improvement in nasal obstruction, while 17 subjects (85%) in Group B showed relief.
Saponins , Axillarenic acid , Eugenol ⟶ Relieve Nasal Congestion

4. Nasal Itching

Before treatment, 16 subjects (80%) in Group A and 18 subjects (90%) in Group B complained of nasal itching associated with other nasal symptoms.

After treatment, 12 out of 16 subjects (75%) in Group A and 15 out of 18 subjects (83%) in Group B reported marked reduction in nasal itching, with noticeable relief from irritation and discomfort within the nasal passages.
Sterols, Linolenic acid, Flavonoids, antioxidant + anti-allergic action → decrease itching.

5. Rhinorrhea

Before treatment, 18 subjects (90%) in Group A and 17 subjects (85%) in Group B had complaints of nasal discharge (either watery or mucoid).

After treatment, 18 subjects (90%) in Group A showed clear reduction or complete cessation of discharge, whereas 14 subjects (70%) in Group B reported improvement.

Saponins, β-sitosterol, Berberine reduce rhinorrhoea.

DISCUSSION ON OBJECTIVE PARAMETERS

AEC

In Group A (Darvyadi Dhuma Nasya), no significant difference was observed between before and after treatment AEC scores (Z = 1.4154, p = 0.1570), showing a non-significant change.

In Group B (Darvyadi Taila Nasya), the change was also non-significant with (Z = 0.0000, p = 1.0000).

Hence, both groups showed similar, statistically non-significant reductions in AEC values, indicating minimal effect on eosinophil-mediated allergic activity.

ESR

In Group A (Darvyadi Dhuma Nasya), no significant difference was observed between before and after treatment ESR scores (p = 0.164), showing a non-significant change.

In Group B (Darvyadi Taila Nasya), the change was also non-significant with (p = 0.4631).

Thus, both groups showed similar, statistically non-significant reductions in ESR values, indicating minimal effect.

Non-reduction in others may be due to persistent allergen exposure, chronic sensitization of immune cells, and the localized nature and short duration of Nasya, which limits its influence on circulating eosinophils.

DISCUSSION ON MODE OF ACTION OF NASYA

PROCEDUAL EFFECT

PROBABLE MODE OF ACTION OF DARVYADI TAILA

- Nasal route of drug administration is the natural choice for the treatment of Jatrurdwa vikaras.
- Acharya Charaka described that Nasa hi Shiraso dwaram[4]. So, the medicine administrated through Nasya can easily spread into Shiras and get absorbed and eliminates the Dosha from Urdhva Jatrugata Pradesha.
- Darvyadi taila, Sneha- instilled locally in the nasal cavity nourish the nasal mucosa (cell lining being lipid in nature). The lost columnar ciliated epithelium is thus replaced and the ciliary clearance is activated which normally drains the sinuses and nasal secretions.

- The nasal irritations due to the instilled medicines as well as the decongestion and anti-inflammatory contents of the drug normalize the osteomeatal physiology which again helps in clearance of the secretions.

The Sringataka Marma plays a major role in Nasya Karma, Which can be interpreted in the following ways.

➢ So in Ayurvedic Point of view assimilation and transportation of Nasya Dravya takes place through Shringhataka Marma and reaches local as well as general circulation.

➢ The preoperative procedures (Purvakarma) of Nasya Karma play a vital role in facilitating proper access of the drug into the body. Lowering of the head, elevation of the lower extremities, and fomentation of the face influence the blood circulation of the head and facial region. Since efferent vasodilator nerves are distributed on the superficial surface of the face, fomentation stimulates them and enhances blood flow towards the brain.

➢ Lowering the head further helps in retaining the instilled medicine within the nasopharynx, thereby increasing its contact time with the mucosa. Research has shown that instilling drops into the nose in a head-downward position is one of the most effective ways of decongesting the sinus ostia.

➢ After absorption, the drug may follow both neural pathways (olfactory and trigeminal nerves) and the circulatory route (via the cavernous sinus) to reach its target site of action. Through these mechanisms, it can influence the psychic level (limbic system), sensory level, motor functions (via trigeminal nerve), as well as general circulation, thereby producing its therapeutic effects, whether excitatory or sedative.

Mode of Action of Darvyadi Dhuma Nasya

1. Entry and Absorption

- Medicated herbal fumes are inhaled through the nostrils.
- Due to Sūkṣma, Uṣhṇa, and Tīkṣhṇa properties, smoke reaches deep into nasal cavity, sinuses, and respiratory passages.
- It penetrates Srotas, removing accumulated Kapha and Avarana.

2. Pharmacological Action

- Volatile principles spread rapidly over nasal mucosa and get absorbed.

- Rich vascularity enables quick systemic entry and possible CNS action.

3. Neurological Action

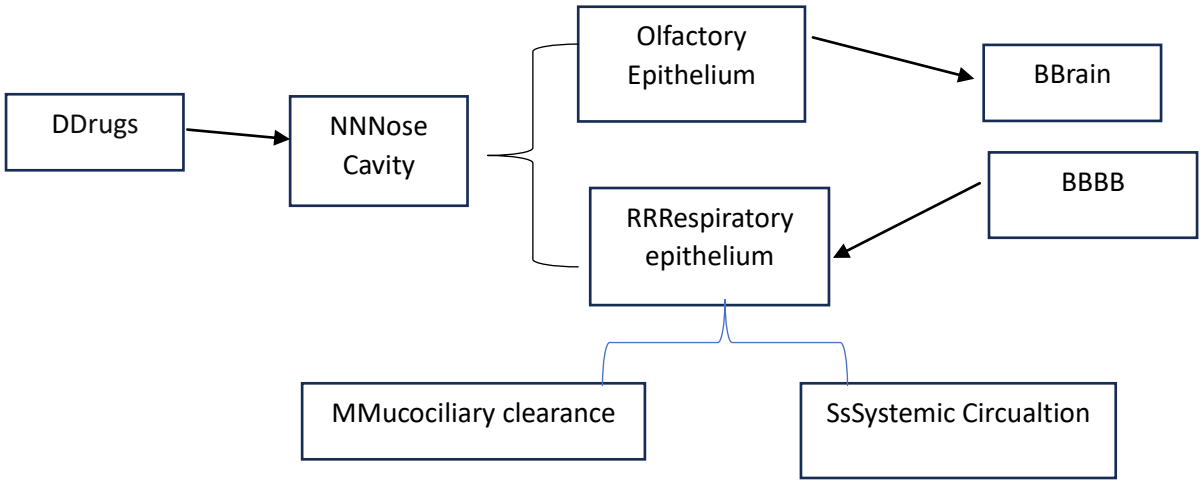
- Stimulates olfactory region and Shringataka Marma, influencing higher centers.
- Clears Srotovarodha, stimulates nerves, and balances Vata–Kapha.

4. Elimination (Shodhana)

- Uṣhṇa and Tīkṣhṇa qualities liquefy vitiated Kapha in head–neck region.
- Expelled through nasal/oral passages → improves mucociliary clearance and relieves obstruction.

5. Local and Systemic Benefits

- Local: Reduces congestion, heaviness, and keeps nose–throat–chest clear.
- Systemic: Shows anti-inflammatory, antimicrobial, bronchodilator, analgesic, and anti-allergic effects.



2. Drug Effect

Darvyadi Taila and Darvyadi Dhuma Varti act in Kaphaja Pratishyaya through their Katu–Tikta Rasa, Laghu–Ruksha–Teekshna Guna, Ushna Veerya, and Katu Vipaka, producing Kapha-Vatahara and Srotoshodhana effects.

Teekshna and Ushna Guna liquefy and mobilize vitiated Kapha, aiding Dosha Nirharana, improving mucosal permeability, and relieving nasal congestion, head heaviness, and sinus blockage.

Katu–Tikta Rasa performs Lekhana, reduces mucosal Shotha, and clears airway obstruction. The active constituents stimulate ciliary activity and glandular secretion, helping expel allergens and irritants, maintain nasal hygiene, and prevent recurrence.

Thus, through Srotoshodhana, Lekhana, and Kaphahara actions, the formulations reduce inflammation and restore normal nasal function.

CONCLUSION

Allergic rhinitis, an IgE-mediated hypersensitivity disorder of the nasal mucosa, closely correlates with Kaphaja Pratishyaya described in Ayurveda. Both conditions share similar etiological factors and clinical features such as sneezing, rhinorrhoea, nasal itching, nasal obstruction, and heaviness of head, primarily involving vitiation of Kapha and Vata Doshas in the Pranavaha Srotas.

The clinical study demonstrated that both Darvyadi Dhuma Nasya and Darvyadi Taila Nasya produced significant improvement in subjective symptoms. However, Darvyadi Taila Nasya (Group B) showed superior results (76.58% overall improvement) compared to Darvyadi Dhuma Nasya (Group A) (47.26%), particularly in rhinorrhoea, nasal obstruction, and nasal itching, with lower recurrence. The enhanced effect of Taila Nasya may be attributed to its Sneha property, mucosal soothing action, and Kaphahara–Srotoshodhana effects.

Objective parameters (AEC and ESR) did not show significant changes in either group, suggesting that Nasya mainly provides local symptomatic relief, and longer duration or systemic therapy may be needed to influence systemic inflammatory markers.

Thus, Darvyadi Taila Nasya can be considered a more effective and clinically reliable therapy in the management of Allergic Rhinitis/Kaphaja Pratishyaya, while the modified Dhuma Nasya Yantra offers a safer and standardized method for Dhuma administration. Further large-scale and long-term studies are required to validate these findings.

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