

**RANDOMISED COMPARATIVE CLINICAL STUDY TO EVALUATE THE
EFFECT OF BHARANGYADI TAILA NASYA AND ANU TAILA NASYA IN
THE MANAGEMENT OF PRATISHYAYA WITH SPECIAL REFERENCE
TO 'ALLERGIC RHINITIS'.**

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TILAK MAHARASHTRA VIDYAPEETH PUNE
FOR THE DEGREE OF**

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IN AYURVEDA (SHALAKYA-TANTRA)
Under the Board of AYUREDA Studies**



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**UNDER THE GUIDANCE OF
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UNDERTAKING

I **Vd. GANGAPRASAD ANANTRAO WAGHMARE** is the Ph. D Scholar of the Tilak Maharashtra Vidyapeeth in **AYURVEDA (SHALAKYA-TANTRA)** subject. Thesis entitled **Randomised Comparative Clinical Study To Evaluate The Effect Of Bharangyadi taila Nasya and Anutaila Nasya in The Management Of Pratishyaya with Special Reference to 'Allergic Rhinitis'** under the supervision of **Prof. Vd. PRASHANT A SURU**, I solemnly affirm that the thesis submitted by me is my own work. I have not copied it from any source. I have gone through extensive review of literature of the related published / unpublished research works and the use of such references made has been acknowledged in my thesis. The title and the content of research is original. I understand that, in case of any complaint especially plagiarism, regarding my Ph.D. research from any party, I have to go through the enquiry procedure as decided by the Vidyapeeth at any point of time. I understand that, if my Ph.D. thesis (or part of it) is found duplicate at any point of time, my research degree will be withdrawn and in such circumstances, I will be solely responsible and liable for any consequences arises thereby. I will not hold the TMV, Pune responsible and liable in any case.

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Is an original research work done by **Vd. GANGAPRASAD ANANTRAO WAGHMARE**. Under my supervision for the degree of Doctor of Philosophy in **AYURVEDA (SHALAKYA-TANTRA)** to be awarded by Tilak Maharashtra Vidyapeeth, Pune.

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ABSTRACT

TITLE: - Randomised Comparative Clinical Study To Evaluate The Effect Of Bharangyadi taila Nasya and Anutaila Nasya In The Management Of Pratishyaya With Special Reference To 'Allergic Rhinitis'.

INTRODUCTION:-

A Randomised Comparative Clinical Study Was done to evaluate the effect of Bharangyadi taila Nasya and Anu taila Nasya in the Management of Pratishyaya with Special Reference to 'Allergic Rhinitis'. A total number of 335 subjects fulfilling the inclusion criteria were registered, Five Subjects had withdrawn from the study without any Known intimation. In this study 330 patients suffering from Pratishyaya were studied into two groups of 165 patients in each group. 165 Patient of Group A were treated with Bharangyadi Taila Nasya while 165 Patient of group B were treated with Anu Taila Nasya.

Assessment was done on the basis of improvement in the signs and symptoms of the disease on the basis of the score decided. The data collected from all the 330 Patient of both groups was summarized & statistically represented in terms of Vital Statistics, Observations during study & Results of the study and Statistical comparison of both the group.

RESEARCH QUESTION: -

Whether Bharangyadi Taila Nasya is more effective than Anu Taila Nasya in the Management of Pratishyaya (Allergic Rhinitis)

OBJECTIVES OF THE SYUDY:-

1. Primary Objective:

To compare the efficacy of Bharangyadi Taila Nasya & Anu Taila Nasya in the management of Pratishyaya w.s.r. to Allergic Rhinitis.

2. Other Objective:

To Study the effect of Bharangyadi Taila Nasya in the management of Nasa-Strav, Nasa-Avarodh, Kshavatu in Pratishyaya w.s.r. to Allergic Rhinitis.

STUDY DESIGN:-

Randomised Comparative Clinical Study

Sample size:

Group A= N_1 = 165

Group B= N_2 = 165

Grouping:

1. Group A: -

Treatment with Bharangyadi Taila Nasya (Includes Pre & Post Procedure).

2. Group B: -

Treatment with Anu Taila Nasya (Includes Pre & Post Procedure).

Intervention: -

Grouping	GROUP A	GROUP B
Sample size	165	165
Intervention	Bharangyadi Taila Nasya	Anu Taila Nasya
Treatment duration	21 days (Daily once in morning)	21 days(Daily once in morning)
Interval	3 days after every 7 days	3 days after every 7 days
Follow up	Daily with assessment on every Week	Daily with assessment on every Week

Selection Criteria

A) Inclusion Criteria –

1. Patients who fulfill diagnostic criteria of Pratishyay (Allergic Rhinitis).
2. Patients suffering from Vataj, Pittaj, Kaphaj & Sannipataj Pratishyaya.
3. Patients of age limit – 20 years to 60 years.
4. Both Male & Female Gender will be included.
5. Patients having allergic history
6. Rhinoscopic Examination Suggesting Allergic Rhinitis.

B) Exclusion Criteria –

1. Pregnant & lactating mothers.
2. Patient who are not willing to participate.
3. Patient suffering from nasal polyp, epistaxis, Benign & Malignant tumors.
4. Patient having major nasal Structural Deformity.
5. Patient having Immunosuppression.

Withdrawal Criteria -

During the course of treatment, there was no any serious condition or any serious adverse events occurs. Five Subjects had withdrawn from the study with-out any Known intimation.

Criteria for Assessment: - Ref.Sushruta Uttar Ch.24/5-11

Assessment was done on the basis of improvement in the signs and symptoms of the disease on the basis of the score decided & Assessment of Turbinate.

Following symptom score will be adopted for the assessment.

- 0 - Completely relieved.
- + - Mild symptoms present.
- ++ - Moderate symptoms present.
- +++ - Moderately Severe symptoms present.
- ++++ - Severe symptoms present.

Subjective Criteria: –

- 1) Nasa-Strav (Rhinorrhea)
- 2) Nasa-Avarodh (Blocking of Nose)
- 3) Kshavatu (Sneezing)
- 4) Shiro-Gurutva (Heaviness of Head)

Objective Criteria: –

Assessment of Inferior Turbinate Size: (Ref.Camacho, Zaghi, Cortal-Inferior Turbinate Classification System “The Laryngoscope” Vol.125, pp296-302,2015.)

Inferior Turbinate Size is based on the Degree of Obstruction Caused by the Anterior aspect of Inferior Turbinate relative to the Total Airway Space.

Inferior Turbinate Size	Grades
1) 0% - 25% of Total Airway Space -	1
2) 26%-50% of Total Airway Space -	2
3) 51%-75% of Total Airway Space -	3
4) 76%-100% of Total Airway Space -	4

OBSERVATION & ANALYSIS:-

A total number of 335 subjects fulfilling the inclusion criteria were studied.

Number of subjects registered for the study - 335

Number of subjects completed the study - 330

Number of dropout - 5

The data collected from all the 330 Patient of both groups was summarized & statistically represented in terms of

- 1.Vital Statistics
- 2.Observations during study
- 3.Results of the study
- 4.Statistical comparison of both the group

SPSS version 22.0 statistical software package for Microsoft Windows (SPSS Inc., Chicago, IL) and MS-Excel were used for analysis. To check the impact of two drugs with respect to symptoms of disease, a non-parametric Wilcoxon Signed Rank test has been used in the data analysis. (p values less than 0.05 considered as significant value)

OBSERVATIONS:-

The observations obtained during the clinical study are discussed below –

Age: - In this present study Patients are found in all Age Group from 20 years to 60 years but Maximum patients has been seen in the age-group of 55 to 60 years in both groups i.e. 17% & 16% respectively.

This suggests more prevalence of disease in old age, which might be because of Low Immunity of individuals to disease in this age Group. Also in this Age Group Diseases due to Exaggeration of Vata-Dosha are Predominantly Found.

Gender: - In the present study, majority of the patients i.e. 55% & 52% were Female in Group A and B respectively. Which indicate that almost equal proportion of gender was seen in both Groups.

Religion: - This study shows a greater prevalence of Pratishyaya in Hindus i.e. 77% in Both Group A and B, which is followed by prevalence in Muslims i.e. 17% & 16% in Group A and B respectively. The greater prevalence may be due to more population of Hindus in and around this area.

Education: - In this study, maximum number of patient i.e. 45% in Group A and 44% in Group B were graduated, which is followed by 32% in Group A and 33% in Group B Were Higher Secondary Education. People with higher Education usually work in an indoor environment, thus exposing them to indoor allergens

Socioeconomic Status: - 73% patients in Group A and 55% patients in Group B were from Middle class, this shows the Socioeconomic condition of the patients attending the OPD and IPD of this Hospital; also it may be due to the Majority of Population in this Study were found to do Office Work.

Marital Status: - 68% patients in Group A and 73% patients in Group B were married and 32% patients in Group A and 27% patients in Group B were unmarried.

Family History: - 54% patients in Group A and 53% patients in Group B were having No Family history of suffering from the same disease (Pratishyaya).

Chronic Condition History: - 48% patients in Group A and 42% patients in Group B were having >5 years, 39% patients in Group A and 41% patients in Group B were having 2 to 5 years and 13% patients in Group A and 17% patients in Group B were having 1 to 2 years' history of suffering from the disease Pratishyaya

Residential Area: - 43% patients in Group A and 48% patients in Group B were live in Polluted residential area.

Nature of work: - 44% patients in Group A and 42% patients in Group B were doing Office work. 22% patients in Group A and 24% patients in Group B were doing Education. 14% patients in Group A and 23% patients in Group B were doing Household work. 20% patients in Group A and 11% patients in Group B were doing Labour work.

Prakriti: - In the present study, it was observed that 70% patients in Group A and 65% patients in Group B were having Kaphavataj Prakriti, 30% patients in Group A

and 27% patients in Group B were having Vatapittaja Prakriti and Only 07% patients in Group A were having Kaphapittaja Prakriti.

Agni Parikshan: - 53% patients in Group A and 35% patients in Group B were having Sama Agni. 22% patients in Group A and 35% patients in Group B were having Manda Agni. 19% patients in Group A and 23% patients in Group B were having Visham Agni and 5% patients in Group A and 8% patients in Group B were having Tikshna Agni.

Type of Ahar: - In the present study, it was observed that 59% patients in Group A and 54% patients in Group B Were Purely having Vegetarian Diet; While 41% patients in Group A and 46% patients in Group B were having Mixed (Veg+ Non-Veg) Diet. This shows the food habit of the society and there is no relation of the disease with food habits.

Aahar Pramana:-It was observed that 47% patients in Group A and 17% patients in Group B were taking Aahar in Sama Praman. 19% patients in Group A and 34% patients in Group B were doing Adhyashan. 15% patients in Group A and 36% patients in Group B were doing Vishamashan and 19% patients in Group A and 13% patients in Group B were taking Aahar in Alpa Praman.

Dominant Rasa Ahar:-It was observed that 59% patients in Group A and 45% patients in Group B were taking Madhur Rasa Dominant Aahar , 35% patients in Group A and 50% patients in Group B were taking Katu Rasa Dominant Aahar and 6% patients in Group A and 5% patients in Group B were taking Katu Rasa Dominant Aahar.

Dominant Guna Ahar:-It was observed that 127 patients in Group A and 125 patients in Group B were taking Aahar in Ruksha & Sheet Dominant Guna and 38 patients in Group A and 40 patients in Group B were taking Snigdha & Ushna Guna Dominant Aahar.

It was observed from above study that 23% patients in Group A and 24% patients in Group B were taking Aahar in Dominant Ushna Guna.

It was observed from above study that 77% patients in Group A and 76% patients in Group B were taking Aahar in Dominant Sheeta Guna.

It was observed from above study that 77% patients in Group A and 76% patients in Group B were taking Aahar in Dominant Ruksha Guna.

It was observed from above study that 23% patients in Group A and 24% patients in Group B were taking Aahar in Dominant Snigdha Guna.

Pattern of Nidra: -66% patients in Group A and 53% patients in Group B were having Samyak Nidra, 15% patients in Group A and 21% patients in Group B were taking Diwaswap and 19% patients in Group A and 26% patients in Group B were doing Ratrijagaran.

Vyasana:-It was observed from above study that 70% patients in Group A and 61% patients in Group B Were Not having any Vyasan (addiction). 15% patients in Group A and 10% patients in Group B were having Alcohol addiction, 9% patients in Group A and 18% patients in Group B were addicted to Smoking and 6% patients in Group A and 11% patients in Group B were addicted to Tobacco.

Dosh Dushti: - 100% patients in Group A and 93% patients in Group B were diagnosed with Vata Dosh Dushti, 70% patients in Group A and 35% patients in Group B were diagnosed with Kapha Dosh Dushti and 30% patients in Group A and 73% patients in Group B were diagnosed with Pitta Dosh Dushti.

Dushya Dushti: - 100% patients in Group A and Group B were diagnosed with Rasa Dushya Dushti, 76% patients in Group A and Group B were diagnosed with Rakta Dushya Dushti, 90% patients in Group A and Group B were diagnosed with Mansa Dushya Dushti and 30% patients in Group A and Group B were diagnosed with Mansa Dushya Dushti.

Nidana: -

43% patients in Group A and 48% patients in Group B were live in Polluted residential area. As Exposure to Indoor & outdoor Pollutant is measure Cause for Allergic Rhinitis.

70% patients in Group A and 65% patients in Group B were having Kaphavataj Prakriti, 30% patients in Group A and 27% patients in Group B were having Vatapittaja Prakriti and Only 07% patients in Group A were having Kaphapittaja Prakriti.

22% patients in Group A and 35% patients in Group B were having Manda Agni.

19% patients in Group A and 23% patients in Group B were having Visham Agni.

77% patients in Group A and 76% patients in Group B were taking Aahar in Dominant Sheeta Guna.

77% patients in Group A and 76% patients in Group B were taking Aahar in Dominant Ruksha Guna.

All above data supports the existence of Vata and Kapha vardhaka Aahar and Viharas as predisposing factors of Pratishyaya.

RESULTS:-

The Results obtained during the clinical study are discussed below: -

Subjective parameters:

Nasa-Strav (Rhinorrhea): - Highly significant decrease in Nasa-Strav was observed on in both the Groups. ($p < 0.05$).

165 patients had decreased in symptoms of Nasa-Strav (Rhinorrhea) by having Bharangyadi Taila Nasya. 160 patients had decreased in symptoms of Nasa-Strav (Rhinorrhea) by having Anu Taila Nasya and 5 patients had no change in their symptoms even by having Anu Taila Nasya.

Average of difference of score by Applying Bharangyadi Taila Nasya is more than average of difference of score by Applying Anu Taila Nasya.

Here we can conclude that Bharangyadi Taila Nasya is having better result than Anu Taila Nasya in the treatment of Nasa-Strav (Rhinorrhea).

Nasa-Avarodh (Blocking of Nose): -

165 patients had decreased in symptoms of Nasa-Avarodh (Blocking of Nose) symptom by having Bharangyadi Taila Nasya. 16 patients had decreased in symptoms of Nasa-Avarodh (Blocking of Nose) by having Anu Taila Nasya and 149 patients have no change in their symptoms even by having Anu Taila Nasya.

Average of difference of score by Applying Bharangyadi Taila Nasya is more than average of difference of score by Applying Anu Taila Nasya.

Here we can conclude that Bharangyadi Taila Nasya is having better result than Anu Taila Nasya in the treatment of Nasa-Avarodh (Blocking of Nose) symptom.

Kshavatu (Sneezing): - Highly significant decrease in Kshavatu was observed on in both the Groups. ($p < 0.05$)

165 patients had decreased in symptoms of Kshavatu (Sneezing) symptom by having Bharangyadi Taila Nasya. 165 patients had decreased in symptom of Kshavatu (Sneezing) by having Anu Taila Nasya.

Average of difference of score by Applying Bharangyadi Taila Nasya is more than average of difference of score by Applying Anu Taila Nasya.

Here we can conclude that Bharangyadi Taila Nasya is having better result than Anu Taila Nasya in the treatment of Kshavatu (Sneezing) symptom.

Shiro-Gurutva (Heaviness of Head): -Highly significant decrease in Shiro-Gurutva was observed on in both the Groups. ($p < 0.05$)

165 patients had decreased in symptom of Shiro-Gurutva (Heaviness of Head) by having Bharangyadi Taila Nasya. 165 patients had decreased in symptom of Shiro-Gurutva (Heaviness of Head) by having Anu Taila Nasya.

Average of difference of score by Applying Bharangyadi Taila Nasya is slightly less than average of difference of score by Applying Anu Taila Nasya

Here we can conclude that Effectiveness of Bharangyadi Taila Nasya on Shiro-Gurutva (Heaviness of Head) symptom is marginally less than Anu Taila Nasya.

Objective parameters: -

Inferior Turbinate Size score: -

148 patients had decreased in severity in sign of Inferior Turbinate Size by having Bharangyadi Taila Nasya and 17 patients have no change in their symptoms by having Bharangyadi Taila Nasya. 25 patients had lower severity in sign of increased Inferior Turbinate Size by instilling Anu Taila Nasya and 140 patients have no change in their symptoms even byinstilling Anu Taila Nasya.

However, effectiveness by Applying Bharangyadi Taila Nasya is more than by Applying Anu Taila Nasya for increased Inferior Turbinate Size score upto 25% but effectiveness by Applying Anu Taila Nasya is more when Inferior Turbinate Size is more than 25%.

By looking into above results, it can be concluded that Group A (Bharangyadi Taila Nasya) and Group B (Anu Taila Nasya) showed highly significant result in the symptoms of the patients.

Average of difference of score by Applying Bharangyadi Taila Nasya is more than average of difference of score by Applying Anu Taila Nasya for all Parameters Except for Shiro-Gurutva (Heaviness of Head)

Though Bharangyadi Taila Nasya Nasya is more effective than Anu Taila Nasya Nasya in the management of Pratishyaya (Allergic Rhinitis)

Overall Effect of Therapies: -

In Group A out of 165 patients after the completion of treatment 28% were completely relieved, 61% showed Mild symptoms, 11% showed Moderate symptoms. None of the patients was having moderately Severe & Severe symptoms at the end of treatment.

In Group B out of 165 patients after the completion of treatment 25% were Completely relieved, 41% showed Mild symptoms, 28% showed Moderate Symptoms and 6% showed Moderately Severe symptoms. None of the patients was having severe symptoms at the end of treatment.

DISCUSSION:-

In Nasya karma, the drug entered through nostril reaches shrungatak, then having influence on the whole head and dislodges the doshas and morbid factors which are throw out easily. Action of Nasya is done by after absorption of drug essence & Stimulation of all through which lead to dosha vilayana, Snehan and Bruhana & Vata Kaphaghna are the properties of Nasya Karma,

Majority of the ingredients of Bharangyadi Taila and Anu Taila having Laghu-Tikshana-guna, Ushna-veerya and Katu-vipaka. Because of these Properties it eases Srotoshodhaka (cleansing) and due to Sukshma Srotogami (rapidly penetrating into microchannels) property, it consumes at the cellular level by entering microcirculation and causing profuse secretions by irritating the nasal mucosa. Hence, it dislodges the Kaphadi Doshas and then through them out from the nearest outlet and simultaneously strengthens the indriyas. Thereby, it removes the Avarana caused by Kapha Dosha over Vata.

CONCLUSION:-

- As Pratishyaya is kaphavataj disease it is more commonly found in patients with kapha vataj prakriti.
- Patients taking Aahar in Ruksha & Sheet Dominant Guna are found to be measure concern for Pratishyaya.
- Vaat & Kapha dosha dushti are found to be measure concern for Pratishyaya.
- In the present study both groups showed statistically significant result in subjective and objective parameters.

- Highly significant decrease in Nasa-Strav and Kshavatu was observed on in both the Groups but Effectiveness of Bharangyadi Taila Nasya is more than Anu Taila Nasya.
- Highly significant decrease in Nasa-Avarodh was observed on only in Group A.
- Highly significant decrease in Shiro-Gurutva was observed on in both the Groups but Effectiveness of Bharangyadi Taila Nasya on Shiro-Gurutva (Heaviness of Head) symptom is marginally less than Anu Taila Nasya.
- Effectiveness of Bharangyadi Taila Nasya is more than Anu Taila Nasya for Inferior Turbinate Size score upto 25% but effect of Anu Taila Nasya is more when Inferior Turbinate Size is more than 25%. Overall the Group A (Bharangyadi Taila Nasya) clinically showed better response than Group B (Anu Taila Nasya) in Pratishyaya.
- It can be concluded that Bharangyadi Taila Nasya is more effective than Anu Taila Nasya in the management of Pratishyaya (Allergic Rhinitis).
- No any adverse reactions are observed in patients of both groups during & after treatment.
- Bharangyadi Taila Nasya can be practiced safely without any complications.

Key Words: - Bharangyadi, Anu, Taila, Nasya, Pratishyaya, Allergic Rhinitis

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INTRODUCTION

“सतताध्ययनं वादः परतन्त्रावलोकनम् ।

तद्विद्या आचार्यसेवा च बुद्धिमेधाकरो गणः” ॥ (सु. चि. २८/२७)

In Sushruta Samhita; acharya Sushruta narrated that Intelligence is increased through daily studies, discussion with scholars, knowledge of allied sciences & guru-seva. So, as Meanings of many things which are still didn't under stable to the Vaidya's which needs Studies that should be carried out on the basis of Concepts of classical texts

Having equilibrium in dosha, dhatu and mala is the principle aim of the Ayurvedic Science and vaidyas¹. Panchakarma is the Primary chikitsa aspects of each and every disease described in Ayurvedic texts. 'Ayurved' imposes the foundation of medical science. As the wheel of fortune passed, our great Acharya's using their empirical knowledge, developed our own tradition of medicine 'Ayurved' which it said to be derivative of Atharvaveda.

Shalakya Tantra² is a branch of Ashtang Ayurved in which shalakyas are mainly used in the treatment of the diseases of the parts of body which are above clavicle i.e. Urdhav-Jathrugat Vikar which include diseases of eye, ear, nose, throat and head.

In Modern world, science is speedily advancing, so that new technology is coming into existence as a result of which industrialization is developing rapidly which in turn spreading pollution, vehicles also responsible for poisonous gases and create air pollution, these factors directly or indirectly are hazardous to sensory organs. The humans are continuously getting over the top exposure to pollution, and cold also daily eating of chilled foods, cold drinks; ice-cream etc. produces accumulation of Kapha dosha in the respiratory tract which creates diseases of Respiratory Tract.

1) धातुसाम्य क्रियाचोक्ता तन्त्रस्यास्य प्रयोजनं॥चि. सू. १/५३

२) शालाक्य नामोर्ध्वजन्तुगतानां श्रवननयनवदनघ्राणादी, संश्रितानां व्याधीनाम् उपशमनर्थम् । सु.सू.अ. १/८

As physiological activities of Human Body are primarily carried by Respiration, according to Ayurveda Pranvaha strotas regulate this Physiologic Activity. Disorganization of the physiological activity of body is primarily because of Dushti of Pranvaha Strotas by any means. Nasa is the Entry route to Pranvaha strotas. By Avoiding the harmful factors like pollen, dust to the mucous membrane, humidification air entering the nose and regulation of the temperature of air entering the nose this physiological functions of Nasa protects the Pranvaha strotas. Hence Pranvaha Strotas could not do its Physiological activity like protection of nose properly. Above discussed factors and Environmental Pollution affect the nose and its mucosal membrane which leads to various nasal diseases.

Allergic rhinitis is one of the types of inflammation in Nose. Whenever the immune System exaggerate to allergens in the air which give rise to Allergic Rhinitis. Environmental allergens are the primary causative factor of Allergic rhinitis. Inherited genetics and environmental exposures give rise to the development of allergies.

Allergic Rhinitis is one of the diseases among Nasagat Roga which is mark out by all Ayurvedic Samhita. Ayurvedic Pratishyaya and allergic Rhinitis are having similar kind of signs & symptoms. Modern medical science does not seem to have any complete cure of Allergic Rhinitis yet. So to rule out the importance of above said points, should have to study Ayurvedic Management of allergic Rhinitis.

Ayurvedic Samhita gives various references suggesting various Treatment Modalities for Allergic Rhinitis. All the Treatment Modalities in various Ayurvedic Texts are having one common Practised Procedure which is having good results in Pratishyaya that we called as Nasya Karma.

Importance of Nasya Karma in the management of Urdhav Jatrugat Vikar are Marked by many Ayurvedacharya in different Samhita's. Charakacharya suggested Bharangyadi Taila¹ for nasya karma for the treatment of Pratishyaya, also Charakacharya has narrated importance of Anu Taila Nasya² for the treatment of Pratishyaya.

Thus this study is done to understand the efficacy of Nasya, namely Bharangyadi Taila Nasya and Anu Taila Nasya with the hypothesis that Bharangyadi Taila Nasya is not as effective as Anu Taila Nasya or is more effective than Anu Taila Nasya in the Management of Pratishyaya (Allergic Rhinitis). Nasya Karma may prove beneficial in Combating the Disease pathogenesis by Shodhan, Snehan, Vatahar and Kaphahar Property.

१) भार्गमदनतर्कारीसुरसादिविपाचिते मूत्रे लाक्षा वचा लम्बा विडंग कुष्ठपिप्पलि। १५३

कृत्वा कल्क करंजच तैलं तः सार्षपं पचेत्, पाकान्मुक्ते घने नस्यमेतन्मेदोनिभे कफे ॥१५४॥

च.चि. २६/१५३-१५४

२) स्रोतःशृङ्गाटनासाक्षिशोषेतैलंचनावनम् ।प्रभाव्याजेतिलान्क्षीरेतेनपिष्टांस्तदुष्मणा॥१३९॥

मन्दस्विन्नान्सयष्ट्याह्वचूर्णास्तेनैवपीडयेत्।दशमूलस्यनिष्काथेरास्रामधुकल्कवत्॥१४०॥

सिद्धंससैन्धवंतैलंदशकृत्वोऽणुतत्स्मृतम्।स्निग्धस्यास्थापनैर्दोषनिर्हरद्वातपीनसे॥१४१॥

च.चि. अ. २६/१३९-१४

OBJECTIVES OF THE SYUDY

1. Primary Objective:

To compare the efficacy of Bharangyadi Taila Nasya & Anu Taila Nasya in the management of Pratishyaya w.s.r. to Allergic Rhinitis.

2. Other Objective:

To Study the effect of Bharangyadi Taila Nasya in the management of Nasa-Strav,Nasa-Avarodh,Kshavatu in Pratishyaya w.s.r. to Allergic Rhinitis.

RESEARCH QUESTION

Whether Bharangyadi Taila Nasya is more effective than Anu Taila Nasya in the Management of Pratishyaya (Allergic Rhinitis).

HYPOTHESIS

1. NULL HYPOTHESIS¹ (H_0)

Bharangyadi Taila Nasya is not as effective as Anu Taila Nasya in the Management of Pratishyaya (Allergic Rhinitis).

2. ALTERNATE HYPOTHESIS¹ (H_1)

Bharangyadi Taila Nasya is more effective than Anu Taila Nasya in the Management of Pratishyaya (Allergic Rhinitis).

1. C R Kothari. Research Methodology: New Delhi: New Age International Publisher: 2009

REVIW OF LITERATURE

Ayurvedic Review:

NASA SHARIR

Sushrutacharya has described Shalakya Tantra in Uttartantra of his Sushrut-Samhita. Sushrutacharya¹ and dalhan has described the Anatomy of Nasa.

They have been mentioned Etiology, Pathogenesis and Premonitory features of nasal diseases. Also mentioned General principles of treatment of nasal diseases along with its causes².

Nasa is one of the Indriya where Ghranendriya is situated. According to Ayurvedic Principle All the things in this universe is made up of five basic elements and so is the human body. These elements are Akash (space), Vayu (Air), Tejas (Fire), Jal (Water) and Prithvi (Land).

This above said five elements is having a specific site in human being. Ghranendriya is the sense organ of smell which is an adhishtan of Prithvi Mahabhut. According to this gandh is a special characteristic of Prithivi, So Ghranendriya is sense organ of gandh³.

-
1. Kaviraj Dr. Ambikadatta Shastri.Sushrut Samhita: Sushrut सू.उ.अ.३५/१२: Varanasi-221001: Chaukhambha Sanskrit Sansthan, 1989.

- 2.Vd. Anant Damodhar Athawale: Ashtang Sangraha-Vridha Vagbhat अ.संउ.अ.. 21/2 with comm. of Indu: Pune: Shrimal Akshaya Prakashan, 1980.

3. a. इह खलु पञ्चेन्द्रियाणि, पञ्चेन्द्रियव्याणि, पञ्चेन्द्रियाधिष्ठानानि, पञ्चेन्द्रियार्था, पञ्चेन्द्रियबुद्ध्यो भवन्ति, इत्यक्तमिन्द्रियाधिकारे ॥ च. सू. अ. ८/३

b.तत्र चक्षुःक्षेत्रं घ्राणं रसनं स्पर्शनमिति पञ्चेन्द्रियाणि खं वायुर्जैतिरापो भूरिति ॥

पञ्चेन्द्रियाधिष्ठानानि अक्षिणी कर्णौ नासिके जिह्वा त्वक्चेति । पञ्चेन्द्रियार्थाः

शब्दस्पर्शरूपरसगन्धा ॥ पञ्चेन्द्रियबुद्ध्यश्चक्षुर्बुद्ध्यदिका, ता पुनरिन्द्रियेन्द्रियार्थ सत्वात्मसन्निकर्षजाः

क्षणिकाः निश्चयात्मिकाश्च । इत्येत पंचपंचकम ॥ च. सू. अ ८-१२

Embryological Development of Nasa:

In pregnancy, the development of the five Main Elements i.e arms, legs, head and also all parts of the body and their subdivisions which clearly depicts that Nasa is developed in situ during the third month of pregnancy¹.

According to Sushrutacharya Nasa is a matruj Avayav². The length of nose is four anguli. The Anterior Part of Nasa is slightly depressed, which is known as Nasaput. Nasa patal divides the nasal cavity into two Parts. Nasa patal is also known as Nasa Javnikā or Nasavansh which is developed from cartilage (Mrudusthi / tarunasth). The height and width of nasal cavity is one-third and two angulees respectively³. Nasa as an external Orifice: 'Nasa' (ghran) is one of the Bahirmukh strotas which is starting of pranvaha strotas; enumeted by Sushrutacharya ⁴.

१. a. तृतीये मासि सर्वाङ्गवयवाय यौगपद्येनाभि निर्वर्तन्ते ॥ च. शा. अ. ८/११

b. तृतीये हस्त्रपादशिरसां पञ्च पिण्डका ।

निर्वर्तन्ते ङगप्रत्यङ्ग विभागश्च सुक्ष्मो भवति ॥ सु.शा.अ. ३/१५

२. इन्द्रियाणि ज्ञानं विज्ञानमायुः सुखदुःखादिकम् चात्मजानि ॥ सु. शा. अ. ३/३३

३. त्रिभागाङ्गुत्तविस्तारा जासापुटमर्यादा ॥ सु. सू. अ. ३५/१२

४. श्रवणनयनवदनघ्राणगुदमेद्राणिनव स्त्रोतांसि नरणां बहिर्मुखामि ॥ सु. शा. अ. ५/१०

Nasa Asthi:

There are three bones (Nasa, Gandkut, Lalat) in nasa tarunasthi which also takes part in formation of Nasa¹.

Nasa Sandhi:

Nasa Sandhi is formed by Three bones (Nasa, Gandkut, Lalat) ².

Nasa Siras:

Nasa is Having 24 Siras at nasa, which constitutes 6 vatavaha, 6 pittavaha, 6 kaphavaha and 6 raktavaha³.

Nasa Dhamani:

There are two dhamani which Control the sensation of smell⁴.

Nasa Marma:

Fana-marma is situated at the base of Nasa. Sira-marma which is a vaikalyakar type of Marma. Trauma to fana-marma leads to loss of sense of smell⁵.

Shrungatak-marma is also situated at Nasa, Nasal trauma at shrungatak-marma leads to sudden death⁶.

१. नासायां त्रिणि । घ्राणकर्णग्रीवाक्षिकोबेषु तरुणानि । सु. शा.अ. ५/२१-२२

२. एकास्थि नासिकागण्डकुटललाटं । च. शा.अ. ७/१६

३. द्विर्दादश नासायां तासामौपनसिक्वश्चतस्त्रः परिहरेत, तासामेव च तालुन्येकां मृदाबुद्धेशे ॥
सु.शा.अ. ७/२२

४. Kaviraj Dr. Ambikadatta Shastri. Sushrut Samhita: Sushrut सु.शा.अ. ९/७: Varanasi-221001:
Chaukhambha Sanskrit Sansthan, 1989.

५. घ्राणमार्गमुभयतः स्त्रोतोमार्गप्रतिबद्धे अभ्यन्तरतः फणे तत्र गन्धज्ञानं । सु. शा. अ. ६/२७

६. घ्राणं श्रोत्राक्षिजिह्वासंतर्पणीनां सिराणां मध्ये सिरासन्निपातः
श्रृङ्गाटकानि, तानि चत्वारि मर्माणि, तत्रापि सघांमरणम् । सु.शा.अ. ६/२

NASA-DOSHA-DHATU-MALA

DOSH

VATA:

Nasa is the sancharsthana of three Vayu namely Pran, Udan and Vyan vayu. The inspiration and expiration is carried out by Pran and Udan Vayu respectively.¹

PITTA:

Bhrajak and Sadhak Pitta are present at Nasa. Bhrajak Pitta nourishes the skin and mucosal membrane at Nasa. Sadhak pitta assists in the process of gandhdnyan.

KAPHA:

Avalambak kapha is situated at Nasa which nourishes the Ghranendriya².

१. a. शिरसि इन्द्रियाणि इन्द्रिय प्राणवहानि च स्रोतांसि । च. सि. अ. १/४

b. प्राणोऽन्नमूर्धगः। उरः कण्ठचरो बुद्धिहृदयैन्द्रियचित्तधृक् । धीवनक्षवथुगदार निश्वासान्नप्रवेशकृत् ॥ अ. हृ.सू. अ. १२/४

c.स्थानं प्राणस्य शीर्षोरः कंठजिह्वास्य नासिकाः । च. चि. अ. २५/६

d.उरः स्थानमुदानस्य नासानाभिगलांश्चरेत् । अ. सं सू. अ. १२/५

e.कृत्स्नदेहचरो व्यानो रससंवहनोऽघतः । स्वेदासृक् स्त्रावणश्चापि पंचधा चेष्टसत्यपि ॥ सु. नि. अ. १/१६

२. श्लेष्मस्थानानां तत्रस्थ एवं उदककर्माणां अवलंबनात् अवलंबक इत्युच्यते । अ. सं सू. अ. २०/४

DHATU:

Nasa is formed by all the sapta-dhatu and its physiological activities are also regulated by it viz. Rasa and Rakta supplies nutritional elements to the mucosal membrane of Nasa and other parts of Nasa; Mansa and meda forms foundation for skin layer of Nasa; Asthi gives shape whereas Majja plays role in nourishment of Nasa. While Shukra enhances the resistance power of body.

MALA:

Mala of Nasa dhatu is Humidity of nasal cavity. This humidity and roma which is mala of Asthi-dhatu protect the Nasa by trapping the harmful particles from entering the Nasa.

NASA KRIYA SHARIR

Nasa has special importance in pranvaha strotas. It is also commencement of pranvaha strotas^१.

The sense organ of smell is Ghranendriya, which is Adhishtan of Prithvi mahabhut, it is situated at Nasa.

When microscopic gandh-parmanu comes in contact with the nasal mucosal membrane, pranvayu carries this sensation towards Mana (olfactory Centre). When Atma experiences this gandhgnayn, Avalambak cough become active there. All this process is regulated by Sadhak pitta.

Fana-marma is situated at the junction of gandhvahi sira. Trauma at fana-marma leads to loss of sensation of smell. Shrungatak marma is situated at the junction of siras of netra, karna and shir & Trauma to this marma leads to sudden death.

१) Kaviraj Dr. Ambikadatta Shastri.Sushrut Samhita: Sushrut सु.शा.अ. ६/२७: Varanasi-221001: Chaukhambha Sanskrit Sansthan,1989.

Review of Nasal Diseases

General causes of nasal diseases are described by the Sushrutacharya with their premonitory symptoms, pathogenesis (samprapti) and with general principles of treatment of nasal diseases.

Sushrutacharya has described 31 types of nasal diseases in Uttartantra of Sushrut Samhita under the chapter 'Nasagatrogvignyaniya Adhyaya'.

Sharangdhar and Vagbhatacharya have also described nasal diseases with their 18 types. But Charakacharya has not described a definite number of diseases; he has described Pratishyaya, Kshavathu, Nasashosha and Apinas.

Types of Nasal Diseases:

Sushrutancharya has described 31 types of nasal diseases¹, which are as follows-

Apinas, putinasya, nasapaka, shonitpitta, puyashonit, kshavathu, bhranshthu, dipta, nasanaha, paristrav, nashashosha, four types of nasarsha, four types of nasashofa, seven types of nasarbuda and five types of raktapitta.

१. अपीनसः पूतिनस्य नासापाकस्तथैव च । तथा शोणितपित्तं च पूयशोणितमेव च ॥
क्षवथुर्भ्रंशथुर्दीप्तो नासानाहः परिस्त्रवः । नासाशोषसि सहिता दशैकाश्चेरिता गदाः ॥
चत्वार्यर्शांसिः शोफाः सप्तार्बुदानि च । प्रतिश्यायाश्च ये पञ्च वक्ष्येन्ते
सचिकित्सिताः॥एकत्रिंशन्मितास्ते तु नासारोगा प्रकीर्तिताः ॥ सु.उ.अ. २२/३५

Etiopathogenesis of Nasal Diseases:

Ayurveda has recognized three main causes that being responsible for all sorts of diseases these are:

1. Incompatible correlation of sense organ with their respective Sensation (Asatmyendriyarth sanyog).
2. Misuse of intellect (Pragnyaparadha).
3. Abnormal cycles of seasons (Parinam)¹.

Madhavnidan, Bhavprakash and Yogratnakar has described 34 types of nasal diseases. They allude to Apinas and Nasanaha as Pinas and Pratinaha respectively.

In addition to 31 types of nasal diseases as described by sushrutacharya they also have described four types of raktapitta.

Vagbhatacharya and Sharanghar have narrate 18 types of nasal diseases. They have mentioned only one type nasarsha and nasabuda but they have not described nasanaha.

Following are the three varieties of incompatible correlation of indriya and its indriyarth:

1. Absolutes absence of contact or negligible contact (Ayoga or heenyoga).
2. Excessive contact (Atiyoga).
3. Perverted contact (Mithyayoga)²

१. असात्मेन्द्रियार्थसंयोगः प्रज्ञापराधः परिणामश्चेति त्रयस्त्रिविधाविकल्पा
हेतवा विकाराणां, समयोगयुक्तस्तु प्रकृतिहेतवो भवन्ति । च. सू. अ. ११/४३

२. कालबुद्धीन्द्रियानां योगो मिथ्या न चातिच ।
द्वयाश्रयाणां व्याधीनां त्रिविधो हेतुसंग्रहः ॥ च. सू. अ. १/५४

Sushrutacharya, Charakacharya and Vagbhatacharya has also mark out the general causes of nasal diseases¹ which are as follows

1. Exposure to dust, smoke.
2. Excessive prating.
3. Improper sleeping habits which include day sleeping and night awakening.
4. Sleeping without or with very high Pillow.
5. Consumption of excessive or polluted water.
6. Emerging in cold or polluted water.
7. Suppression of physiological urges like chhardi and ashru.
8. Anger.
9. Dyspepsia.
10. Consumption of cold drinks, chilled water ice-cream etc.
11. Excessive sexual indulgence.

१. a. नारीप्रसङ्गः शिरसोऽभितापो धूमोरजः शीतमतिप्रतापः ।

संधारणं मूत्रपुरीषयोश्च सद्य प्रतिश्याय निदानमुक्तम् ॥ सु. उ. अ. २४/३

b. अवश्यायानिलरजोभाष्यतिस्वप्नजागरैः । नीचात्युच्चोपधानेने पीतेनान्येन वारिणा॥

अत्युम्बपानरमणच्छर्दिबाष्पग्रहादिभिः । क्रुद्धा वातोल्वणा दोषा नासायां स्त्यानतांगता ॥

जनयन्ति प्रतिश्यायं वर्धमानं क्षयप्रदम् ॥ अ. ह.उ. अ. १९/१-३

c. Brahmanand Tripathi. Charak Samhita-Agnivesha च.चि.अ.२६/१०४. Varanasi: Chaukhambha Sanskrit Sansthan: 1983.

Premonitory Symptoms of Nasal Diseases:

Early diagnosis helps to prevent and cure the disease as early. Certain premonitory symptoms of nasal diseases are described by Sushrutacharya which are helpful for early diagnosis. These are as follows.

1. Feeling heaviness of the head.
2. Sneezing.
3. Body ache.
4. Horripilation.
5. Many secondary symptoms like fever, loss of taste¹.

Samprati of Nasal Diseases:

Above said hetu-seven vitiates vata and other doshas. Theses vitiated vata and other doshas, either individually or in combination along with rakta dosha gets accumulate in the head and produces nasal diseases².

General Principles of Treatment:

After studying all the prodromal features of nasal diseases, a prophylactic treatment should be given according to the affection of doshas.

Hetu seven is a major cause of disease. Accordingly, the treatment plan for nasal diseases should include nidana parivarjan which will lodge the further progress of disease³.

As nasal diseases are due to vitiated doshas and its accumulation in the nose, the first and most important step should be to expel out these vitiated doshas by proper management.

१. शिरोगुरुत्वं क्षवथोः प्रवर्तनं तथाङ्गमर्दः परिहृष्टरोमता । उपद्रवाश्चाप्यपरे पृथग्विधा नृणां प्रतिश्यायपुरः
सराः स्मृता ॥ सु. चि. अ. २४/५

२. चयं गता मूर्धनि मारुतादयः पृथक् समस्त्राश्च तथैव शोणितम् । प्रकोप्यमाणा विविधैः प्रकोपणै नृणां
प्रतिश्यायकरा भवन्ति ॥ सु. उ. अ. २४/४

३. संक्षेपतः क्रियायोगो निदानपरिवर्जनम् । वातादीनां प्रतिघातः प्रोक्तो विस्तरतः पुनः ॥ सु. उ. अ. १/२५

NASYA-KARMA

Vagbhatacharyya in Ashtang Hridya, has stated the importance of Nasya karma especially in Urdhavjatrugat vikar¹.

In nasya karma, the drug entered through nostril reaches Shrugatak Marma, then affects the whole head and dislodges the doshas and morbid factors which are expelled out easily².

The General Treatment for Pratishyaya also includes the following points -

1. Snehan.
2. Swedan.
3. Shirabhyang.
4. Vaman.
5. Dhumpan.
6. Ghrutapan.
7. Nasa-prakshalan.

१. a. उर्ध्वजत्रुविकारेषु विशेषान्नस्यमिष्यते ।

नासा हि शिरसो द्वारं तेन तद्व्याप्य हन्ति तान । अ. हृ. सू. अ. २०/१

b. नस्तः कर्म च कुर्वीत शिरोगेषु शास्त्रवित ।

द्वारं हि शिरसो नासा तेन तद्व्यासप्य हन्ति तान ॥ च. सि. अ. १/८८

२. नासा हि शिरसोद्वारम्, तत्रावसेचितमौषधं स्त्रोतः शृङ्गाटकं प्राप्य व्याप्य
मुर्धानं नेत्रश्रोत्रकण्ठादि सिरामुखानिचमुञ्जादीषीकाभिवासक्तामूर्ध्वजत्रुगतां वैकारिकीमशेषामाशुदोष
संहतिमुत्तमाङ्गादपकर्षते ॥

अ.स. सू.अ. २९/३

Definition of Nasya Karma:

As drugs or emollients medicated with drugs are administered through nostrils, it is known as Nasya.¹ It is also called as Navan, Nasta, Shirovirechan, Shirovirek, and Murdhavirechan.

Introduction:

Panchakarma therapy is a merger of different procedures, which work to eliminate and disintegrate the morbid or vitiated doshas from the body before management of any disease. Generally, these procedures are classified in three specified steps like purvakarma, pradhankarma and pashchatkarma. In every group there are certain steps to follow which are to be carried out to achieve the goal.

Panchakarma has been weigh up as purificatory preoperative measures in treating diseases. The concept of Shodhan therapy is based only on the practical aspects of elimination of aggravated doshas from the body which is certainly of definite proven managerial process of treatment of diseases in special and day to day life, being simplified process in general.

The Nasya can help us in various preventive and curative aspects. Nasya stands unique in its own field out of five principles, due to its easy acceptability and administration, having a wide range of effectiveness which should be taken into account by the physicians in their daily practice.

१. a. औषधमौषधसिद्धो वा स्नेहो नासिकाभ्यां दीयते इति नस्यम् । सु. चि. अ. ४०/२१

b. नासायां प्रणीयमानमौषधं नस्यम् । नावनं नस्त कर्मेति च संज्ञा लभते । अ. स सू. अ. २९

c. नस्यं तद् कथ्यते धीर्नसाग्राहयं यदौषधम् ॥ भै. पुर्व. नासा. अ.

Nasal diseases are very common diseases affecting worldwide population specifically in winter season and more in non-tropical areas. It affects one third of the working atmosphere, still there is no definitive successful treatment available so far except using anti-allergic and symptomatic medicament's. It is a disease of chronic nature but initially found as symptom of diseases associated with ENT problems.

In Ayurveda the treatment is also symptomatic as curative aspects, but certain medicament's are there which can also be used as preventive to microbial infection. Such simple medicament is based on Nasya concept and used like nasal drops. It can provide relief instantly along with prevention for re-infection.

Action of Nasya:

Nasya is purificatory medication applied through nostrils is a specific therapy in the diseases of head, eye, ear, nose, throat and other parts of head. Nose is the way to the head, and the drug entered through nostrils reaches Shringataka Marma then affects the whole head and dislodges the doshas and morbid factors which are expelled out easily by this process¹.

१. नासा हि शिरसोद्वारम्, तत्रावसेचितमौषधं स्त्रोतः शृङ्गाटकं प्राप्य व्याप्य मुर्धानं नेत्रश्रोत्रकण्ठादि
सिरामुखानि च मुञ्जादीषिकामिवासक्तमूर्ध्वजन्तुगतावै कारिकीमशेषामाशुदोषसंहति
मुत्तमाङ्गादयकर्षते । अ.स्.सू.अ. २९/१

Types of Nasya:

Nasya karma according to different Acharyas are Classified as follows.

Sushrutacharya¹:

Nasya is of two Major types-

1. Shirovirechan (Purgation to the head).
2. Snehan (Lubricators).

These are again of five types such as

- i) Nasya ii) Shirovirechan iii) Pratimarsha iv) Avapida
- v) Pradhaman

Among these Nasya, Shirovirechan Nasya is having significant importance. Subdivisions of Nasya are Pratimarsha, Avapida and Pradhaman.

Charakacharya²:

Charakacharya has described two major types of Nasya-

- 1) Snehan 2) Shodhan

Again Charakacharya has described five types of Nasya for detail.

These are:

- i) Navan ii) Avapid iii) Dhmapan iv) Dhum v) Pratimarshala

१. तदद्विविधं – शिरोविरेचनं स्नेहनं च । तद् द्विविधमपि पञ्चधा । तद् यथा नस्यं, शिरोविरेचनं, प्रतिमर्श, अवपीड, प्रधमनं च । तेषु नस्य प्रधानं शिरोविरेचनं च; नस्यं, विकल्पः प्रतिमर्शः शिरोविरेचनविकल्पोवपीडः प्रधमनं च; ततो नस्यशब्दः पञ्चधा नियमितः ॥ सु.चि.अ. ४०/२१

२. नावनं चावपीडश्च ध्यापनं धूम एव च । प्रतिमर्शश्च विज्ञेयं नस्नः कर्म तु पञ्चधा ॥ च. सि. अ. ९/८१

Vagbhatacharya¹:

In Ashtangsangraha Vagbhatacharya has described three types of Nasya.

These are: 1) Virechan 2) Bruhan 3) Shaman

Sharangdhar²:

Sharangdhar has described two types of Nasya

1) Rechan 2) Snehan

Indications for Nasya:

Snehan Nasya:

The term 'Nasya' is specially applied to the therapy in which emollients (oil, ghee etc.) or drugs are used for the purpose of lubricating giving strength to the neck, shoulder and chest or to produce clarity of vision. This should be done using emollients cooked with drugs mitigating Vata and Pitta dosha; in conditions such as vata being localized in the head, falling of teeth, hairs and mustaches, darunaka (ulcer of scalp), ear-ache, blindness, loss of voice (Aphonic), diseases of the nose, dryness of the mouth, painful arm, premature wrinkles and graying of hairs, great difficulty in awakening from sleep, diseases of mouth caused by Vata-Pitta dosha and even other doshas³.

१) तत्तु त्रिविधं विरेचनं वमनं शमनं च । अ. स्. सू.अ. २९/२

नस्यभेदो द्विधा प्रोक्तो रेचनस्नेहनं तथा ।

२) रेचनं कर्षणं प्रोक्तो स्नेहनं बृहणं मतम् ॥ शा.उत्त. अ. ८

3) a) Kaviraj Dr. Ambikadatta Shastri: Sushrut Samhita: Sushrut सू. चि. अ. ४०/२२: Varanasi-221001: Chaukhambha Sanskrit Sansthan,1989.

b) Vd. Anant Damodhar Athawale.Ashtang Sangraha-Vridha Vagbhat अ. स्. सू. अ.२९/६.with comm. of Indu: Pune: Shrimal Akshaya Prakashan, 1980

Shirovirechan Nasya:

Shirovirechan is done by using drugs which causes purgation of dosha from the head or using medicated oil with such drugs which is used in diseases such as kapha adhering to the palate, throat and head, loss of taste, feeling of heaviness and headache, rhinitis, migraine (Ardhavybhedak), nasal catarrh due to worms (bacteria virus etc.), epilepsy, loss of sense of smell and other urdhava-jatrugat vikar¹.

Avpid Nasya:

Avapid Nasya Procedure is conduct like shirovirechana (Purgation therapy to the head) for persons who are emaciated, weak, fearful of, tender physique and women².Emollients medicated with pesters of drugs are also beneficial.

Pradhaman Nasya:

It is administered in the persons who are suffering from neurological disorders, worms (bacteria, virus) and poison³. In this Procedure drugs in the form of Powder are blown into the nose.

१. a) Kaviraj Dr. Ambikadatta Shastri.Sushrut Samhita:Sushrutसु.चि.अ.४०/२३:Varanasi-221001: Chaukhambha Sanskrit Sansthan, 1989.

b) Vd. Anant Damodhar Athawale.Ashtang Sangraha-Vridha Vagbhat अ. स्. सू. अ. २९/५.with comm. of Indu: Pune: Shrimad Akshaya Prakashan, 1980

२. कृशदुर्बलभीरुणांसुकुमारस्ययोषिताम् । श्रुताः स्नेहाः शिरः शुद्ध्यै कल्कस्तेभ्यो यथा हित ॥ सु. चि. अ. ४०/४५

३.चेतोविकारकृमिविषाभिपन्नानां चूर्णं प्रथमेत ॥ सु. चि. अ. ४०/४६

Nasya Anarha:

(Person unsuitable for Nasya)

Sushratacharya has described in Sushruta Samhita that persons who have just taken food, who are undernourished or over nourished, those suffering from nasal catarrh of recent onset, pregnant women, who have consumed emollient, water, wine and liquid beverages those who are having indigestion, who are just administered enema, who are in anger, those suffering from homicidal poison and thirst, who are grief stricken, fatigued, children, old person, who suppress the physiological urges & who are desirous of taking bath – these persons are unfit for nasya karma and nasya should be avoided during unsuitable seasons.¹

Doses

1. Snehan Nasya:

Sixty-four, thirty-two & sixteen drops in each nostril are maximum, moderate and minimum dosage for snehan nasya respectively. The dose should be administered according to the strength of the Patient².

१) a) नस्येन परिहर्तव्योभुक्तवानपतर्पितोत्यर्थतरुण प्रतिश्यायी
गर्भिणी पीत स्नेहोदकमद्यद्रवोजीर्ण दत्तबस्तिः क्रुद्धो
गरातस्तृषितः शोकभिभूतः श्रान्तोबालोवृद्धो वेगावरोधितः शिरः स्नातुकामश्चेति;
अनार्तवे चाभ्रे नस्यधूमौ परिहरेत् ॥ सु.चि. अ. ४०/४७

b) Atrideva Vidyalkar Editor Yadunadan Upadhyaya.Ashtang Hridaya-Vagbhat vidyotini Hindi
comm.अ. हृ. सू. अ. २०/११-१२.Varanasi: Chaukhumbha Prakashan:1993.

२) तस्यप्रमाणमष्टौ बिन्दवः प्रदेशिनीपर्वद्वयनिः सूताः प्रथमा मात्रा,
द्वितीया शुक्तिः तृतीया पाणिशुक्तिः इत्येतास्तिस्त्रो मात्रा यथाबलं प्रयोज्याः ॥
सु. चि. अ. ४०/२८

2. Shirovirechan Nasya:

The quantity of oil for purgation to the head is determined as four, six or eight drops according to the strength of the person¹.

3. Pratimarsha Nasya:

The dosage for pratimarsha nasya should be in such Amount which comes into the mouth when the person sucks the air².

Timing for Nasya Karma:

Nasya should be administered at the time of meal, on the empty stomach.

According to Dosha-dushti:

Nasya should be administered during fore-noon for patient having kaphaja vyadhi, during mid-day for those of Pittaja vyadhi and on evening for patients of vataja vyadhi³.

According to Sharangdhar generally nasya should be used in day-time as described above, also it can be used at night as per the severity of disease⁴.

१. चत्वारो बिन्दतः षड्वा तथाष्टौ वा यथाबलम् । शिरोविरेकस्नेहस्य प्रमाणमभिनिर्दिशेत् ॥

सु. चि. अ. ४०/३६

२. ईषदुच्छिडघतः स्नेहोयावद्वन्नं प्रपद्यते । नस्ये निषिक्तं तं विद्यात् प्रतिमर्शं प्रमाणात् ॥

सु. चि. अ. ४०/५३

३. तत्रैतद् द्विविधमप्यभुक्तवतोऽन्नकाले पूर्वान्हे श्लेष्मरोगिणा,

मध्यान्हे पित्तरोगिणां, अपरान्हे वातरोगिणाम् ॥ सु. चि. अ. ४०/२४

४. कफपित्तानिलध्वंसे पूर्वमध्यापरान्हे ।

दिने तु गृह्यते नस्यं रात्रावप्युत्कटेगदे ॥ शा. उ. अ. ८/३

Duration for Nasya Therapy:

Nasya therapy can be administered with intervals of either one two or seven days or for twenty-one days or for that period which is found appropriate for the disease¹.

Selection of (sneha) nasya dravya for karma according to doshas:

Sushratacharya has directed for the selection of Specific sneha dravya according to the Doshas. In aggravations of Kapha together with vata, Tail (medicated oil) should be used; Vasa (medicated fat) should be used for aggravations of Vata alone; Ghrut (medicated ghee) should be used always for Pitta and Majja (bone marrow) for aggravation of Vata. Among these Tail is preferred since it is not going to create troubles to Area of Kapha².

Shirovirechaniya Dravyas:

Sushrutacharya has described certain dravya used for shirvovirechan Nasya, they are as follows.

Pippali, Vidang, Apamarg, Shigru, Swetasaraso, Shirish, Marich, Karvir, Vach Jyotishmati, Karanj, Lashun, Suntha, Talispatra, Tamalpatra, Hing etc³.

१. एकान्तरं द्वयन्तरं वा सप्ताहं वा पुनः पुनः ।एकविंशतिरात्रं वा यावद्वा साधु मन्यते ॥

सु. चि. अ. ४०/४२

२. तैलं कफे सवाते स्यात् केवले पवने वसाम ।दद्यात्सर्पिः सदपित्ते मज्जानं च समारुते ॥

चतुर्विधस्य स्नेहस्य विधिरेव प्रकीर्तितः । श्लेष्मस्थानविरोधित्वात्तेषु तैलं विधीयते ।

सु. चि. अ. ४०/५६-५७

३) Kaviraj Dr. Ambikadatta Shastri: SushrutSamhita: Sushrut सु. सू. अ. २९/६: Varanasi-221001: Chaukhambha Sanskrit Sansthan, ,1989.

Preparations of Oil for Nasya Karma:

Til tail (Sesame Oil) which is properly purified according to Ayurvedic procedure should be prepared with Murchhana sanskar. Double quantity of decoction prepared from all contents considered for medication of oil in directed quantity should be boiled in it till complete evaporation of moisture. This tail should be used for Nasya after filtration¹.

Procedure for Nasya Karma:

During the therapy, it is noteworthy to bring out the therapeutic effects. The recommendations for Snehan karma are applicable for all the panchkarmas. There are some more regimens for nasya therapy. Food, drink and bath should be avoided for at least two hours before and after the administration of Nasya. In practice it is directed to avoid bath and exposure to strong breeze during the course of Nasya Karma.

Preparation of Patient:

The patient is directed to clear the natural urges. He is asked to sit on a stool and snehan is given by applying oil to the scalp, face, neck and shoulders for five minutes. Then swedan with hot water bag is given to this area for 5 – 10 minutes. Then he is asking to lie down in supine position on the table, with legs raised slightly, using a pillow. Another pillow is keep below head in such a way that the nostrils are almost upwards².

1) वर्तिवत स्नेहकल्कः स्याद यदांगुल्या विमर्दितः । शब्दहिनोऽग्निनिक्षिप्तः स्नेहः सिद्धो भवेत् तदा ॥

शा.म.ख.अ.१/१२

२) Kaviraj Dr. Ambikadatta Shastri: SushrutSamhita: Sushrut सु. चि.अ.४०/२५: Varanasi-221001: Chaukhambha Sanskrit Sansthan, 1989.

Administration of Medicine:

The medicine to be used is warm with indirect heat, or by placing the bowl in hot water. Before application its temperature is checked and the required quantity of medicated oil is poured into container made from either silver, gold, copper, glass, mud, shell or any other. Keeping left nostril closed with left hand, medicine is slowly poured into the right nostril. It is repeated for two times. A gentle massage is given to palms, planter aspects of the foot, face and shoulders. If there is discharge from the nose to the mouth Patient should spit into the bucket on sides without raising much¹.

This procedure is repeated twice or thrice till the required dose is completed. The eyes should be covered with cotton pad during the administration of medicine. The patient is allowed to lie down for 10 – 15 minutes after administration of medicine ².

Precautions to be taken during Nasya-karma:

During pouring the oil, the patient should not shake his head, not become angry, neither talk, sneeze nor laugh; because due to these things, oil does not go in required site properly and likely to produce cough, nasal discharge, diseases of head and eyes³.

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- 1) Brahmanand Tripathi. Charak Samhita-Agnivesha च.सि.अ. ९/१०१-१०२. Varanasi: Chaukhambha Sanskrit Sansthan: 1983.
 - २) Kaviraj Dr. Ambikadatta Shastri: Sushrut Samhita: Sushrut सु. चि.अ. ४०/२५: Varanasi-221001: Chaukhambha Sanskrit Sansthan, 1989.
 - 3) Kaviraj Dr. Ambikadatta Shastri: SushrutSamhita: Sushrut सु.चि.अ.४०/२६-२७: Varanasi-221001: Chaukhambha Sanskrit Sansthan: 1989.

Symptoms of Proper and Improper effect of Nasya:

Snehan Nasya:

Sushrutacharya has described the symptoms of proper, excess and inadequate administration of snehik nasya karma as follows.

- 1) Samyak Yog - In ideal effects of Nasya there is sense of ease in respiration, having sleep and awaking from sleep become easy, perfect perception with sense organ. In virechan type Nasya there will be sense of lightness of head, clarity of throat and sound. Moreover, the patient gets relief from the disease gradually¹.
- 2) Ati snigdha - Exaggeration of kapha, having heaviness of the head, disturbances in the sense organ are the symptoms of Ati-snigdha (excessive lubrication of head) in this condition the treatment which result in dryness should be done².
- 3) Ayoga - In case of ayoga there are the symptoms of disorders of Vata, dryness of sense organs and disease does not subside. In Ayoga, it is desirable to administer nasal drops in more desirable quantity³.

१. तस्ययोगतियोगानामिदं विज्ञानं भवति । लाघवं शिरसो योगे सुखस्वप्नप्रबोधनम् ।

विकारोपशमः शुद्दीरिन्द्रियाणां मनः सुखम् ॥ सु. चि. अ. ४०/३२-३३

२. कफप्रसेकः शिरसो गुरुतेन्द्रियविभ्रमः । लक्षणं मूधर्न्यतिस्निग्धे रुक्ष तत्रावचारयेत् ॥

सु. चि. अ. ४०/३४

३. अयोगे वातवैगुण्यमिन्द्रियाणां च रुक्षता । रोगाशान्तिश्च तत्रेष्टं भुमो नस्यं प्रयोजयेत् ॥

सु. चि. अ. ४०/३५

Shirovirechan Nasya:

Sushrutacharya has specially narrated three kinds of administration of Nasya along with their symptoms, these are Shuddhi (Samyakyoga – proper purification), Vishuddhi (Hinyoga – inadequate administration) and Gadha virechan (Atiyoga–excessive administration).

These are as follows –

- 1) Symptoms of Shuddhi - Feeling of lightness of the head, Purification of channels, control of disease, clarity of the mind and sense organs¹.
- 2) Symptoms of Vishuddhi - Itching, coating and feeling of heaviness of the channels, exudation of kapha from the head².
- 3) Symptoms of Gadha Virechan - Mastulunga (brain matter) Coming out, aggravation of Vata, disorder of sense organ, feeling of emptiness of the head³. For inadequate and excess shirovirechan, treatment which mitigates kapha and vata respectively should be done⁴.

१. लाघवं शिरसः शुद्धीः स्त्रोतसां व्याधिनिर्जय । चित्तेन्द्रियप्रसादश्च शिरसः शुद्धीलक्षणम् ॥
सु. चि. अ. ४०/३८

२. कण्डूपदेहौ गुरुता स्त्रोतसां कफसंस्त्रवः। मूर्ध्नि हीनविशुद्धे तु लक्षणं परिकीर्तितम् ॥
सु. चि. अ. ४०/३९

३. मस्तुलुङ्गागमो वातवृद्धीरिन्द्रिय विभ्रमः । शून्यता शिरसश्चावि मूर्ध्नि गाढविवेचिते ॥
सु. चि. अ. ४०/४१

४. हीनातिशुद्धे शिरसि कफवातघ्नमाचरेत् । सु. चि. अ. ४०/४१

Complication of Nasya and its Treatment:

Complication are seen due to inadequate or excessive administration, medicinal drops being either very cold or very hot, improper administration of medicine either very quickly or very slowly, with trembling hand, if patient sucks the drop up. Movement of the head during administration of nasya, by eating food or by administering to prohibited persons, complications such as thirst, excessive belching etc. Which are develop due to increase and decrease of doshas¹.

Complications (Vyapats) of nasya and shirovirechan are due to either increase or decrease of the doshas, their symptoms should be under stood respectively. Complications due to increase of doshas should be Managed by alleviating and purificatory therapies and those due to decrease of doshas should be Managed by shortening therapy².

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१. Kaviraj Dr. Ambikadatta Shastri: Sushrut Samhita: Sushrut सु. चि. अ. ४०/४८: Varanasi-221001: Chaukhambha Sanskrit Sansthan, 1989.
 २. Kaviraj Dr. Ambikadatta Shastri: Sushrut Samhita: Sushrut सु. चि. अ. ४०/४९-५०: Varanasi-221001: Chaukhambha Sanskrit Sansthan, 1989.

PRATISHYAYA

Pratishyaya:

It has been clearly mentioned that one should know the disease before going to any treatment aspect. Disease Pratishyaya has been considered as a separate clinical condition in Uttar Tantra of Sushruta Samhita. Further Pratishyaya has been described in detail with its classification, symptomatic, complications & management. Pratishyaya being one of the diseases which leads to the patient in an immune compromised condition giving rise to following complications Badhirya, Andhata, Shopha¹. It may also occur as a clinical feature of many diseases.

Etymology:

The word Pratishyaya is originated from 'SHYENG' Dhatu which refers to move, when this Dhatu is prefixed by 'PRATI' and suffixed by 'GATAU', the word Pratishyaya is form (Shabda Kalpataru).

Prati means Abhimukha and Shyaya shows Gamanam. So in this disease Kaphadi Dosha undergo upward movement due to Exaggerated Vatadosha. It means the condition in which there is continuous flow².

Definition:

Pratishyaya is a general debilitating condition, which manifest due to the migration of the Kapha, Pitta and Rakta from the root of the Nasa adhisthan and get lodged in Shirah Pradesha which is already vitiated by the Vatadosha. In a similar context in contemporary science allergic rhinitis has been explained.

Classification:

Pratishyaya has been classified into 5 types viz, Vataja, Pittaja, Kaphaja, Raktaja and Sannipataja. But Acharya Charaka and Kashyapa have excluded Raktaja Pratishyaya among them.

?) Kaviraj Dr. Ambikadatta Shastri: Sushrut Samhita: Sushrut सु. उ. अ. २४/१७: Varanasi-221001: Chaukhambha Sanskrit Sansthan, 1989.

2) Venimadhavshastri Joshi, Narayan Hari Joshi. Ayurvediya Shabdakosha: Mumbai: Maharashtra Rajya sahitya & Sanskruti Mandal: 1968.

Sushruta Samhita:

Acharya Sushruta described five types of Pratishyaya in the 22nd chapter namely Nasagata roga vigyan of Uttar tantra but its detailed description of Hetu, Purvarupa, Lakshana, Chikitsa, Pathyapathya etc is given in 24th chapter namely Pratishyaya Pratishedhopkrama. Acharya also described about Pakwa and Apakwa condition of Pratishyaya.

Charak Samhita:

Acharya Charaka described Vata vegadharanam as a cause of Pratishyaya in 7th chapter namely Navegandharaniy adhyaya of Sutra-Sthana. Acharya described Pratishyaya as a Symptom of Sahasajanya, Dhatukshayaj and Vishamashanaj Shosha in the chapter-Shoshanidan of Nidan Sthana. In 8th chapter-Rajyayakshma chikitsadhyaya of Chikitsa Sthana, Pratishyaya is mentioned as a Purvarupa and Lakshan of Yakshma.

In 26th chapter-Trimarmiya chikitsadhyaya, nidana and pathya of Pratishyaya is described. The Symptoms as well as treatment of specific types of Pratishyaya ie. Vataj, Pittaj, Kaphaj and Tridoshaj Pratishyaya is described in Trimarmiya chikitsadhyaya chapter.

If patients neglect required regime, all types of Pratishyaya then changed it into Dusta-Pratishyaya.

Videha Nimi:

Acharya Videha described Pratishyaya as a self-limiting disease. Acharya described four stages of Pratishyaya ie. Purvarupavastha, Rupavastha, Tivravastha and Upshamavastha and their symptoms separately.

Madhava Nidan:

Acharya Madhavakara described Pratishyaya in 58th chapter - Nasaroganidan Adhyaya in second part of Madhava Nidana.

Sharangdhara Samhita:

Acharya Sharangadhara described Pratishyaya in Nasarogoprakaran of Roga-Nidan adhyaya of Prathama khanda.

Bhava Prakash Nighantu:

Acharya Bhava Mishra described Pratishyaya in 65th chapter-Nasarog-adhikara of chikitsa Prakaran of Bhava Prakash Nighantu.

Chakra Dutta:

Acharya chakrapani dutta described mainly chikitsa of Pratishyaya in 58th Chapter-Nasa roga chikitsa. He also discussed Nava Pratishyaya and Jeerna Pratishyaya.

Table No.1
Table Showing the Dosha wise Classification of Pratishyaya

Sr.No.	Acharyas	Vataj	Pittaj	Kaphaj	Raktaj	Sannipataj
1	Charaka	+	+	+		+
2	Sushruta	+	+	+	+	+
3	Vaghbhat	+	+	+	+	+
4	Madhav	+	+	+	+	+
5	Bhavprakash	+	+	+	+	+
6	Sharangdhar	+	+	+	+	+
7	Kashyap	+	+	+		+

Dalhana commentary on Sushruta samhita described two stages of Pratishyaya as follows.

(1) Amavastha and

(2) Pakwavastha

1. Amavastha: Following are the symptoms in this stage- Aruchi, Vaktravirasam, Nasasrava, Ruja, Arati, Shirogurutvam, Kshavathu and Jwara.

2. Pakwavastha: This stage comes after the Amavastha in which Tanutvam, Amalingam, Shirah Nasa, Laghuta and Ghanapittakaphatvam are the symptoms.

Etiological Factors:

The following etiological factors narrated in classics have the potential to cause Pratishyay; they are sandharana, ajeerna, raja, etc.

Table No.2
Table Showing the Nidan of Pratishyaya

Aharaj (Dietery)	Charak	Sushruta	Vagbhat	Kashyap
Mandagni				+
Ajeerna	+			
Vishmasanam				+
Atijalapana after meals				+
Ati guru madhur sheeta ruksha sevan				+
Atisheetambupanam	+			
Viharaj (Behavioural)	Charak	Sushruta	Vagbhat	Kashyap
Vega sandharana	+	+	+	+
Rajahdhumrasevan	+	+	+	
Atisambhasanam	+		+	
Rituvashishya	+			
Shirasoabhitapam	+	+		
Prajagratiswapnam	+		+	
Diwasayanam		+		
Atinariprasang	+	+		
Apavitramukhashayanam				+
Tapa sevana		+		
Snana in Ajirna				+
Mansik Hetus	Charak	Sushruta	Vagbhat	Kashyap
Atikrodha	+			

1) Sandharana:

Sandharana denotes (vegasandharana) suppression of natural urges like micturition, defecation, vomiting, etc. Sandharana of flatus or feces or micturition which affects the apanavayu, inturn affecting other types of vayu like the samanavayu causing agnimandya leads to rasa dushti, followed by reduced vyadhi kshamatva, open to invasion (opportunistic infection) and upper respiratory tract is most susceptible part, resulting in Pratishyaya.

Apanavayu also produces dushti to the pranavayu which leads to pratilomagati of vayu and affecting the physiology of pranavayu, which can be understood as the altered ciliary kinetics resulting in flow of mucus in opposite direction rather towards the pharynx. The stress produced by the holding of urge can activate autonomic nervous system as explained before and end in running nose.

2) Ajeerna:

Ajeerna can be comprehended as an impaired digestion. Defect in the process of digestion results in production of Anna rasa are of poor quality or rasa dushti. Rasa is the platform for kaphadosha. Kaphadosha in its prakrut-aavastha is known to work as bala or vyadhi-kshamatva.

Therefore, Rasa dushti invariably leads to declined vyadhi-kshamatva (declined immunity) because of mandagni.

3) Raja:

Raja refers to the particles present in the atmosphere that come from various sources such as soil, dust lifted by weather, volcanic eruptions, and pollution. It can act as an immediate cause (AchayaPrakopa) or a delayed etiology (ChayaPurvakaPrakopa) for the manifestation of Pratishyaya.

4) Ati-bhashya:

Atibhashya refers to the excessive talk or speech. Atibhashya causes rasa Dhatu-kshaya. That leads to decline in vyadhi-kshamatva, exposing body to opportunistic infection.

5) Rutu-vaishamya:

Seasonal variations can bring about changes in various systems in the human body like the nervous system, cardiovascular system or even triggers the immune system of the human body. Seasonal variations are the cause to physical as well as mental stress.

This activates multiple systems producing various symptoms including running nose. Hence, seasonal variations having main Symptom as running nose.

6) Shiro-abhitapa:

Exposure of body (head) to heat results in Vasodilation or by inducing stress resulting in symptoms like running nose. In severe cases trauma to head may produce nasal bleeding or CSF Rhinorrhea.

7) Atisvapna:

Atisvapna refers to having excessive sleep. Excessive sleep increases kaphadosha in the body. This may result in reduced ciliary kinetics. Poor clearance of mucous from Respiratory System results in stagnation and running nose. Excess kaphadosha can also produce Agnimandya.

8) Maithuna:

During the act of intercourse, there will be activation of parasympathetic nervous system, leading to running nose. This condition is also known in contemporary science as honeymoon rhinitis.

9) Neecha-atiuccha-upadhana:

Abnormally having low or high elevation of head can induce running nose. Because change in posture lead to change in resistance (nasal resistance). That is due to alterations in jugular venous pressure resulting in nasal congestion and poor activity of cilia which may increase goblet cell activity resulting in running nose.

10) Avashyaya:

Avashyaya refers to the mist or fog. Fog is defined as obscurity in the surface layers of the atmosphere, which is caused by a suspension of water droplets. But, mist is defined as obscurity in a higher level of atmosphere with less density.

Hence, mist is predominant of Vata whereas fog as Kapha predominant. Both are having potential to cause Pratishyaya. The mechanism is through the parasympathetic nervous system activation.

11) Peet-anaanyena-varina:

Consumption of contaminated water or Dushta-jala results in Vata and Pitta Doshaprakopa. The ultimate result may be an infectious rhinitis. Consumption of alcoholic beverages induces activation of autonomic nervous system which leads to vasomotor rhinitis.

Table No.3

Table Showing the similarities of etiological factors between Pratishyaya & Allergic Rhinitis

Sr.No.	Pratishyaya	Allergic Rhinitis
1	Rajah Sevana (Exposure to dust)	Inhalation of airborne particles such as dust mites, pollen etc
2	Vishamashana, Excessive intake of Guru, Sheeta, Madhura substance	Ingestion of certain foods such as chocolates, citrates, strawberry, eggs
3	Ati jala krida	Bathing with cold water
4	Rituvaishamya	Climate change
5	Avashyaya (Exposure to dew), Anil (Exposure to cold breeze)	Humidity.
6	Dhooma Sevana	Pollution

Pathogenesis of Pratishyaya/Samprapti: Continuous exposure to Nidanas cause Agnimandya, Prakopa of Udanavayu, Bhrajaka Pitta, Tarpaka Kapha, Vitiating of Rasa and Rakthadhatu, Rasavaha, Raktavaha and Pranavaha Srotodushti which all cause the Sthanasamsraya of Doshas in Shira. Here the vitiated Doshas carry through all six Kriyakalas to produce the disease Pratishyaya¹.

- Dosha - Vata /Kapha/ Pitta
- Dushya - Rasa, Rakta
- Agni - Jatharagni, Rasadhatwagni
- Ama - Rasadhatwagnimandhya
- Srotas - Pranavaha, Rasavaha
- Srotodushti - Sanga, Vimargagamana, Atipravruithi.
- Udbhavasthana - Amashaya
- Sancharisthana - Gala, Urdhwajatu, Nasa, Ganda Pradesha
- Vyaktasthana - Nasa
- Rogamarga - Abhyantara
- Vyadhiswabhabha - Ashukari
- Vyadhi Avastha - Vyakta
- Adhisthana - Nasa, Shiras

1) Brahmanand Tripathi. Charak Samhita-Agnivesha च.चि.अ. ८/४८-४९. Varanasi: Chaukhambha Sanskrit Sansthan: 1983.

Features of the Disease:**A) Purvarupa:**

Shirogaurava, Kshavathu, Angamarda, Lomaharsha, Jwara, Kasa are the prodromal symptoms that are commonly seen prior to the disease. Acharya Videha has narrated some more Purvarupas like Kshavathu, Shirogurutwa, Nasa Dhumayana, Taluvidarana, Kanthodwamsam and Mukhasravam¹.

B) Rupa:

Kshavathu, Nasavarodha, Tanunasasrava Nasatoda, Nasavedana, Galashosha, Talushosha, Swaropaghata, Oshtashosha, Shankhapradesha-vedana, Pihitanasa, Shirahshula, Chiratpaki, Shishirakapha-shruti, Mukhashosha, Swarabheda, Shishirakaphashruti, Uttanshayantanu-srava. Among these Kshavathu, Nasavarodha and Tanunasasrava are predominant symptoms².

The lakshanas like Sneezing, Headache found in Allergic Rhinitis, which is usually characterized by spasmodic attacks of severe Sneezing and Watery nasal discharge and Nasal blockage which induce the mouth breathing and this may lead to Laryngitis, Pharyngitis, Tonsillitis and give rise to Mukhashosha, Swaropaghata and Swarabheda.

Treatment Aspect:

Chikitsa of Pratishyaya:

Chikitsa of Pratishyaya can be divided into two Parts:

- 1) Samanya (General treatment) and
- 2) Vishesha (Specific treatment)

A) Samanya chikitsa:

Langhana for minimum five days is advised in Pratishyaya before going for further treatment. All types of Pratishyaya except Nava Pratishyaya are to be treated with Ghritapana, Swedana, Vamana, Avapida Nasya³.

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- 1) Yadunandan Upadhyaya. MadhavNidan-Madhavkar Vidyotinicomm. मा. नि. अ. ५८/११: Varanasi: Chaukhambha Sanskrit Sansthan, 1992.
 - 2) Kaviraj Dr. Ambikadatta Shastri: Sushrut Samhita: Sushrut सू. उ. अ. २४/६-११: Varanasi-221001: Chaukhambha Sanskrit Sansthan, 1989.
 - ३) Kaviraj Dr. Ambikadatta Shastri: Sushrut Samhita: Sushrut सू. उ. अ. २४/१८: Varanasi-221001: Chaukhambha Sanskrit Sansthan, 1989.

B) Chikitsa of Apakva Pratishyaya:

Swedana, intake of warm food having Amla Rasa and Ginger with milk or with sugarcane preparation for Pachana are the required measures for Amavastha Pratishyaya. Even Dhuma Sevana by Mallka Samput made by Sattu mixed with Ghrita is also effective in Pratishyaya¹.

C) Chikitsa of Pakva Pratishyaya:

Shirovirechana. Virechana, Asthapana, Dhumapana, Kavalagraha and Haritaki sevana should be done to expel out the mature, dense and suspended Doshas².

Yoga which are useful in this condition are Maricha Churna mixed with Guda and Dadhi; Kataphaladi Churna Panchamula siddha Ghrita; Chitraka Haritaki; Sarpi Guda; Shadanga Yusha; Vyoshadi Churna; Nasya by Pathadi Taila and Shadabindu Taila.

Aushadhi Chikitsa

1. Local management:

1. Nasya chikitsa -

This is the most important treatment for pratishyaya. Usually avpeedaka nasya is advised in the initial phase where swarasa of kalinga, marich, laksha, vekhanda is used to installed in the nose³.

Aim of avapeedaka nasya is to reduce the inflammation and made the sticky discharge to get dislodged out from the mucosa. After the avepeedaka nasya, virechana nasya should be given to help in throwing all the vitiated doshas from the nose and reduce the obstruction. After all the vitiated doshas are removed from the nasal cavity shaman nasya is given to bring the nasal mucosa to normal.

Anu taila nasya, hingwadi taila nasya are very useful to reduce the inflammation of the nasal mucosa and help to reach to the cellular level of the nasal mucosa. Dashamooladi taila nasya is given in vataja pratishyaya, poonarnavadi taila nasya is given in kaphaja pratishyaya.

१) Kaviraj Dr. Ambikadatta Shastri: Sushrut Samhita: Sushrut सु. उ. अ. २४/१९: Varanasi-221001: Chaukhambha Sanskrit Sansthan, 1989.

२) Kaviraj Dr. Ambikadatta Shastri: Sushrut Samhita: Sushrut सु. उ. अ. २४/२०: Varanasi-221001: Chaukhambha Sanskrit Sansthan, 1989.

3) Vd. Laxmipati Shastri. Yogratnakar -Vidyotini Hindi Comm. यो र भा २ पृ ५४४ :Varanasi Choukhambha Sanskrit Sansthan, :1993.

2. Dhoomapana -

Dhoomapana chikitsa should be advised after getting rid of the vitiated and stagnated doshas from the nasal mucosa to help out in removing all the remnant doshas, reducing the vata prakopa caused by nasya and letting the nasal mucosa back to normal. Dhoomapan with ingudi varti or dhooma from ghrita and satu is very appreciated in such cases. Dhoomapana will help to maintain the normal pH of the nasal mucosa and its lipid solubility¹.

Snehik dhoomapana is given in vataja pratishyaya, Ingudi varti dhoomapana is given in kaphaja pratishyaya. Dhoomapana is contraindicated in Pittaja pratishyaya. Krimighna dhoomapana like guggulu dhoopana is used when there are maggots in the nose and have to be removed.

3. Ghreya chikitsa -

Smelling of certain volatile drugs like Krishna jeeraka, nagakeshara, dalchini can be used for this purpose. Ghreya chikitsa will reduce the inflammation and thus reduce the nasal obstruction.

4. Bashpa swedana -

Steam inhalation by nose is the most effective treatment when the doshas are adhere to the nasal mucosa. Plain boiling water steam or putting some tulsi leaves in the boiling water helps to reduce the inflammation and nasal obstruction.

5. Nasa prakshalana / Nasal douching-

This treatment has been explained in Yogaratnakara² and it become the integral part of today's life style. The polluted air we breathe needs to be cleaned away daily so as to reduce their long lasting ill effects. Nasal douching with vacha kwatha helps to release the secretions which are lodged to the nasal mucosa and avoids dryness of the mucosa.

1) Brahmanand Tripathi, Charak Samhita-Agnivesha च.सू.अ. ५/२७-३२. Varanasi: Chaukhambha Sanskrit Sansthan: 1983.

2) Vd. Laxmipati Shastri. Yogratnakar -Vidyotini Hindi Comm. यो र भा २: ळयप्लल Choukhambha Sanskrit Sansthan, :1993

2. Systemic management

The aim of the treatment is to reduce the vitiated doshas and bring all the doshas to samyavastha so that the normal functioning of the nasal mucosa is maintained.

Commonly used household remedies explained by Bhav Prakash -

As narrated in Bhav Prakash a person suffering from Pratishyaya should always consume maricha +guda +curds. It reduces the inflammation, congestion and the infective focus by killing the microorganisms and maintaining the natural defence mechanism of the nasal mucosa. Trikatu-Ajmoda kwath or choorna mixed in ginger swaras is very resulting remedy for pratishyaya.

Commonly used Kalpas –

- a) Vyoshadi vati – It is a very common drug used in almost all types of Pratishyaya. This kalpa is especially useful in all upper respiratory tract infections to reduce the secretions, inflammation and helps to reduce the agnimandya which is the principle pathological factor in the treatment of Pratishyaya¹.
- b) Shunthyadi choorna taken with ghrita or guda².
- c) Lavangadi choorna taken with honey.
- d) Rasa kalpas like Mahalakshmvilas rasa is very useful in reducing the secretions and bringing the nasal mucosa to normal.
- e) Chopchinyadi choorna can be used as a Rasayana kalpa to reduce the recurrence.
- f) Sooksma triphala and Ttribhuvan kirti rasa are useful to reduce the inflammatory changes and excessive secretions. They have anti-viral action and help to take the secretions in the right direction.
- g) To reduce the headache lepa is applied to the forehead by Shweta mohari.

1) Atrideva Vidyalankar Editor Yadunadan Upadhyaya.Ashtang Hridaya-Vagbhat vidyotini Hindi comm.अ. ढू. उ. अ. २०/५-७.Varanasi: Chaukhumbha Prakashan:1993.

2) Vd. Laxmipati Shastri.Yogratnakar -Vidyotini Hindi Comm.यो र भा २ पृ ५४०: Varanasi Choukhambha Sanskrit Sansthan, :1993

Kalpas according to the types of Pratishyaya-

- Vataja Pratishyaya -

Mallanag mishran is used to reduce the prakupit Vata dosha and reduce the excessive secretions. Mahayogaraja guggulu is helpful the Amavastha. Abhrak bhasma is worked as a balya kalpa for the respiratory mucosa. Sootshekhar effective to reduce the pain due to avarudha vata.

- Pittaja Pratishyaya –

Pittaghna kalpas like kamadudha, Sootshekhar, Chandrakala rasa, Praval panchamrut are used to reduce the ushna and teekshna gunas of prakupit pitta. Dadimavaleha is effective to reduce the blisters caused due to prakupita Pitta. Ushirasava, vasakasava can be used as anupan to reduce the teekshnatva of the Pitta dosha.

- Kaphaja Pratishyaya –

Nagaguti is very effective in reducing the over formation of stagnated secretions. But as Nagaguti is very ushna it has to be used with precautions. Arogyavardhini and Gandhak Rasayana are used to reduce the Amavastha and the inflammation. Vyoshadi vati and Gojivhadi kwath are worked as mucolytics which remove the secretions stuck to the nasal mucosa. Kapardik bhasma is used to reduce the amount of secretions.

- Dushta pratishyaya chikitsa –

This is the Stage of Pratishyaya which is the most difficult to manage. As there is dhatukshyaya and krimi formation in this condition, Sushruta and Vagbhata have explained that this condition should be managed like Rajayakshma and krimi.

Snehapana is the first line of treatment advised in this condition followed by avapeedak nasya. The snehana and nasya acts to remove the stagnated doshas from the nasal mucosa. This is followed by saumya virechana in which all the vitiated doshas are thrown out of the body. Virechana is followed by Niruha and Anuvasana basti. Thus shodhana is the first line of treatment in dushta Pratishyaya. Krimighna dhoomapana is advised to get rid of the maggots formed in the nose. Shadbindu ghrita nasya is given if the doshas reach the bone.

- **Vishesha chikitsa:**

Ghritapana, Shirovirechana (Nasya), Snigdha Dugdhapana, Mamsarasa, Dhumrapana, Panisweda, Upanaha, Sankara swedana, and Niruhabasti are the measures which are to be effective in the management of Pratishyaya. But Acharya Sushruta, Vagbhata and Chakradattta have excluded Snigdha Dugdhapana, Mamsarasa, Dhumapana, Panisweda, and Upanaha.

From the above description we may conclude that Shirovirechana is one among the treatment modalities which is to be opted in the management of Pratishyaya.

- **Apoonarbhava Chikitsa:**

The Apoonarbhava chikitsa is the most important treatment to avoid recurrence and further complications. Rasayana chikitsa is the most applied mode of treatment to keep the nasal mucosa healthy and thus the respiratory tract also.

This includes Chyavanaprasha, Agastiharitaki avaleha, Vardhaman pippali Kshirpaka as advised by the physician. The doshavastha and the Prakruti of the patient should be considered while deciding for the Rasayana chikitsa.

Prognosis and Complications:

1. **Upadrava:**

Pratishyaya if left untreated leads to Dushta Pratishyaya. Following are the complications which may be seen if Pratishyaya is not treated in the right time; they are Deafness, Blindness, Anosmia, Severe eye diseases, Cough, Loss of appetite and Oedema.

2. **Sadhya Asadhyata:**

None of the Acharyas have mentioned Sadhya-Asadhyata for Pratishyaya, whereas almost all the Acharyas narrated that neglected case or improperly handled cases may take the shape of Dushta condition of Pratishyaya,

ANATOMY OF NOSE

EXTERNAL NOSE:

The external nose playing important cosmetic value that enhances personality and beauty of an individual. The external nose is similar to pyramidal structure made up of osteo-cartilaginous framework, which is covered by muscles and skin.

Osteocartilaginous Framework of Nose

The upper one-third of external nose is made up of bone (nasal bones) and forms bridge (root) of the nose while lower two-third constitute of cartilage and forms dorsum of the nose

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Bony Part: The two nasal bones connect in the midline and rest on the nasal process of the frontal bone. They are held between the frontal processes of the maxillae.

Cartilaginous Part: It is made up of mainly upper and lower lateral cartilages and septal cartilages. The various cartilages are connected with one another and with the adjoining bones by perichondrium and periosteum.

Lower lateral cartilages: This U-shaped alar cartilage composed of two crura lateral and medial. The lateral crus, which overlaps lower margin of upper lateral cartilage, forms the ala while medial crus lie in columella.

Upper lateral cartilages: They are attached to the under surface of the nasal bones above and extend up to the lower lateral cartilages below. Both side cartilages attached with each other and with the upper border of the septal cartilage and form dorsal surface of the nose. The lower free margin, which can be seen intra-nasally, forms limen vestibuli or nasal valve.

Lesser alar (or sesamoid) cartilages: They may be two or more in number and lie above and lateral to alar cartilages. Most of the lower free margin of ala consists of fibro fatty tissue and not the alar cartilage.

Septal cartilage: The anterosuperior border of septal cartilage, which holds up the dorsum of cartilaginous part of the nose, extends from under surface of nasal bones to the nasal tip.

Nasal Musculature:

Movements of the nose are due to the facial muscles, include procerus, nasalis (transverse and alar parts), levator labii superioris alaeque nasi (muscle with the longest name) and depressor septi.

Nasal Skin:

The skin over the nasal bones and upper lateral cartilages is thin and freely mobile. But skin which cover the alar cartilages is adherent and contains many sebaceous glands.

Development:

At about the fourth week of foetal life, two epithelial thickenings known as nasal placodes represented on the head. These nasal placodes get depressed due to proliferation of surrounding mesoderm and form olfactory pits. The raised areas of mesoderm are known as medial and lateral nasal folds. With further proliferation, the olfactory pits get depressed to form nasal sacs.

The bucconasal membrane closes the primitive nasal cavities posteriorly, which ruptures and thus each side of the nasal sac communicates with the roof of mouth behind the primitive palate and the communication forms the primitive posterior naris. A ridge of mesoderm extends from the site of Rathke's pouch to the level of the posterior edge of the frontonasal process. This is called the tectoseptal expansion and forms the definitive nasal septum. Each mass of maxillary mesoderm provides a medially directed extension (palatal process) towards the definitive septum. These palatal processes attach with the primitive palate as well as with each other to form the hard and soft palates.

A small opening, nasopalatine canal is the fusion site of the primitive palate with the maxillary processes. This canal is developed in the adult life in hard palate by a foramen known as incisive foramen.

INTERNAL NOSE:

Internal nose divided by the nasal septum into two halves right and left nasal cavities. The nasal cavities communicate with the exterior through anterior choanae and with the nasopharynx through posterior nasal nares. Vestibule is the anterior and inferior skin-lined portion of internal nose and posterior mucosa-lined portion makes nasal cavity proper. Each nasal cavity is having four boundaries lateral and medial walls, roof and floor.

Lateral Wall of Nasal Cavity

Bones: The lateral wall is made up of following bones:

- Nasal bone

Maxilla: Frontal process and medial surface maxilla and medial wall of maxillary sinus

- Lacrimal bone

Ethmoid: Lateral mass of ethmoidal bone

- Palatine bone: Perpendicular plate

- Inferior turbinate

- Sphenoid: Medial pterygoid plate

Turbinates:

Three scroll-like bony projections, inferior, middle and superior turbinates (conchae) are located over the lateral wall. Few times, a fourth turbinate, concha suprema are also seen.

Inferior turbinate: This is the largest turbinate and is made of separate bone.

Middle turbinate: This is the part of ethmoidal bone.

Superior turbinate: This is the smallest turbinate and a part of ethmoidal bone. It is located posterior and superior to the middle turbinate and so not easily visible on anterior rhinoscopy examination.

Supreme turbinate: It may be seen situated above the superior turbinate in some cases.

Meatuses:

The three respective spaces present below and lateral to each turbinate are inferior, middle and superior meatus.

Inferior meatus:

It is situated along the whole length of the lateral wall. Nasolacrimal duct opens in the anterior part of inferior meatus.

Middle meatus: It is situated below the middle turbinate.

Superior meatus:

It lie only in the posterior third of lateral wall of nose. Posterior ethmoidal sinuses open in this space.

Sphenoethmoidal Recess:

It is located above the superior turbinate. The sphenoid sinus opens into this recess medial to the superior turbinate about 1 cm above the upper margin of posterior choana close to the posterior border of septum.

Atrium: This shallow depression situated in front of the middle meatus and above the vestibule.

Medial Wall: It is made up of the nasal septum.

Roof:

It constitutes three parts: anterior sloping part (nasal bones), middle horizontal part (cribriform plate of ethmoid through which olfactory nerves pass) and posterior sloping part (body of sphenoid bone).

Floor:

Floor of the nose forms the roof (hard palate) of the oral cavity. It is made by two bones: palatine process of the maxilla and horizontal plate of the palatine bone. .

Vestibule of Nose

This antero inferior portion of nasal cavity is bounded by skin, which contains sebaceous glands, hair follicles and the hair (vibrissae).

Nasal Septum

Nasal septum can be branched out into three parts: septum proper, membranous septum and columellar septum.

1. **Columellar Septum:** It is covered on either side by skin. The columella having medial crura of lower lateral cartilages, which are fixed together with fibrous tissue.

2. Membranous Septum: It is situated between the columella and the caudal border of septal cartilage and having only double layer of skin. There is no bony or cartilaginous support in membranous septum.

3. Septum Proper: It is covered with mucous membrane and made of osteo-cartilaginous framework.

The principal constituents of septum proper are the perpendicular plate of ethmoid, the vomer and a large quadrilateral septal cartilage, which is doorstop between vomer and ethmoid plate. Other bones, which take very small contributions, include crest of nasal bones, nasal spine of frontal bone, rostrum of sphenoid, crests of palatine and maxilla and the anterior nasal spine of maxilla.

Septal Cartilage: This large quadrilateral septal cartilage is situated between vomer and ethmoid plate.

Middle Meatus and Osteomeatal Complex:

Middle meatus situated below the middle turbinate. It is present in the posterior half of the lateral wall. The osteomeatal complex constitutes uncinate process, maxillary ostium, middle turbinate, bulla ethmoidalis and ethmoid infundibulum.

Middle Turbinate:

This is the lower ethmoidal turbinate & is attached to the lateral wall through the ground basal lamella. Its anterior one-third situated in sagittal plane and is attached to the lateral edge of cribriform plate, which forms the floor of anterior cranial fossa. Its middle one-third present in frontal plane and is attached to lamina papyracea, which forms medial wall of orbit. Its posterior one-third, which constitute roof of middle meatus, runs horizontally and is fixed to lamina papyracea and medial wall of maxillary sinus.

Ethmoidal Infundibulum:

Frontal sinus unlocked into the anterosuperior part of infundibulum just posterior to posterior wall (opening) of agger nasi cells (curved ridge running downwards and forwards above the atrium). Anterior ethmoidal air cells exit into the infundibulum. Maxillary sinus, which may have accessory openings, opens into posterior part of the infundibulum.

Linings of Internal Nose

Skin of Nasal Vestibule: Vestibule constituted by skin (stratified squamous epithelium), which contains hair, hair follicles and sebaceous glands.

Olfactory Epithelium: The olfactory epithelium that is paler in color lines the olfactory region, which constitutes roof of nasal cavity and area above superior concha.

Respiratory Mucosa:

The respiratory mucous membrane, which is situated over the lower two-third of the nasal cavity, shows variable thickness. It is thickest over nasal conchae especially at their ends. It is thick over the nasal septum and thin in the meatuses and floor of the nose. This respiratory mucous membrane is the pseudostratified ciliated columnar epithelium and contains plenty of goblet cells.

Blood Supply of Nose:

Branches of both external and internal carotid arteries supply the nose. Postero-inferior part of internal nose is supplied by Sphenopalatine and greater palatine branches of internal maxillary artery (branch of external carotid artery).

Antero-inferior part of nasal cavity supplied by branches of facial artery (branch of external carotid artery). Superior part of nasal cavity is supplied by Anterior and posterior ethmoidal branches of ophthalmic artery (branch of internal carotid artery).

1. Internal Carotid System:

- Ophthalmic Artery
- Anterior ethmoidal artery
- Posterior ethmoidal artery

2. External Carotid System:

1. Maxillary Artery

- Branches of sphenopalatine artery: Nasopalatine, posterior nasal septal branches and posterior lateral nasal branches.
- Greater palatine artery
- Nasal branch of anterior superior dental artery, which is a branch of infraorbital artery.

2. Facial Artery

- Superior labial artery

Nerve Supply of Nasal Cavity:

Olfactory Nerves: These central filaments of the olfactory cells, which are organized into 12–20 nerves, drive the sense of smell from the olfactory region of nose. They enter through the cribriform plate and end in the olfactory bulb.

Trigeminal Nerve: The ophthalmic division (anterior ethmoidal nerve) and maxillary division (sphenopalatine and infraorbital branches) transmit common sensation (such as touch and irritation from acrid odors).

Vestibule of nose is supplied by branches of infraorbital nerve. The sphenopalatine ganglion supplies posterior two-third of nasal cavity (septum and lateral wall), which transmit through the sphenopalatine foramen situated near the posterior end of middle turbinate. Anterior ethmoidal nerve supplies the antero-superior part of the nasal cavity (lateral wall and septum),

Autonomic Nervous System**Parasympathetic:**

Parasympathetic nerve fibers are secreto-motor and supply the nasal glands. The greater superficial petrosal nerve, which convey preganglionic fibers from the parasympathetic nucleus located in brain stem, enters deep petrosal nerve (postganglionic vasomotor sympathetic fibers) and being nerve to pterygoid canal (vidian nerve), which reaches to the sphenopalatine ganglion.

Sympathetic:

The preganglionic sympathetic nerve fibers derived from upper two thoracic segments of spinal cord (origin from hypothalamus) and pass in superior cervical ganglion. The postganglionic fibers constitute a plexus around internal carotid artery, from which deep petrosal nerve started that enters the preganglionic parasympathetic fibers of greater petrosal nerve to form the nerve to pterygoid canal (vidian nerve).

Lymphatic Drainage

Submandibular Lymph Nodes: The anterior part of nasal cavity and external nose drain into submandibular lymph nodes.

Retropharyngeal Nodes: Posterior parts of nasal cavity pour out into upper jugular nodes and retropharyngeal nodes, which draw off to upper jugular nodes.

Perineural Intracranial Spread: The perineural intracranial spread is possible through the lymphatics of the upper nasal cavity, which converse with subarachnoid space along the olfactory nerves.

ANATOMY OF PARANASAL SINUSES

On either side there are four paranasal sinuses in four cranial bones: frontal, maxilla, ethmoid and sphenoid. They are divided into two groups:

1. **Anterior Group:** The sinuses, which drain anterior to basal lamella of middle turbinate in the middle meatus, form anterior group of paranasal sinuses. They are maxillary, frontal and anterior ethmoid sinuses.
2. **Posterior Group:** The sinuses, which drain posterior and superior to basal lamella of middle turbinate, form posterior group of paranasal sinuses. They are posterior ethmoid and sphenoid sinuses. The posterior ethmoidal sinuses enter in the superior meatus and sphenoid sinuses enter in sphenoethmoidal recess.

Maxillary Sinus (Antrum of Highmore)

It is the first sinus to develop in human fetus. This is the largest paranasal sinus (15 ml capacity in adult). It located in the body of maxilla and is of pyramidal shape.

Boundaries

- a. Anterior wall
- b. Posterior wall
- c. Medial wall
- d. Floor
- e. Roof

Frontal Sinus:

The frontal sinus is located above and deep to the supraorbital margin. It is placed between the inner and outer tables of the lower part of frontal bone. The shape and size of this sinus vary. The bilateral frontal sinuses are mostly asymmetric. The intervening bony septum, which is thin and mostly obliquely placed, may be deficient in some cases.

Relations:

Anterior wall - forehead skin.

Floor - orbit.

Posterior wall - meninges and frontal lobe of brain.

Ethmoidal Sinuses:

Ethmoidal sinuses are thin walled air cavities and located in lateral masses of ethmoid bone. They vary in number and are placed between upper third of lateral nasal wall and the medial wall of orbit.

They are divided into two groups: anterior and posterior.

Anterior ethmoid group adjoin into the middle meatus. Posterior ethmoid group meet into the superior meatus and some in sphenoethmoidal recess.

Boundaries:

Roof: - floor of anterior cranial fossa.

Lateral wall: - Lamina papyracea separates laterally.

Sphenoid Sinus:

There are one on each side two sphenoid sinuses, they are rarely symmetrical. They are placed in body of sphenoid bone and are divided by a thin bony septum, which is usually obliquely situated and may even be deficient. In the upper part of anterior wall the ostium is situated, which opens into sphenoethmoidal recess.

Relations:

The extent and relations of sphenoid sinus be subject to the degree of pneumatization, which may extend into the wings of sphenoid, pterygoid plates and clivus.

Anterior part:

The superior relations- Olfactory tract, optic chiasma and frontal lobe.

The lateral wall relations- Optic nerve, internal carotid artery and maxillary Nerve.

Posterior part:

Roof - floor of sella turcica (pituitary gland fossa).

Lateral wall- cavernous sinus, internal carotid artery and CN

III, IV, V and ophthalmic and maxillary divisions CN V.

Mucous Membrane of Paranasal Sinuses:

The mucous membrane of paranasal sinuses is continuous with that of the nasal cavity through the sinuses' openings and it is thinner and less vascular.

It is made up of ciliated pseudostratified columnar epithelium having numerous mucoserous glands and goblet cells.

The Cilia present on Mucous membrane help in drainage of mucus and are of more marked near the ostia.

Mucus Drainage of Sinuses:

Mucus secretions of paranasal sinuses carry on to their ostium in a spiral manner. The cilia travel the mucus through the ostium into the respective meatuses.

The mucus from anterior groups of sinuses travel along the lateral pharyngeal gutter.

The mucus from posterior group of sinuses diffuses to the posterior pharyngeal wall.

Lymphatic Drainage:

The capillary network in mucosa formed by the lymphatic of sinuses. They open into upper deep cervical nodes, lateral retropharyngeal nodes either directly or through group of lymph nodes.

Blood Supply:

- i. Branches of External carotid artery (facial artery and sphenopalatine branch of maxillary artery) and
- ii. Branches of Internal carotid artery (anterior and posterior ethmoidal branches of ophthalmic artery).

Sphenopalatine artery, having two main branches, passes to the nasal cavity through sphenopalatine foramen.

Nerve Supply:

They are mainly supplied by branches of

- a. CN V (trigeminal nerve).
- b. Supraorbital, supratrochlear and anterior and posterior ethmoidal nerves are branches of ophthalmic division of (CN V1).
- c. The Maxillary sinus supply by greater palatine, posterolateral nasal and superior nasal branches of the infraorbital nerve (branches of maxillary division of CN V).
- d. The sphenopalatine nerve, which also carries parasympathetic secretomotor fibers, is the branch of maxillary division of CN V.

PHYSIOLOGY OF NOSE

The functions of the nose include

- (1) Respiration,
- (2) Air conditioning of inspired air,
- (3) Protection of lower airway,
- (4) Vocal resonance,
- (5) Nasal reflex and
- (6) Olfaction.

Humans are natural nose breathers. Mouth breathing is acquired later on in life. The nose permits breathing during eating. During quiet respiration the inspiratory and expiratory air currents pass between the turbinates and nasal septum. Little air travelled below and above odorous substances reaching olfactory area. Friction offered at nasal valve during expiration, which converts air currents into eddies under cover of inferior and middle turbinates and ventilates the sinuses through their entry in the nose. Anterior end of inferior turbinate increases and decreases in size which helps to regulate inflow of air.

Nasal cycle is the alternate opening and closing of each side of nose. It is having variations on every few hours and is characteristic of every individual.

Nasal Cycle:

Nasal cycle is defined as rhythmic cyclical congestion and decongestion of nasal mucosa (perhaps under the control of autonomic innervation), which control the airflow with help of nasal cavity. Total resistance of nasal airflow remains constant that's why most of the people are not conscious about this alteration in airflow.

Nose works as an "air-conditioner" and filters, purifies, moistens and warms the inspired air to pass on in lungs. In 24 hours we breathe 500 cubic feet of air.

Nose helps to efficiently filter, humidify, adjust the air to proper temperature and clear of all the dust, bacteria and viruses present in the inspired air.

Filtration and Purification:

Coarse particles are (up to 3 mm) filter through Nasal vibrissae. Finer particles of 0.5–0.3 mm (such as dust, pollen and bacteria) form to the mucus, which is secreted by mucous glands and diffuse all over the nasal mucous membrane. But particles < 0.5 mm travel through the nose into lower airways.

Temperature Control:

The Nasal turbinates occupies the surface area of nasal mucosa. The large surface of nasal mucosa is structurally mean to regulate temperature of the inspired air.

Blood flow regulate by the mucous membrane of middle and inferior turbinates and corresponding part of the septum that also regulates the size of turbinates. This “radiator” mechanism warms up the inspired cold air equal to the body temperature (37° C).

Humidification:

The relative humidity (75–100%) of the inspired air; which is dry in winter and humid in summer is regulated by the serous glands of nasal mucous membrane.

In 24 hours approximately 1 liter of water is evaporated from nasal mucosa. During expiration, nose expel out water (maintaining hydration) and heat (preventing hypothermia) from expired air.

Protection of Airway:**Enzymes and Immunoglobulins:**

The nasal secretion contains Enzymes and immunoglobulins. Muramidase (lysozyme) kills bacteria and viruses. Immunoglobulins (IgA and IgE) and interferon provide immunity against upper respiratory tract infections.

Sneezing: Protective reflex like sneezing expel the Foreign particles. Copious flow of nasal secretions (due to irritation) expelled the noxious substance out.

Mucociliary Mechanism:

Nasal mucosa is rich in mucous and serous secretory glands, which form a mucus blanket spread over the mucosa. There are two layers of Mucus blanket; superficial mucus layer and deep serous layer and floats on the cilia.

Cilia constantly beat like a “conveyer belt” towards the nasopharynx. In 10–20 minutes the complete sheet of mucus blanket reaches into the pharynx. Bacteria, viruses and dust particles entraps this viscous mucus blanket from the inspired air and carries them into pharynx and which may have swallowed into stomach and digested.

Ciliary Biphasic Beats:

There are two strokes rapid effective stroke (extended cilia reach superficial mucus layer) in ciliary biphasic beats and slow recovery stroke, in which cilia bend and move slowly in the opposite direction. The effective strokes travel the mucus blanket in one direction.

Factors Affecting Ciliary Beating:

The ciliary movements can be affected by:

Infections: viral and bacterial

Environmental pollution

Humidity

Hypertonic and hypotonic solutions

drying

Smoking (nicotine)

drugs such as adrenaline

Excessive heat and cold

Nose works as a resonating chamber for the speech. For phonating nasal consonants (M/N/NG), sound travel via nasopharynx and nose. When either nose or nasopharynx is blocked, speech becomes denasal and M/N/NG is pronounced as B/d/G respectively.

NASAL REFLEXES

Sneezing: Irritation of nasal mucosa leads to sneezing. If a finger is pressed under the columella it may exert sneezing.

Cardiopulmonary Responses: A strong nasal stimulus leads to profound cardiopulmonary responses such as cessation of breathing and bradycardia. It is applicable to sleep apnea syndrome.

Appetite: Good odour of food results in reflex secretion of saliva and gastric juice.

Nasobronchial and Nasopulmonary Reflexes:

They act on pulmonary functions. Olfactory system is highly evolved in animals and is important for their communication and survival and gives alertness about environmental dangers. In humans it is comparatively less evolved but having an important role in enjoying delicious and sumptuous food.

Olfactory Pathways:

Olfactory system is an important element of limbic system.

Olfactory Receptor Cells: Olfactory epithelium in the olfactory region of nose having millions of olfactory receptor cells, peripheral processes of which travel the mucosal surface and expand into a ventricle that have several cilia and receive odorous substances.

Olfactory Nerves: Central processes of the olfactory cells make olfactory nerves.

Olfactory Bulb: Olfactory nerves travel through the cribriform plate of ethmoid and end in the mitral cells of the olfactory bulb.

Olfactory Tract: Axons of mitral cells pass in olfactory tract.

Cerebrum: Olfactory tract having smell to the prepiriform cortex and the amygdaloid nucleus.

Vomer nasal Organ of Jacobson:

In oval orifice this accessory olfactory tissue is present in 1–3 mm tubule. It is situated 1 cm behind the caudal end of septum and 3 mm above the nasal floor. The mucosa in this area is pale yellowish in colour.

PHYSIOLOGY OF PARANASAL SINUSES

Functions:

The functions of the paranasal sinuses, which are not well proved, include:

Regulation of intranasal pressure

Air-conditioning of the inspired air (humidification and warming)

Rapid growth of face

Keep the nasal chambers moist

Lighten the skull bones

Increasing the area of olfactory membrane

Resonance to voice

Absorption of shock to the face and skull

Protect the delicate structures in the orbit (eye) and the cranium (brain)

ALLERGIC RHINITIS

Allergic rhinitis is a symptomatic disorder of nose induced by an IgE mediated inflammation after allergen exposure.

In human beings Rhinitis is the commonest chronic disease. One in six people suffer from rhinitis. Allergic rhinitis element more than 50% of all allergies in India, and its incidence is constantly increasing worldwide. Surprisingly, it is more seen in developed countries where the pollution is lesser in comparison to developing countries¹.

The financial costs of allergic rhinitis, both direct and indirect, are considerable. The biggest portion of the direct costs is the expenditure for both prescription and nonprescription medications. The largest impact from both the allergy itself and also from the negative side effects of allergy medication. Although allergic rhinitis is not life threatening, its symptomatic effects are remarkable, resulting in a significantly reduced quality of life for many sufferers.

A number of quality of life studies have shown that in almost every event of daily life, patients with allergic rhinitis have a significant loss of the quality of life compared with nonallergic individuals, including social and physical functionality, energy and fatigue levels, and a lack of sleep and mental health. More, patients with allergic rhinitis have been shown to have a lower quality of life compared to asthmatics. In addition, allergic rhinitis may lead to sleep disorders, fatigue.

Allergens:

Allergens are the causative substances of Allergic rhinitis. They enable the body to produce IgE antibodies. The following groups of allergens can cause Allergic rhinitis:

Pollen's:

An important aspect in the context of pollen allergy is the seasonal variation. This is important, as correlation of symptoms and prevalent pollen has to be done. On the climatic condition, increasing encroachment on agrarian land, and other factors the prevalence of pollen depends.

Insects:

Indoor allergens from cockroach antigens are responsible for aggravating asthma in sensitive subjects. Indoor allergies to bedbugs, house flies, mosquitoes and fleas have also been found. Other occupations, which can be manifest different types of insect allergens, are silk workers, laboratory workers and agricultural workers.

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1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5796967/>-Prevalence rate of Allergic Rhinitis.

Animals:

Among the animal allergens, most usual are cats and dogs. Other mammals affecting sensitization among humans are horses, rabbits, guinea pigs, monkeys and mice.

House dust:

Household Dust origin is a complex mixture of animals, fungi, algae, insect debris, human epithelial scales, plants and food remnants.

Dust mite:

It has been manifested that mites in mattresses can sensitize people. Bedding, mattresses, pillows, carpets, upholstered furniture and stuffed toys are the commonest reservoirs.

Ingestants:

Foods as allergens are especially important in children. There may be one evident substance, such as eggs, strawberries, nuts or fish; but in nasal allergy, it is more common to have a less apparent cause, such as milk or wheat.

Drugs:

Aspirin and iodides, hypotensive and other cholinergic drugs, and insulin injections are establishing as cause to allergic reactions.

Predisposing Factors:

Though exactly they do not cause Allergic Rhinitis, they are important and are frequent coexisting factors.

Hereditary:

Many gene interactions are responsible for allergic phenotype.

Endocrine:

Pubertal, marital, natal and menopausal conditions have capability to affect the nose significantly.

Psychological:

Functional disorders of the nose are caused by many psychological factors. It is one of the cardinal etiological factors in cases of vasomotor rhinitis.

Physical:

Changes in the temperature, humidity and pollution of air can contribute to the formation of allergic rhinitis.

Infection:

Viral and bacterial infection may increase the acceptability of the tissue to allergens.

Irritants:

Tobacco smoke, fumes, pepper and pollution are also causative factors.

Pathogenesis:

The allergic response is mediated primarily by a type I hypersensitivity reaction. This response involves the excess production of IgE antibodies and is termed an atopic reaction. An allergic reaction begins with sensitization to a specific allergen, which induces IgE-antibody production.

On subsequent exposure, the specific antigen attaches to two specific IgE antibodies attached to the surface of mast cells.

In early phase or humoral reaction this IgE-mediated reaction causes degranulation of the mast cell, which then provokes an inflammatory response with the release of mediators such as histamine, leukotrienes, cytokines, prostaglandins, and platelet-activating factor.

In late-phase or cellular reaction the release of histamine leads to symptoms of sneezing, rhinorrhea, itching, vascular permeability, vasodilatation, and glandular secretion. The release of cytokines and leukotrienes subsequently causing an influx of inflammatory cells into the affected area. This response is the primary cause of the symptoms of nasal congestion and postnasal drip in allergic rhinitis.

Types of Allergic Response:

There are two types of clinical allergic response immediate and delayed.

1. Immediate (early phase): It happens within 5–30 minutes of exposure and provoke to release of vasoactive amines, such as histamine, which clinically manifest as sneezing, discharge, blockage and bronchospasm.
2. Late (delayed phase): The late phase, which happens 2–8 hours after exposure, is because of infiltration of eosinophils, neutrophils, basophils, monocytes and CD4+ T cells at the site of allergen deposition.

1. Seasonal Allergic Rhinitis:

Hay fever and summer colds are synonym terms for seasonal Allergic Rhinitis which produce stuffy/runny nose, paroxysm of sneezing and itchy nose/eyes/throat and excess mucus in nose/throat.

2. Perennial Allergic Rhinitis:

Perennial rhinitis is caused due to allergens that are present through all seasons, and they include animal dander (cats, dogs, horses and other pets, wool and feathers), cosmetics, molds, foods and house dust.

Symptoms:

The diagnostic symptoms include the following:

A. Nasal pruritus:

Itching of eyes, palate, or pharynx.

B. Paroxysms of sneezing:

Some patients have a “tickling” sensation without with sneezing.

C. Rhinorrhea:

This is a clear watery & profuse discharge. There may be postnasal “drip”, though less often than in infective rhinitis.

D. Bilateral nasal stuffiness:

It is because of venous stasis of the inferior turbinates and mucosal edema. Obstruction due to polyps tends to be constant. It found more commonly in vasomotor rhinitis than Allergic Rhinitis. Some patients may suffer from anosmia intermittently or continuously, even in the absence of obstruction.

Severity:

Symptoms shows severity from day to day, or even from hour to hour. The severity of symptoms is more in seasonal Allergic Rhinitis as compared to perennial Allergic Rhinitis.

Age:

As there is no age and sex bar, Allergic Rhinitis usually found in school going children. Nasal allergy is less seen after 50 years of age.

Associated symptoms: Allergic rhinitis may be associated with Lower respiratory symptoms: Cough, wheezing, chest tightness, or dyspnea.

Allergens:

The history of patient should include a survey of allergen exposure associated with home, work, hobbies, and habits as well as medications.

Allergy and Immunology:

Immunology:

Immune system differentiates self from other antigens and eliminates other foreign elements, such as pathological microorganisms. Immune cells (lymphocytes) are acquired from stem cells in the bone marrow. B cells (humoral immunity) mature in bone marrow. T cells (cell-mediated immunity) mature in thymus. Genetic control having important role in most immune functions.

Allergy:

Allergy defined as altered immune reaction to an allergen (foreign protein). These genetically predisposed allergy patients which overzealous immunologic response on re-exposure to that allergen to which they are allergic. This immune mediated disease is local or systemic. It is evident with tissue inflammation and organ dysfunction. Most commonly involved organs are skin and respiratory system. Anaphylaxis is the alarming form of systemic allergy.

The localized form of allergy may spread to vascular, gastrointestinal tract or other visceral organs. Excluding trauma and tumors, allergy factor having about 50% of the otolaryngology practice.

The clinical features of this potentially fatal condition are:

1. Bronchospasm
2. Hypotension or shock due to vasodilatation
3. Urticaria or angioedema: Isolated urticaria and angioedema are common presentations of anaphylaxis, and have better prognosis.
4. Muscle contractions: Gastrointestinal and uterine

Examination:

A. Patient history:

The diagnosis of allergic rhinitis should determine does the patient is atopic and, if so, what the causative allergen are. To know these, a basic clinical evaluation should be performed, which consist of a patient history, a physical examination, and confirmatory tests. A detailed history provides important guidance for the diagnosis. Genetic factors determine the whether an individual becoming sensitized and producing IgE antibodies.

A family history of allergies, eczema, or asthma determine this possibility. If only one parent or a sibling suffered from allergies, this rate is lower but still significant. A thorough allergy history should evident whether symptom likelihoods are seasonal or perennial. Symptoms may show clear and watery nasal discharge, nasal congestion, postnasal drip, and itching of the nose, throat, and eyes.

Persistent symptoms are evident of exposure to an indoor allergen. Seasonal symptoms or symptoms that are reproducible from an inciting factor, such as cat exposure, should determine the allergic condition. Perennial symptoms should show allergy to dust mites, mold, or animals. An increase in symptoms during night usually suggests an allergy to dust mites or pet dander.

B. Physical examination:

Typical signs in the nose of patients with seasonal allergic rhinitis include bluish, pale, boggy turbinates; wet, swollen mucosa; and nasal congestion with nasal obstruction. With perennial allergies, nasal congestion is cardinal sign, but the nasal examination may appear normal.

Anatomic abnormalities, like deviated nasal septum, concha bullosa, and nasal polyps, may present in Patient with Allergic Rhinitis. It should be evident whether these abnormalities are the main cause or merely contributing factors to the patient's symptoms. If nasal polyps are suspected, an endoscopic nasal exam should be done. Other likelihood physical signs include conjunctivitis, eczema, and, possibly, asthmatic wheezing.

Allergic "shiners" (dark circles under the eyes) in children, facial grimacing, mouth breathing, and the "nasal salute" (constant rubbing of the tip of the nose with the hand) are regular physical findings. In addition, in this age group, a concomitant otitis media with effusion is also warranted.

Allergy salute:

Repeated upward rubbing of nose simulating a salute which may lead to transverse nasal crease across the middle of nasal dorsum.

Inferior turbinate:

On Inferior Turbinate Examination it becomes swollen or inflamed submucosa but in severe conditions, mucosa may look pale, boggy or blue-tinged due to vascular engorgement and venous congestion. Vascular dilatation and stasis bring to a purplish discoloration of inferior turbinates. Anterior and posterior ends of inferior turbinates get enlarged.

Watery discharge:

It is due to increased activity of the seromucinous glands.

Polyps:

They are pedunculated part of edematous mucosa and may be single or multiple. They usually originate from the ethmoidal sinuses and from the middle turbinate or antral lining.

Complications/Associated Conditions:**Sinuses:**

Involvement of the sinuses occurs as the disease progresses. The common indication is generalized thickening of the lining mucosa, development of polyps in the sinuses and fluid effusion into the sinuses.

Eyes:

Edema of lids, congestion, cobblestone conjunctiva, and allergic shiners

Ears:

Serous otitis media because of Eustachian tube block indicated with retracted tympanic membrane and fluctuating and conductive deafness.

Pharynx:

Persistent Allergic Rhinitis in children leads to “adenoid faces” and orthodontic problems.

Larynx:

Edema of vocal cords associated with hoarseness of voice.

Bronchial tree

Allergic Rhinitis patients are prone to develop bronchial asthma.

Investigations:**Complete blood count:**

The eosinophil count of the blood is increased, especially in the morning, and always in the presence of an extrinsic allergen.

Nasal smear:

Eosinophils may be found in maximum numbers in the nasal secretions, or on microscopic examination of the nasal mucosa.

Intranasal provocation test:

A drop of test solution can induce rhinorrhea & lacrimation.

Elimination tests:

Sometime it may be helpful, especially in suspected food allergies.

Specific-IgE Antibody Tests:

Allergy tests shows an immune response to either one or more allergens. IgE antibodies are detected by in vivo (skin tests) or in vitro methods.

Skin tests:

Prick or intradermal skin tests shows localized pruritic wheal (induration) and flare (erythema) which is maximal at 15–20 minutes. It is a very useful method for the diagnosis of allergic respiratory disease (rhinitis and asthma).

In vitro tests of IgE antibody:

Allergen-specific IgE antibodies are found in serum by radio allerge sorbent test (RAST) or enzyme-linked immunosorbent assay (ELISA).

Differential Diagnosis:

The differential diagnoses of allergic rhinitis include the following:

- (1) pollutants and irritants;
- (2) infectious rhinitis (acute or chronic);
- (3) hormonal rhinitis (eg, pregnancy or hypothyroidism);
- (4) perennial nonallergic rhinitis (eg, vasomotor rhinitis);
- (5) tumors or foreign bodies.
- (6) anatomic deformity (eg, a deviated septum, nasal polyps, or a concha bullosa);
- (7) medication-induced topical rhinitis (rhinitis medicamentosa);

Management of Allergic Rhinitis:

Main symptoms, their severity, the patient's quality of life, the cost of therapy, as well as the allergens involved should consider for treatment of allergic rhinitis in order to individualize the patient's treatment options.

In addition, thought should be given to both the patient's desire for rapid long-lasting relief of symptoms without side effects and the relief of any particular idiosyncratic symptoms, such as persistent rhinorrhea.

Three options are available for the management of allergic rhinitis:

- (1) Avoidance and environmental controls,
- (2) Pharmacotherapy, and
- (3) Immunotherapy.

Avoidance Therapy:

Avoidance of allergen exposure assist to cures the clinical manifestations. So, if it is possible, then it should always be considered in addition to other methods of treatment. Accurate diagnosis of the causative allergens should be done for resulting avoidance therapy.

Pollens:

Pollens release occurs mostly in the morning and they can pass to significant distances. Closing windows and remaining in airconditioned environments can help to decrease pollen exposure.

Animal dander:

The patient may get benefit from keeping away from their pet animals.

House dust mites:

The mattress and pillows should be kept in dust-proof material. The bedroom should not have carpets, upholstered furniture and stuffed animals.

Mold spores:

During certain seasonal activities outdoor mold spores are unavoidable; but they should be avoided. By repairing leaks and cleaning mold buildup in sinks, shower curtains and pipes, the indoor mold spores can be avoided.

Drug Therapy:

When selecting a Drug treatment for allergic rhinitis, consideration should be given to the patient's underlying condition, the likely pathology, the dominant symptoms, the patient's age and condition, the coexistence of likely airway disorders, the patient's preference, and the patient's related history. In addition, before starting any drug therapy, the patient's used and response to previous treatment should be considered.

Drug therapy can help not only in the reversal of the vascular and inflammatory responses in the target tissues but can also prohibit release of mediators from mast cells and the action of mediators on their target cells.

Antihistamines:

Antihistamine therapy is helpful in allergic rhinitis though not in all the cases. Antihistamines some time alleviate symptoms of asthma but they are not contraindicated in management associated rhinitis or pruritus.

Histamine released from mast cells by reaction of allergen with IgE antibody can be essentially blocked by antihistamines, which are competitive inhibitors of the histamine receptors.

First-generation:

The use of first-generation antihistamines (chlorpheniramine, brompheniramine, diphenhydramine, clemastine, hydroxyzine) is finite due to their side effects, such as sedation and dry mucous membranes. Occasionally, they may lead to seizures and tachyarrhythmias.

Second-generation:

Second-generation non-sedating H1 receptor-blocking antihistamines include loratidine, cetirizine (derived from hydroxyzine) and acrivastine. They don't rapidly cross blood-brain barrier, and are now consider as drugs of choice.

Third-generation:

This are metabolites and congeners of existing drugsThird-generation antihistamines include fexofenadine (active metabolite of terfenadine), desloratadine (derived from loratadine), levocetirizine (from cetirizine), and tecastemizole (from astemizole).

Topical:

Azelastine and levocabastine topical antihistamines are used intranasally to avoid the systemic side effects.

Topical (phenylephrine, naphazoline, oxymetazoline and xylometazoline):

Rhinitis medicamentosa is caused because of daily use of Such a topical nasal decongestant. Results in rapid development of rebound vasodilation.

Corticosteroids:

Corticosteroids are having extremely effective role in the treatment of Allergic Rhinitis because of their anti-inflammatory action and non immunosuppressive effects. Corticosteroid drugs can be given through oral, intramuscular, intravenous and intranasal forms.

Systemic:

In severe Allergic Rhinitis short-term systemic burst therapy is indicated, severe asthma, allergic contact dermatitis, acute exacerbations of hypersensitivity pneumonitis, and allergic bronchopulmonary aspergillosis. While treating with steroids, precaution must be paid to their side effects and toxicity, such as hypothalamic-pituitary-adrenal suppression.

Topical (steroid nasal spray):

Long-term topical corticosteroid (flunisolide, beclomethasone, mometasone, budesonide, fluticasone and triamcinolone) nasal therapy is an effective, comparatively safe and an essential part of management in the inflammatory phase of the Allergic Rhinitis.

Their expected side effects are epistaxis, nasal irritation, crusting and nasal septal perforation and growth inhibition in children. It is always practised to break their use for 1–2 weeks every 2–3 months.

Anticholinergic agents (Nasal Topical Ipratropium Bromide) :

It is effective in the management of rhinitis. The anticholinergic effect of ipratropium restricts mucous membrane glandular secretion of nose.

Leukotriene modifiers:

They work by restricting formation of leukotrienes or blocking their effect. Zileuton is 5-lipoxygenase inhibitor. Cysteinylleukotriene inhibitors include zafirlukast and montelukast. The montelukast approved by FDA in 2003 to use it in the management of seasonal Allergic Rhinitis.

Macrolides:

Macrolides are having direct anti-Th-2 inflammatory effect which is independent of their antimicrobial effect.

The clarithromycin worked equivalent to prednisolone in reducing the concentration of pro inflammatory cytokines interleukin 5 and interleukin 8.

Immunotherapy:

Long-term injection of allergen has been shown to be an effective treatment of Allergic Rhinitis to reduce or eliminate the clinical manifestations.

Indications:

The indicated cases for immunotherapy are the patients of severe allergic rhinitis who under respond to drug and avoidance therapy, or when allergens are unavoidable. Immunotherapy has given good results in Allergic Rhinitis.

Adverse effects:

Reactions to immunotherapy may be local or systemic. Localized skin reactions occur at injection area that can be immediate and late phase. Though these local reactions are not harmful, the dose must be adjusted to prevent them.

Anaphylaxis is a serious problem and must be avoided by careful monitoring of dosage. The patient should remain at the hospital for 30 minutes after each injection so that if required, systemic reaction can be managed promptly and efficiently.

Surgery:

Surgery can be an accessory management in some refractory cases of allergic rhinitis when conservative treatment fails. It is contraindicated in children, though a simple antral wash can be performed if there is associated sinusitis.

The accessory surgical procedures carried out for the management of allergic rhinitis include the following:

Antral wash out:

It is carries out when allergic rhinitis is complicated by chronic maxillary sinusitis. Sinus openings are obstructed due to inflammation around the osteomeatal complex (OMC).

The antral wash can be combined with procedures, like septoplasty, turbinectomy and adenoidectomy. Currently, functional endoscopic sinus surgery (FESS) has been taking place of antral wash.

Endoscopic sinus Surgery:

If allergic rhinitis is associated with polyps & if they are obstructive, they should be removed. The sinus operations are performed when gross infection is present.

Cauterization:

The cauterization procedure leads to fibrosis by coagulation (chemical/thermal), which subsequently uproot the nerve endings, blood vessels and mucous glands. Symptoms of sneezing, nasal obstruction and rhinorrhea are decreased.

- a) Chemocautery with silver nitrate.
- b) Electrocautery with red hot galvanocautery probes.

Submucous diathermy of inferior turbinate:

It extinguishes the erectile tissue and mucous glands. After introducing a long lumbar needle (LP) within the submucous space of inferior turbinate, the diathermy is done intermittently for 2–3 times which lead to shrinkage of inferior turbinates, and relieves nasal obstruction.

Septoplasty:

Straightening of DNS not only relieves the nasal obstruction but also expel out the drainage and intranasal medications. The associated hypertrophied turbinates required turbinectomy or submucous diathermy along with septoplasty.

Inferior turbinectomy:

It is an effective operation for establishing the nasal airway with total inferior turbinectomy. It may show some adverse effects in long-term follow up, such as oozing, hyposmia and atrophic rhinitis. Submucosal removal preserves overlying mucosa and avert adverse effects of total inferior turbinectomy.

Laser and cryosurgery:

Laser and cryosurgery are very useful surgical treatments for Allergic Rhinitis.

Vidian neurectomy:

Vidian neurectomy, which is now no more used in practised frequently, destroys the preganglionic parasympathetic secretomotor nerve fibers that supply to the nasal mucosa.

Tonsillectomy and Adenoidectomy:

These operations are indicated in children only if there are obvious evidences of recurrent or chronic infection or significant hypertrophy.

DRUG REVIEW

Charakacharya has given in detail about four basic factors of chikitsa. These are Bhishak, dravya, paricharak and Rogi which are collectively called as ‘Chikitsa chatushpada¹’.

In chatushpada, Bhishak is given more importance while second importance is given to Bheshaj (Aaushdha). Acharya Charak has described four properties of good quality Bheshaj².

The first characteristics is that the drug should be available In abundance, secondly the drug must be useful and effective to alleviate the disease, third character is that it can be given in various form according to convenience of patient (as swarasa, kalka, kwatha) and finally it should be pure and effectual one.

In practice, Bhishak commands medicament and nursing staff. As per his direction their drug regimes are given to the patient thus showing his superiority³. In spite of importance of Bhishak, without Bheshaj, he will be unable to treat rather cure the disease.

Dravya plays an important role in the treatment of disease depending upon their characteristics namely Guna, Rasa, Veerya, Veepaka and prabhava etc. To treat the disease, ‘Dravya-Yojana’ should be applied in such a way that characteristics of these dravyas should counteract the vitiated doshah⁴.

१) भिषकद्रव्यान्युपस्थाता रोगी पादचतुष्टयम् । गुणवत् कारणं ज्ञेयं विकारं व्युपशान्तये ॥ च.सू.अ. ९/३

२) बहुता तत्र योग्यत्वमनेकविधकल्पना । संपच्येति चतुष्कोयं द्रव्याणां गुण उच्यते ॥ च.सू.अ. ९/७

३) कारणं षोडशगुणं सिद्धौ पादचतुष्टयम् । विज्ञाता शासिता योक्ता प्रधानं भिषगत्र तु ॥ च.सू.अ. ९/१०

४) विपरीतगुणैर्दंशमानाकालोपपादितैः। भैषजैर्विनिवर्तन्ते विकाराः साध्यसंमताः ॥ च.सू.अ. १/६२

Table No.4
Table showing Family and Latin Name¹of Bharangyadi Taila

Sr.No.	Name of Dravya	Latin Name	Family
1	Bharangi	Clerodendrum seratum	Verbanaceae
2	Madanphala	Randia spinosa	Rubiaceae
3	Arani	Prerna mucronata	Verbanaceae
4	Tulasi	Ocimum sanctum	Labiatae
5	Laksha	Laccifer Lacca	Laciferidae
6	Vacha	Acorus calamus	Araceae
7	Lamba	Langeria vulgaris	Cucurbitaceae
8	Vidang	Embelia ribes	myrsinaceae
9	Kushtha	Saussurea luppa	Asteraceae
10	Pippali	Piper longum	piperaceae
11	Karanj	Pongania pinata	Leguminaceae
12	Gowmutra	Cow Urine	-
13	Sarshap Taila	Brassica nigra oil	Bracicaceae

1.Acharya Priyawat Sharma.Dravya Guna Vignyana.Varanasi: Chaukhambha Bharti
Acadamy 2010.

Table No.5
Table showing Family and Latin Name¹ of Anu Taila

Sr.No.	Name of Dravya	Latin Name	Family
1	Chandan	Santalum album	Santalaceae
2	Agaru	Aquilaria agallocha	Thymaliaceae
3	Tejpatra	Cinnamum Tamala	Lauraceae
4	Daruharidra	Berberis arisata	Berbiridaceae
5	Yashtimadhu	Glycerhiza glabra	Leguminosae
6	Bala	Sida cordifolia	Malvaceae
7	Pundarik	Nelumb nucifera	Nymphaeaceae
8	Ela	Electeria cardamomum	Scitamineae
9	vidang	Emberia ribes	Myrsinaceae
10	Bilva	Aegle marmelos	Rutaceae
11	Nilkamal	Nymphaea nouchali	Nymphaeaceae
12	Ushir(krishna)	Pavonia odorata	Malvaceae
13	Ushir(viran khas)	Vetiveria zizanioides	Graminae
14	Kevali motha	Celosia argentea	Amaranthaceae
15	Twak	Cinnamum Zilanicum	Lauraceae
16	musta	Cyperus rotundus	Cyperaceae
17	sariva	Hemidesmus indicus	Asclepidaceae
18	shalparni	Desmodium gangaticum	Fabaceae
19	jivanti	Leptadenia reticulata	Asclepiadaceae
20	prushniparni	Uraria picta	Leguminaceae
21	devdaru	Cedrus deodar	Pinaceae
22	shatavari	Asparagus racemosa	Liliaceae
23	nirgundi	Vitex negundo	Verbanaceae
24	kantakari	Solanum xanthocarpum	Solanaceae
25	bruhati	Solanum indicum	Solanaceae
26	kaucha	Mucuna pruriata	Leguminaceae
27	kamal	Nelumb nucifera	Nymphaeaceae
28	Til Taila	Sesamum indicum	Pedaliaceae
29	Aja Dugdha	Goat Milk	
30	Water	H ₂ O	

1.Acharya Priyawat Sharma.Dravya Guna Vignyan.Varanasi: Chaukhambha Bharti Academy 2010.

Table No.6

Table showing Guna, Rasa, Veerya, Veepak and Doshghnata¹ of Bharangyadi Taila

Sr. No.	Name of Dravya	Rasa	Veerya	Vipak	Guna	Doshghnata
1	Bharangi	Katu, tikta	ushna	katu	Laghu,ruksha	KaphaVataShamak
2	Madanphala	Madhur, kashaya, tikta ,katu	ushna	katu	Ruksha ,laghu	kaphaVataShamak
3	Arani	Katu, tikta, kashaya, madhur	ushna	katu	Ruksha ,laghu	kaphaVataShamak
4	Tulasi	Katu, tikta	ushna	katu	Ruksha ,laghu	kaphaVataShamak
5	Laksha	Tikta, lavan, madhur	Anushna	katu	Snigdha,ushna	KaphaPittaShamak
6	Vacha	Katu, tikta	ushna	katu	Laghu,tishna	kaphaVataShamak
7	Lamba	Tikta	sheet	katu	Ruksha ,laghu	KaphaPittaShamak
8	Vidang	Katu, kashaya	ushna	katu	Ruksha ,laghu, tishna	kaphaVataShamak
9	Kushtha	Tikta, katu, madhura	ushna	katu	Laghu,ruksha,tishna	kaphaVataShamak
10	Pippali	Katu	Anushna sheet	madhur	Laghu,snigdha ,tishna	kaphaVataShamak
11	Karanj	Tikta, katu, kashaya	ushna	katu	Laghu,tishna	kaphaVataShamak
12	Gowmutra	Katu	ushna	katu	Tikshna	kaphaVataShamak
13	Sarshap Taila	Katu, tikta	ushna	katu	Snigdha	kaphaVataShamak

1.Acharya Priyawat Sharma.Dravya Guna Vignyana.Varanasi: Chaukhambha Bharti Acadamy 2010

Table No.7
Table showing Guna, Rasa, Veerya, Veepak and Doshghnata¹ of Anu Taila

Sr.No	Name of Dravya	Rasa	Veerya	Vipak	Guna	Doshghnata
1	Chandan	Tikta, Madhur	Shita	Katu	Laghu, Ruksha	KaphaPittaShamak
2	Agaru	Katu, Tikta	Ushna	Katu	Laghu, Tikshna	kaphaVataShamak
3	Tejpatra	Madhur, Katu, Tikta	Ushna	Madhur	Laghu, Tikshna, Snigdha	kaphaVataShamak
4	Daruharidra	Tikta, Kashaya	Ushna	Katu	Laghu, Ruksha	KaphaPittaShamak
5	Yashtimadhu	Madhur	Shita	Madhur	Guru, Snigdha	TridoshShamak
6	Bala	Madhur	Shita	Madhur	Laghu, Snigdha, Pic chil	VataPittaShamak
7	Pundarik	Kashaya, Madhur, Tikta	Shita	Madhur	Guru, Ruksha	KaphaPittaShamak
8	Ela	Katu, Madhur	Shita	Katu	Laghu, Ruksha	kaphaVataShamak
9	vidang	Katu, Kashaya	Ushna	Katu	Laghu, Ruksha, Tikshna	kaphaVataShamak
10	Bilva	Kashaya, Tikta	Ushna	Katu	Laghu, Ruksha	kaphaVataShamak
11	Nilkamal	Madhur	Shita	Madhur	Laghu, Snigdha, Pic chil	KaphaPittaShamak
12	Ushir(krishna)	Tikta, Madhur	Shita	Katu	Laghu, Ruksha	PittaShamak
13	Ushir(virankha)	Tikta, Madhur	Shita	Katu	Laghu, Ruksha	PittaShamak
14	Kevali motha	Madhur	Shita	Madhur	Laghu, Snigdha, Pic chil	VataPittaShamak
15	Twak	Kashaya, Tikta, Madhur	Ushna	Katu	Laghu, Ruksha, Tikshna	VataPittaShamak
16	musta	Tikta, Katu, Kashaya	Shita	Katu	Laghu, Ruksha	KaphaPittaShamak
17	sariva	Madhur, Tikta	Shita	Madhur	Guru, Snigdha	TidoshShamak
18	shalparni	Madhur, Tikta	Ushna	Madhur	Guru, Snigdha	TidoshShamak
19	jivanti	Madhur	Shita	Madhur	Laghu, Snigdha	TidoshShamak
20	prushniparni	Madhur, Tikta	Ushna	Madhur	Laghu, Snigdha, Sara	TidoshShamak
21	devdaru	Tikta	Ushna	Katu	Laghu, Snigdha	kaphaVataShamak
22	shatavari	Madhur, Tikta	Shita	Madhur	Guru, Snigdha	VataPittaShamak
23	nirgundi	Katu, Tikta	Ushna	Katu	Laghu, Ruksha	kaphaVataShamak
24	kantakari	Tikta, Katu	Ushna	Katu	Laghu, Ruksha, Sara	kaphaVataShamak
25	bruhati	Katu, Tikta	Ushna	Katu	Laghu, Ruksha, Tishna	kaphaVataShamak
26	kaucha	Madhur, Tikta	Ushna	Madhur	Guru, Snigdha	VataPittaShamak
27	kamal	Kashaya, Madhur, Tikta	Shita	Madhur	Laghu, Snigdha, Pic chil	KaphaPittaShamak
28	Til Taila	Madhur, Kashaya, Tikta	Ushna	Madhur	Guru, Snigdha	Vata Shamak
29	Aja Dugdha	Kashaya, Madhur	Shita	Madhur	Laghu	PittaShamak
30	Water	Avyakta	Shita		Laghu, Sukshma	

1) Acharya Priyawat Sharma. Dravya Guna Vignyan. Varanasi: Chaukhambha Bharti Academy 2010.

Panchabhautikatva of Guna, Rasa, Veerya and Veepak

GUNA*

Guru	=	Prithvi + Aap
Laghu	=	Tej + Vayu + Akash
Ruksha	=	Agni + Vayu
Snigdha	=	Aap
Mrudu	=	Aap + Akash
Tikshna	=	Tej

RASA*

Madhur	=	Prithvi + Aap
Amla	=	Prithvi + Tej
Lavan	=	Aap + Tej
Katu	=	Tej + Vayu
Tikta	=	Vayu + Akash
Kashaya	=	Prithvi + Vayu

VEERYA*

Sheet	=	Aap
Ushna	=	Tej

VEEPAK*

Madhur	=	Prithvi + Aap
Amla	=	Prithvi + Tej
Katu	=	Tej + Vayu

***Mahabhuta Pradhanya**

Table No.8

Table According to Rasa, Guna, Veerya, Veepak & Doshaghnata of Bharangyadi Tail

character	Type	Bharangi	Madanphala	Arani	Tulasi	Laksha	Pippali	Vacha	Lamba	Vidang	Kushtha	Karanj	Gowmutra	Sarshap	Total	Percentage
Rasa	Madhur		+	+		+					+				4	13.33 %
	Amla														0	00.00 %
	Lavan					+									1	3.33 %
	Katu	+	+	+	+		+	+		+	+	+		+	10	33.33 %
	Tikta	+	+	+	+	+		+	+		+	+	+	+	11	36.66 %
	Kashaya		+	+						+		+			4	13.33 %
Guna	Guru														0	00.00 %
	Laghu	+	+	+	+		+	+	+	+	+	+			10	37.03 %
	Ruksha	+	+	+	+				+	+	+				7	25.92 %
	Singdha					+	+							+	3	11.11 %
	Mrudu														0	00.00 %
	Tikshna					+	+	+		+	+	+	+		7	25.92 %
Veerya	Ushna	+	+	+	+			+		+	+	+	+	+	10	76.92 %
	Sheet								+						1	7.69 %
	Anushnasheet					+	+								2	15.38 %
Veepak	Madhur						+								1	7.69 %
	Amla														0	00.00 %
	Katu	+	+	+	+	+		+	+	+	+	+	+	+	12	92.30 %
Dosha- ghnata	Vataghna	+	+	+	+		+	+		+	+	+	+	+	11	42.30 %
	Pittaghna					+			+						02	7.69 %
	Kaphaghna	+	+	+	+	+	+	+	+	+	+	+	+	+	13	50.00 %
	Tridoshaghna														00	00.00 %

Table No. 9

Table According to Rasa, Guna, Veerya, Veepak & Doshaghna of Anu Tail

character	Type	Agaru	Sariva	Tejapatra	Daruharidra	Yashtimadhu	Bala	Ela	Vidang	Bilva	Ushir	Musta	Shaliparni	Prushniparni	Jivanti
Rasa	Madhur		+	+		+	+	+			+		+	+	+
	Amla														
	Lavan														
	Katu	+		+					+		+	+			
	Tikta	+	+	+	+			+		+		+	+	+	
	Kashaya				+				+	+		+			
Guna	Guru		+			+	+						+		
	Laghu	+		+	+			+	+	+	+	+		+	+
	Ruksha				+			+	+	+	+	+			
	Singdha		+	+		+	+						+	+	+
	Mrudu														
	Tikshna	+		+					+						
Veerya	Ushna	+		+	+				+	+			+	+	
	Sheet		+			+	+	+			+	+			+
	Anushnasheet														
Veepak	Madhur		+	+		+	+						+	+	+
	Amla														
	Katu	+			+			+	+	+	+	+			
Dosha- ghnata	Vataghna	+		+			+	+	+	+					
	Pittaghna				+		+				+	+			
	Kaphaghna	+		+	+			+	+	+		+			
	Tridoshaghna		+			+							+	+	+

Table No.10
Table According to Rasa, Guna, Veerya, Veepak & Doshaghna of Anu Tail

character	Type	Devdaru	Shatavari	Kaucha	Bruhati	Kantakari	Nirgundi	Aja Dugdha	Tila Taila	TOTAL	PERCENTAGE
Rasa	Madhur		+	+				+	+	13	30.23 %
	Amla									00	00.00 %
	Lavan									00	00.00 %
	Katu				+	+	+			08	18.60 %
	Tikta	+	+	+	+	+	+		+	16	37.20 %
	Kashaya							+	+	06	13.95 %
Guna	Guru		+	+					+	03	17.64 %
	Laghu	+			+	+	+	+		05	29.41 %
	Ruksha				+	+	+			03	17.64 %
	Singdha	+	+	+					+	04	23.52 %
	Mrudu									00	00.00 %
	Tikshna				+	+				02	11.76 %
Veerya	Ushna	+		+	+	+	+		+	06	75.00 %
	Sheet		+					+		02	25.00 %
	Anushnasheet									00	00.00 %
Veepak	Madhur		+	+				+	+	11	50.00 %
	Amla									00	00.00 %
	Katu	+			+	+	+			11	50.00 %
Dosha- ghnata	Vataghna	+	+	+	+	+	+			06	42.85 %
	Pittaghna		+	+				+		03	21.42 %
	Kaphaghna	+			+	+	+			04	28.57 %
	Tridoshaghna								+	01	7.14 %

Table No. 11

Table Showing the Panchamahabhautikatwa of Guna, Rasa, Veerya, Veepaka in Bharangyadi Tail

Character	Type	Bharangi	Madanphala	Arani	Tulasi	Laksha	Pippali	Vacha	Lamba	Vidang	Kushtha	Karanj	Gowmutra	Sarshap	Total	Percentage
Guna	Prithvi	+	+	+	+				+	+	+				07	13.46 %
	Aap	+	+	+	+	+	+	++	+	+	+	++		+	14	26.92 %
	Tej	+	+	+	+	+	+	+	+	++	++	+	+		14	26.92 %
	Vayu	+	+	+	+		+	+	+	+	+	+			10	19.23 %
	Akash						+								7	13.46 %
Rasa	Prithvi		++	++		+				+	+	+			08	13.33 %
	Aap		+	+		++					+				05	8.33 %
	Tej	+	+	+	+	+	+	+		+	+	+		+	11	18.33 %
	Vayu	++	+++	+++	++	+	+	++	+	++	++	+++	+	++	25	41.66 %
	Akash	+	+	+	+	+		+	+		+	+	+	+	11	18.33 %
Veerya	Prithvi														00	00.00 %
	Aap					+	+		+						03	20.00 %
	Tej	+	+	+	+	+	+	+		+	+	+	+	+	12	80.00 %
	Vayu														00	00.00 %
	Akash														00	00.00 %
Veepak	Prithvi						+								01	3.84 %
	Aap						+								01	3.84 %
	Tej	+	+	+	+	+		+	+	+	+	+	+	+	12	46.15 %
	Vayu	+	+	+	+	+		+	+	+	+	+	+	+	12	46.15 %
	Akash														00	00.00 %

Table No.12

Table Showing the Panchamahabhautikatwa of Guna, Rasa, Veerya, Veepaka in Anu Tail

Character	Type	Agaru	Sariva	Tejapatra	Daruharidra	Yashtimadhu	Bala	Ela	Vidang	Bilva	Ushir	Musta	Shaliparni	Prushniparni	Jivanti
Guna	Prithvi		+			+	+						+		
	Aap		++	+		++	++						++	+	+
	Tej	++		++	++			++	+++	++	++	++		+	+
	Vayu	+		+	++			++	++	++	++	++		+	+
	Akash	+		+	+			+	+	+	+	+		+	+
Rasa	Prithvi		+	+	+	+	+	+	+		+	+	+	+	+
	Aap		+	+		+	+	+			+		+	+	+
	Tej	+		+					+		+	+			
	Vayu	++	+	++	++			+	++	++	+	+++	+	+	
	Akash	+	+	+	+			+		+		+	+	+	
Veerya	Prithvi														
	Aap		+			+	+	+			+	+			+
	Tej	+		+	+				+	+			+	+	
	Vayu														
	Akash														
Veepak	Prithvi		+	+		+	+						+	+	+
	Aap		+	+		+	+						+	+	+
	Tej	+			+			+	+	+	+	+			
	Vayu	+			+			+	+	+	+	+			
	Akash														

Table No.13

Table Showing the Panchamahabhautikatwa of Guna, Rasa, Veerya, Veepaka in Anu Tail

Character	Type	Devdaru	Shatavari	Kaucha	Bruhati	Kantakari	Nirgundi	Aja Dugdha	Tila Taila	TOTAL	PERCENTAGE
Guna	Prithvi		+	+					+	07	7.52 %
	Aap	+	++	++					++	18	19.35 %
	Tej	+			+++	+++	++	+		29	31.18 %
	Vayu	+			++	++	++	+		24	25.80 %
	Akash	+			+	+	+	+		15	16.12 %
Rasa	Prithvi		+		+			++	++	18	22.22 %
	Aap		+		+			+	+	13	16.04 %
	Tej					+	+			07	8.64 %
	Vayu	+	+		+	++	++	+	++	28	34.56 %
	Akash	+	+		+	+	+		+	15	18.51 %
Veerya	Prithvi									00	00.00 %
	Aap		+					+		09	40.90 %
	Tej	+		+	+	+	+		+	13	59.09 %
	Vayu									00	00.00 %
	Akash									00	00.00 %
Veepak	Prithvi		+	+				+	+	11	25.00 %
	Aap		+	+				+	+	11	25.00 %
	Tej	+			+	+	+			11	25.00 %
	Vayu	+			+	+	+			11	25.00 %
	Akash									00	00.00 %

Pharmacological Action of Bharangyadi Taila & Anu Taila on the Basis of Dravya Gunashastra.

Every Component of Bharangyadi Taila & Anu Taila having the properties of guna, Rasa, Veerya & Veepak. These Guna, Rasa, veerya & veepak are 'Panchmahabhutatmak' hence all the drugs are also Panchmahabhutatmak.

“Panchmahabhutatmak” of guna., rasa, veerya, veepak of each drug was calculated by giving scores.

All the character (Guna, rasa etc) of Bharangyadi Taila contains Panchmahabhuta are:

prithvi 16 scores,

Aap 23 scores,

Tej 45 score,

Vayu 47 score

& Akash 18 score.

Also all the character of Anu Taila contains Panchmahabhuta are:

Prithvi 36 scores,

Aap 51 scores,

Tej 60 scores,

Vayu 63 scores

& Aakash 30.

The Drug used as Standard Treatment (i.e. Anu Taila) possesses maximum number of score in Vayu, Tej & Aap Mahabhuta. Vayu & Tej Mahabhuta are responsible for kapha shaman & kapha Nissaran¹ which is the major expected effect. While Aap Mahabhuta are responsible for vata shaman.

१) खतेजोऽनितजैः श्लेष्मा शममेति शरीरिणाम । सु.सू.अ. ४१/११

The Sukshma strotogamitya guna of Aakash mahabhuta also helps the taila, to reach upto suksha strotas, used in nasya karma. Tej mahabhut present in the above drugs performs the activities of Agnidipan i.e. dhatvagnidipan. Vayu helps in expelling out the morbid & uitiated doshas.

Bruham snehan & mardav gunas of Aap & Prithvi subsides the side effect caused due to rukshan, karshan gunas of Tej & vayu mahabhuta¹.

The Guna, Rasa, Veerya, Veepak & Doshaghnata Of Bharangyadi Taila & Anu Taila.

1. Guna:

The different gunas are described in the Ayurvedic literature about these indigenous compound which are Guru, Laghu, Ruksha, Snigdha, Tikshna & Mrudu.

Bharangyadi Taila Contains Laghu, Ruksha & Tikshna Guna in maximum Percentage i. e 37.03 %, 25.92% & 25.92 % respectively. While Snigdha guna is 11.11%.

Anu taila Contains Laghu & Snigdha Guna in maximum Percentage i. e 29.41% & 23.52% respectively. While Guru & Ruksha Guna are 17.64% each. Tikshna Guna is 11.76%.

Laghu & Tikshna guna accelerates the action of Agni which achieves kapha-shaman & Aam-Pachan². Ruksha Guna accelerates the action of lekhan karma. Ruksha guna increases Vata & regulates the Kapha.

The Snigdha guna of Anu tails helps to decrease the side effect of Ruksha Guna.

१) भुतेजोवारिजैर्द्रव्यैः शमं याति समीरणः । सु.सू.अ. ४१/११

२) Kaviraj Dr. Ambikadatta Shastri.Sushrut Samhita: Sushrut सु.सू.अ. ४६/५२३-५२६: Varanasi-221001: Chaukhambha Sanskrit Sansthan, 1989.

2) Rasa:

Bharangyadi Taila Contains Tikta & Katu Rasa in maximum Percentage i.e 36.66 % & 33.33 % respectively. While Kashaya & Madhur Rasa are 13.33 % Each. It also contains Lavan Rasa in in 3.33 %.

Anu Taila is having only 4 Rasa, contains Tikta Rasa in Maximum Percentage i.e 37.20%, & Madhur Rasa in 30.23 %. While Katu & Kashaya Rasa are 18.60 % & 13.95 % respectively.

Katu Rasa cleanses mouth, stimulates digestion, absorbs food, causes secretion from the nose, and makes the sense organ clear¹.

Tikta, rasa possesses anti-poisonous, anti-helminthes properties. It also provides firmness to skin & muscles². Both these rasa are kaphanashak in nature.

Kashaya rasa is pacifying astringent, union promoting, compressing helps in healing, Pacifies kapha, rakta & pitta³.

1) कटुको रसोवक्त्रं शोधयति, अग्निं दीययति, मुक्तं शोषयति, घ्राणमास्त्रावयति...॥ च.सू.अ. २६/४८-४

२) तिक्तो रसः स्वयमरोचिष्णुरभ्यरोचकघ्नो विषघ्नमः॥

कृमीघ्नो मुर्च्छादाह कण्डूकुष्ठतृष्णाप्रशमनस्त्वडमासयो स्थिरीकरणो ॥ च.सू.अ. २६/४३-६

३) कषायो रसः संशमनः संग्राही संधानकरः पीडनो रोपनः शोषनः स्तम्भनः श्लेष्मरक्तपित्तप्रशमनः

शरिरक्लेदस्योपयोक्ता, रुक्ष शीतो गुरुश्च । च.सू.अ. २६/४३

Due to suitability of Madhur rasa to body promotes rasa, rakta, mansa, asthi, majja. ojas & shukra is conducive of life span, pleasing to six sense organs. Madhur rasa is nourishing, vitaliser saturating & statiliaer¹.

3) Veerya:

Bharangyadi Taila Contains Ushna Veerya in maximum Percentage i.e 76.92% while sheet & AnushnaSheet Veerya are 7.69 % & 15.38 % respectively.

Anu Taila is having only 2 Veerya Ushna Veerya in maximum Percentage i.e 75%.While Sheet Veerya is 25 %.

Veerya is responsible for each & every action of Drugs. The substances can exert no action in absence of veerya².As a whole Ushna veerya is dominant therefore it is Kaphavatshamak³.

4) Veepak:

Bharangyadi Taila Contains Katu Veepak in maximum Percentage i.e 92.30% while Madhur is 7.69 %.

Anu Taila is having Madhur & Katu Veepak 50 % Each.

Veepak is known by observing the final effect of dravya on the body⁴.Katu veepak acts as kapha shamak while madhur veepak acts as Vata Shamak.But they also have Vatavaradhak & Kaphavardhak properties respectively.

Thus, sub-siding the side effect to each other, veepak of the drug achieve the Ultimate aim of kaphavatshaman.

१) तत्र मधुरो रसः शरीरसात्त्य द्रसरुधिरमांसमेदोस्थि मज्जौजः

शुक्रभिवर्धन आयुष्य षडिन्द्रियप्रसादनो बलवर्णकरः

पित्तविषमाऊतघ्न स्त्रावदाह प्रशमन स्त्वच्यः । च. सू.अ ४३/१

२) वीर्यं तु क्रियते येन या क्रिया । नावीर्यं कुरुते किञ्चित् सर्वा वीर्यकृता क्रिया ॥
च. सू.अ २६/६५

३) तत्रोष्णं विलयनं अनिलकफशमनानि करोति ।अ.सं.सू.अ. १७/१४

४)विपाकः कर्मनिष्ठया । च. सू.अ २६/२६

Drug Analysis

Table Showing the Analysis of Bharangyadi Taila

Table No. 14

Name of the sample - Bharangyadi Taila

Quantity- 250 ml

Sr.No.	Parameter	Test Method	Unit	Result
Chemical & Physical				
1	Acid Value	IS:548(Part1)-1964 RA 2010		1.24
2	Iodine Value	IS:548(Part1)-1964 RA 2010		106.59
3	pH	pH Meter		6.89
4	Saponification value	IS:548(Part1)-1964 RA 2010	Mg of KOH/gm of Oil	162.8
5	Viscosity	By Viscometer	cst	73.86
Instrumental				
6	Refraction Index	IS:548(Part1)-1964 RA 2010		1.4740

Table No. 15
Table Showing the Analysis of Anu Taila

Name of the sample - Anu Taila

Quantity- 250 ml

Sr.No.	Parameter	Test Method	Unit	Result
Chemical & Physical				
1	Acid Value	IS:548(Part1)-1964 RA 2010		6.61
2	Iodine Value	IS:548(Part1)-1964 RA 2010		106.35
3	pH	pH Meter		6.92
4	Saponification value	IS:548(Part1)-1964 RA 2010	Mg of KOH/gm of Oil	193.4
5	Viscosity	By Viscometer	cst	75.20
Instrumental				
6	Refraction Index	IS:548(Part1)-1964 RA 2010		1.4727

Acid value: The acid value (AV) is a common parameter in the specification of fats and oils. It is defined as the weight of KOH in mg needed to neutralize the organic acids present in 1g of fat and it is a measure of the free fatty acids (FFA) present in the fat or oil.

The acid number is used to quantify the acidity of a substance. An increment in the amount of FFA in a sample of oil or fat indicates hydrolysis of triglycerides (Structure on the left). Such reaction occurs by the action of lipase enzyme and it is an indicator of inadequate processing and storage conditions (i.e., high temperature and relative humidity, tissue damage)

Iodine Value: The iodine value (IV) indicates the degree of unsaturation of a fat or oil. It is defined as the number of grams of iodine absorbed by 100 g of fat. The more iodine is attached, the higher is the iodine value, and the more reactive, less stable, softer, and more susceptible to oxidation is the oil.

pH Value: pH is a scale used to specify the acidity or basicity of an aqueous solution. Lower pH values correspond to solutions which are more acidic in nature, while higher values correspond to solutions which are more basic or alkaline. The range goes from 0 to 14, with 7 being neutral. pHs of less than 7 indicate acidity, whereas a pH of greater than 7 indicates a base.

Saponification value: Saponification value is defined as the amount of potassium hydroxide (KOH) in milligrams required to saponify one gram of fat or oil under the conditions specified. The saponification number depends on the molecular weight and the percentage concentration of fatty acid components present in oil. The Saponification value is effectively used to determine the average relative molecular mass of oils .

Viscosity: Viscosity is a measure of an oil's resistance to flow. It decreases (thins) with increasing temperature and increases (or thickens) with decreased temperature. A fluid with large viscosity resists motion because its molecular makeup gives it a lot of internal friction.

Refraction Index: The refractive index of an oil is a unique number that designates how the oil responds to and bends light. Essentially, it is a measurement that tests how the speed of light is altered when passing through the oil. Refractive index is also equal to the velocity of light c of a given wavelength in empty space divided by its velocity v in a substance, or $n = c/v$. Good results have been obtained with an oil that has a refractive index of $n = 1.518$, which is close to the refractive index of glass.

MATERIAL & METHODOLOGY

The present study was a Randomized comparative clinical study where the efficacy of the Bharangyadi Taila Nasya was compared with the Anu Taila Nasya in Pratishyaya w.s.r Allergic Rhinitis.

Source of Data: -

The patients attending the OPD and IPD of the Institute were being screened for this study.

MATERIAL

Equipment's for Examination¹

1. Bull's eye lamp

It provides a powerful source of light. The lamp can be tilted, rotated, raised or lowered according to need.

2. Head Mirror

It is concave mirror used to reflect light from Bull's eye lamp onto the part to be examined. It has a focal length of approximately 25cm. The examiner sees through the hole in the centre of the mirror.

3. Tongue depressor

It is used in examination of oral cavity and during posterior rhinoscopy.

4. Nasal Speculum.

Two types are commonly used namely the Thudichum and Vienna types. The size of the nasal speculum is selected according to the age of the patient and size of nostril.

5. Post nasal Mirror

It is used to examine the nasopharynx and posterior part of nasal cavity. To prevent fogging, mirror is always warmed and tested on the back of the hand before use.

6. Blunt probe

It is used for palpation of nasal cavity.

7. Spirit lamp

It is used to warm post nasal mirror.

1.K.B. Bhargava.A Short text book of ENT Diseases.Tagore Road,Mumbai 54:Usha Publications
Gopalbhavan, , 2000

8. Nasal Endoscope:

Hopkins 0 degree Rigid Endoscope are used for Diagnostic Endoscopy

9. 10% Lignocaine Nasal Spray:

Anaesthetic agent for diagnostic Nasal endoscopic procedure.

10. Otoscope:

Welch-Allyn LED otoscope for ear findings related to nasal anomalies.

11. Torch:

Table No.16

Table Showing the Material Required for Nasya Procedure

Sr. No.	Material
1	Tila Taila
2	Bharangyadi Taila
3	Anu Taila
4	Induction Plate
5	Pottali for Swedan
6	Cotton
7	Dropper
8	Hand Gloves
9	Panchakarma Table

Table No.17

Table Showing the Content of Bharangyadi Taila (Ref:Ch.Chi.26/153)

Sr. No.	Name of Dravya	Latin Name
1	Bharangi	Clerodendrum seratum
2	Madanphala	Randia spinosa
3	Arani	Prerna mucronata
4	Tulasi	Ocimum sanctum
5	Laksha	Laccifer Lacca
6	Vacha	Acorus calamus
7	Lamba	Langeria vulgaris
8	Vidang	Embelia ribes
9	Kushtha	Saussurea luppa
10	Pippali	Piper longum
11	Karanj	Pongania pinata
12	Gowmutra	Cow Urine
13	Sarshap Taila	Brassica nigra oil

Table No.18**Table Showing the Content of Anu Taila** (Ref:Asht.Hri.Su.20/36-38)

Sr. No.	Name of Dravya	Latin Name
1	Chandan	Santalum album
2	Agaru	Aquilaria agallocha
3	Tejpatra	Cinnamum Tamala
4	Daruharidra	Berberis arisata
5	Yashtimadhu	Glycerhiza glabra
6	Bala	Sida cordifolia
7	Pundarik	Nelumb nucifera
8	Ela	Electeria cardamomum
9	vidang	Emberia ribes
10	Bilva	Aegle marmelos
11	Nilkamal	Nymphaea nouchali
12	Ushir(krishna)	Pavonia odorata
13	Ushir(viran khas)	Vetiveria zizanioides
14	Kevali motha	Celosia argentea
15	Twak	Cinnamum Zilanicum
16	musta	Cyprus rotandus
17	sariva	Hemidesmus indicus
18	shalparni	Desmodium gangaticum
19	jivanti	Leptadenia reticulate
20	prushniparni	Uraria picta
21	devdaru	Cedrus devdar
22	shatavari	Asparagus recemosa
23	nirgundi	Vitex negundo
24	kantakari	Solanum xanthocarpum
25	bruhati	Solanum indicum
26	kaucha	Mucuna prurita
27	kamal	Nelumb nucifera
28	Til Taila	Sesamum indicum
29	Aja Dugdha	Goat Milk
30	Water	H2O2

Methodology

The patients who fulfilled the inclusion criteria were subjected for routine Pathological investigations include Total leucocyte count, Eosinophil Count & IgE.

Before commencement of the treatment an informed written consent was taken from the patients after Reading & understanding the Patient Information Sheet in Patient best of understanding Language and the patients were evaluated for both Subjective and Objective parameters and grading noted according to proforma.

Examination of the Patient:

Nasal examination of the patient includes.

1. Examination of external nose.
2. Examination of Vestibule.
3. Anterior Rhinoscopy
4. Posterior Rhinoscopy
5. Functional examination of nose.

External nose does not need any special instrument for examination. Anterior rhinoscopy allows assessment of nasal cavity, septum and inferior turbinate. Nasal endoscopy allows a thorough evaluation of intranasal anatomy and pathology that is not possible with standard anterior rhinoscopy and head mirror/light examination. For general scheme of case taking and general set up of Bull's eye lamp light source and head mirror.

History taking:

History must include the details of all the complaints mentioned in the chief complaints that begin with the appearance of first symptom and extend up to the time of consultation. It usually consists of the mode of onset (sudden/gradual), preceding events causing onset, course of symptoms (progressive/constant/fluctuate and continuous/ intermittent), factors aggravating/relieving, other accompanying complaints and the treatment taken.

In cases of unilateral disorder, noted the side and site of affliction. If both the sides of nose were affected, then it should be mentioned which is worst affected. Many a time, negative answers are equally important in arriving at a diagnosis. Inquiries were made of any systemic diseases, which patient might be suffering from such as diabetes,

hypertension, coronary artery disease, liver or kidney disease, tuberculosis, HIV/AIDS and a bleeding disorder.

Examination:

Nasal examination usually includes physical examination of external nose, vestibule, anterior rhinoscopy, posterior rhinoscopy and functional examination of nose.

External Nose:

The skin and osteo-cartilaginous framework of nose needs proper inspection as well as palpation for the skin lesions and the osteo-cartilaginous framework deformities.

Examine for the following components:

1. Injuries with or without nasal/skull fracture.
2. Acne rosacea: It has typical butterfly rash over nose and cheeks.
3. Healed lupus: Patient has loss of tissue around the edges of nares. It can be due to trauma.
4. Swelling and cysts:
 - a. Dermoids: They occur over nasal bones and columella.
 - b. Dermoid cyst: It can present as a discharging sinus over the osteocartilaginous junction of nasal bridge.
 - c. Furuncle: It presents as a tender red swelling near the tip of nose.
 - d. Dental cysts/abscess: They present as swelling near the nasal alae.
 - e. Rhinophyma: It presents as enlargement of the lower part of nose.
5. Superficial ulcers and inflammation: It can be secondary to nasal discharge or due to herpes simplex.
 - a. Herpes zoster: Skin lesions are restricted to the area of maxillary nerve (CN V2) distribution.
 - b. Rodent ulcer: Basal cell carcinoma. Palpation of external nose differentiates between bony, cartilaginous and soft tissue swelling and diagnose deformity, fracture (crepitus) and other lesions.

Vestibule:

Vestibule is an anterior skin lined part of nasal cavity having vibrissae (hairs in nasal vestibule). It can be easily evaluated Disease of External Nose.

Examine for the following components:

1. Metaplasia: Frequent picking of nose produces metaplasia that stands out as whitish dry areas.

2. Ulcerations and perforation: Septal perforations can be due to frequent picking and industrial dusts and fumes especially nickel and chrome.
3. Caudal deflection of septum: Dislocation of septal cartilage from its groove in the maxillary crest.
4. Furuncle or fissures: Vestibular examination becomes painful.
5. Papilloma: It is usually pedunculated.
6. Cyst: Nasolabial cyst presents as a smooth bulge in the floor and lateral wall of left nasal vestibule and upper part of upper lip. Cyst obliterates the alar facial fold.

Anterior Rhinoscopy:

A Thudicum or Vienna type of nasal speculum was held in the left hand and assists in widening the vestibule. The blades of speculum were inserted into the less sensitive skin line vestibule and were not touch the septal mucosa which is very sensitive and vascular. The nasal speculum was closed while introducing and opened during examination and remains partially open when removed from the nose (avoided picking vibrissae). The size of the nasal speculum should be chose according to the age of patient and size of the nose.

Examination:

Patient's head needs to be tilted in different directions to examine different sites in the nose: septum, inferior turbinate and meatus, middle turbinate and meatus and floor of the nose.

1. Septum: It is rarely straight and mild deviations are not significant. In some cases, even gross looking deviations do not cause any functional problem. Note for any perforations, granulations, deviations.
2. Inferior and middle turbinates: Compensatory hypertrophy of middle and inferior turbinates is common on the concave side of deviated nasal septum.

In cases of chronic and allergic rhinitis, there can occur hypertrophy of inferior margins and posterior ends of middle and inferior turbinates. Middle turbinate concha bullosa (contains air cells), paradoxical shape (convex lateral surface) and polypoidal changes are common findings.

3. Inferior and middle meatuses: Inferior meatus is rarely visible. Most nasal polyps first appear in middle meatus. Purulent secretions in middle meatus can come from infections of anterior paranasal sinuses (maxillary, anterior ethmoid and frontal) as they all drain in it.

4. Floor of nose: A swelling in the floor of nose may extend from hard palate and alveolar process of maxilla. A floor ulcer may communicate with oral cavity. Foreign bodies are usually seen between septum and inferior turbinate.

Posterior Rhinoscopy:

It consists of examining the nasopharynx and posterior part of nasal cavity by the postnasal mirror. The patient opened his mouth and breathes quietly.

Postnasal mirror was warmed but were not be hot. It is always better to test on the back of hand before introducing. The examiner depressed the patient's tongue with a Tongue depressor which was held in left hand and introduced posterior rhinoscopic mirror (postnasal mirror).

The mirror should be held in right hand like a pen and carried behind the soft palate, along the tongue but without touching the posterior third of tongue (to avoid gag reflex). The reflected light from the head mirror illuminates the area of nasopharynx and the examiner sees the reflected image of the postnasal space in the postnasal mirror. If the patient is quiet and relaxed, then usually soft palate does not contract and hide the view. This procedure especially needs concentration, patience and practice.

Patency of Nasal Cavity:

Spatula test: A clean cold tongue depressor was held below the nose while patient exhales. Each area of mist formation on either side was compared.

Cotton-wool test: A fluff of cotton was held against each nostril and its movements indicate the nasal blow of air while the patient inhales or exhales.

Alae nasi movements: In cases of inspiratory obstruction, alae nasi collapse onto the septum.

Cottle test: Cottle's test is a subjective test of nasal obstruction, during which the nasal valve is widened via lateral traction on the cheek allowing the subject to indicate the degree of nasal obstruction prior to and after the maneuver.

Paranasal Sinuses: They are examined by inspection, palpation and transillumination. The anterior group of sinuses (maxillary, frontal and anterior ethmoid) drains in middle meatus. The posterior ethmoid drains into superior meatus.

The sphenoid sinus opens into sphenoethmoidal recess. All the structures, which are adjacent to the different walls of these sinuses, need attention of the examiner. Sphenoid sinus, which opens in the sphenoethmoidal recess, lies deep and is not easy to examine directly.

Frontal sinus has three walls: anterior, posterior and floor but only the anterior wall can be examined externally.

Tenderness: Tenderness of the sinuses can be elicited by pressure or percussion with a finger on their walls.

Frontal sinus: Anterior and inferior walls above the medial part of eyebrow and above the medial canthus.

Maxillary sinus: Anterior wall over the cheek lateral to nose.

Anterior ethmoids: Medial wall of orbit just behind the root of nose.

Transillumination:

Maxillary sinus:

A specially made light source was placed in the mouth and the mouth is closed. Normally, a crescent of light in the inferior fornix and glow in the pupil, which are equally bright on either side can be seen. The affected side maxillary sinus was not transmitting light if there was pus, thickened mucosa or a neoplasm.

Frontal sinus:

A small light source was placed in the superomedial angle of the orbit. The transmission of light from the anterior wall of the both side frontal sinuses was compared.

Endoscopic Examination:

The brighter illumination, magnification, and angled view of endoscopes (sinusscopes) facilitate examination of all the cleft and crevices of nose and nasopharynx.

Instruments:

4 mm 0° sinusscopes.

Techniques:

Anesthesia:

10% Lignocaine Spray.

Position of patient:

Patient is kept in either sitting or supine position.

Method:

For thorough and complete examination, the scope was passed through the standard three paths. The examination was conducted while inserting and withdrawing the scope.

First pass (0° sinuscope): It examines the nasal vestibule, nasal cavity in general, septum, inferior meatus and nasopharynx. The scope was passed up to the nasopharynx through the inferior meatus. Slight pressure over the lacrimal sac may show the opening of nasolacrimal duct in the inferior meatus. Noted the septal deviation or spur, nature of nasal discharge, and

color of mucous membrane, opening of the eustachian tube, walls of nasopharynx, and upper surface of soft palate.

Second pass (0° sinuscope): It examines the posterior part of middle turbinate, sphenoethmoidal recess, superior meatus, superior turbinate and openings of the sphenoid sinus (in the posterior wall of sphenoethmoidal recess between the nasal septum and superior turbinate) and posterior ethmoid sinuses (in the superior meatus). The scope was passed medial to the posterior part of middle turbinate and progressed up to the sphenoethmoidal recess between the nasal septum and superior turbinate.

Pharmaceutical study:

Drug manufacturing:

The trial drugs were collected from local areas and market after being properly identified with the help of Experts.

Bharangyadi Taila and Anu Taila were prepared as per classical text reference with Standard formulation & good quality.

Preparation of Bharangyadi Taila: Table No.19 (Ref: Ch.Chi.26/153-154)

1) Step:1

Table Showing the Kwath Dravya

Sr.No.	Dravya	Quantity
1	Bharangi	10 Kg
2	Madanphala	10 Kg
3	Arani	10 Kg
4	Tulasi	10 Kg
5	Gow-Mutra	160 litre

The above Dravya were taken in their above given quantity with Gow-Mutra. Decoctions of above said Dravya in Gow-mutra were done on Low flame till 1/4th of it remain i.e 40 litre. At last we will have 40 litre Kwath (Decoction).

2) Step:2

Table No.20

Table Showing the Kalka Dravya

Sr.No.	Dravya	Quantity
1	Laksha	350 gm
2	Vacha	350 gm
3	Lamba	350 gm
4	Vidang	350 gm
5	Kushtha	350 gm
6	Pippali	350 gm
7	Karanj	350 gm

Kalka of above said Dravya in their given quantity was made. The Last kalka formed was about 2.5 Kg in Quantity.

We had following Material after step 2

3) Step 3

Table No.21

Table Showing the final Content for Preparation of Bharangyadi Taila

Sr.No.	Dravya	Quantity
1	Kwath Dravya (Decoction)	40 litre
2	Kalka Dravya	2.5Kg
3	Sarshap Taila	10Litre

Above said Dravya were kept on Low flame till 10 litre of Taila Dravya remained. So we got 10 litre of Medicated Bharangyadi Taila for Nasya.

Preparation of Anu Taila: (Ref: Asht.Hri.Su.20/36-38)

Table No.22

1) Step:1

Table Showing the Kwath Dravya

Sr. No.	Name of Dravya	Quantity
1	Agaru	200gm.
2	Sariva	200gm.
3	Tejapatra	200gm.
4	Daruharidra	200gm.
5	Yashtimadhu	200gm.
6	Bala	200gm.
7	Ela	200gm.
8	Vidang	200gm.
9	Bilva	200gm.
10	Ushir	200gm.
11	Musta	200gm.
12	Shaliparni	200gm.
13	Prushniparni	200gm.
14	Jivanti	200gm.
15	Devdaru	200gm.
16	Shatavari	200gm.
17	Kaucha	200gm.
18	Bruhati	200gm.
19	Kantakari	200gm.
20	Nirgundi	200gm.

The above Dravya were taken in 200gm Each in quantity

Total Quantity = 40kg.

Water=10 times of Dravya = 400 litre

Decoction of above said Dravya (40kg dravya + 400litre Water) were done on Medium flame till $\frac{1}{4}$ th of it remain

i.e $400/4 = 100$ litre. Decoction.

This Remained 100 litre Decoction was divided into 10 equal Parts.

2) Step 2:

Decoction I then added to the 10 Litre sesame oil & heating of mixture was started, heating was continued at medium heat till all the Moisture evaporates & the Oil reaches the 'Mrudu Paak' Stage.

Table No.23

Table Showing the Mrudu Paak for Anu Taila

Sr.No.	Dravya	Quantity
1.	Kwath (I Part of Decoction)	10litre
2.	Tila Taila (Sesame oil)	10litre

This oil was filtered & Decoction II was added to it and again heating was continued at medium heat till all the Moisture evaporates & the Oil reaches the 'Mrudu Paak' Stage.

This Process was repeated with all 10 parts of Decoction & Mrudu Paak Oil.

3).Step3:

After the 10th Paak, 10 litre of Goat Milk & Two times the quantity of water added and Boiled till the correct 'Mrudu Paak' is reached. This was ascertained by absence of Moisture in oil.

Table No.24

Table Showing the final Content for Preparation of Anu Taila

Sr.No.	Dravya	Quantity
1.	Mrudu Paak Oil	10litre
2.	Aja dughda (Goat Milk)	10litre
3.	Water	20litre

The oil was filtered while it was Hot & stored in appropriate container. Because of presence of milk, it was cooked for 2 days.

Bharangyadi & Anu Taila Snehapak pariksha:

For the above Bharangyadi & Anu Taila , snehapak pariksha vidhi described by sharangdhar¹ was applied which is as follow.

A cotton wick moistened with the prepared Bharangyadi & Anu Taila was kindled, any cracking sound was not observed during its burning.

A wick was made from the paste which was remained on the cloth (used as strainer) after filtering Bharangyadi & Anu Taila. It examined as it is for sufficient period & also it was prepared easily.

The above snehapak pariksha vidhi reveals that there was no moisture remained in the prepared Bharangyadi & Anu Taila. Here ‘Mrudu Paak’ was specially observed as the Taila was to be used for Nasya karma.

Sterilization & Packing of Nasya Taila:

Bharangyadi Taila & Anu Taila And its container, in which it was provided to the patient, were sterilized through autoclave machine.

Bharangyadi Taila & Anu Taila was provided through the sterilized bottles.

After a period of 2 Months, the above said few sealed bottles of Bharangyadi Taila & Anu Taila were reopened to check for fungus; at that time No any fungus development was observed.

Analytical Study:

Drug Standardization:

Phyto-chemical analysis of Bharangyadi Taila and Anu Taila were done before its use. Chemical Analysis Used-

- | | |
|-----------------|-------------------------|
| 1. Acid Value | 4. Saponification value |
| 2. Iodine Value | 5. Viscosity |
| 3. pH | 6. Refractive index |

१) वर्तित स्नेहकल्कः स्याद यदांगुल्या विमर्दितः ।

शब्दनोऽग्निनिक्षिप्तः स्नेहः सिद्धो भवेत् तदा ॥ शा.म.ख.अ.१/१२

Nasya Procedure:

Nasya karma Completed in Three Procedure:

- 1) PoorvaKarma
- 2) PradhanKarma
- 3) PaschatKarma

PoorvaKarma¹:-

1. Patient was lie on a supine position in a warm ventilated Room with Tilted Head.
2. Local Snehan of Face was done with the help of warm Tila Taila (Ceasum Oil)
3. Light handed Massage was done on Forehead & Maxillary area
4. After Snehan Swedan was done with the help of Pottali being warmed on Induction Plate.

PradhanKarma²:-

1. In Group A Subjects Bharangyadi Taila 6 drops And in Group B Subjects Anu Taila 6 drops was Administered.
2. Light Handed Massage was done on Forehead & Maxillary area
3. Advised to keep in supine position for 200 Matra Kala or unless the administered Taila Came in Mouth.

1) Kaviraj Dr.Ambikadatta Shastri.Sushrut Samhita:Sushrut सु.चि.अ.४०/२५:Varanasi-221001:
Chaukhambha Sanskrit Sansthan, 1989.

2) Brahmanand Tripathi. Charak Samhita-Agnivesha च.सि.अ. १/१०१-१०२.Varanasi: Chaukhambha
Sanskrit Sansthan : 1983.

PaschatKarma¹:-

1. Subject were advise to spit Taila if came in Mouth.
2. Gargaling was done with warm water.
3. Watched for any Complications/Adverse Event.
4. Advised to sit for 10 minute in warm ventilated Room
5. Cotton wool were plug in subjects ear canal to avoid air entry.
6. Advised not to sleep, take a bath, and drink cold water immediately after the Nasya Procedure.
7. Pathya & Apathya related to Nasya Procedure were advised.
8. After Confirming for No adverse event, Subject was discharged from Panchakarma Room.

Diet Regimen:

1. The concept of Pathya-Apathya related to Pratishyaya was considered while describing the diet of the patient.
2. To take Regular warm & on Time lunch and dinner was advised.
3. Patient was advised to avoid drinking cold water, fresh wines, ice-cream, Fast foods etc.

Regimen for personal habit:

1. Patient was advised to do his Regular activities and should sleep at a place devoid of breeze, dust and smoke.
2. Patient should worn warm garments according to weather.
3. Immersing in cold water should be avoided.
4. Patient should avoid suppression of physiological urges, worries and grief.

१) Brahmanand Tripathi. Charak Samhita-Agnivesha च.सि.अ. ९/१०४-१०६. Varanasi: Chaukhambha Sanskrit Sansthan : 1983.

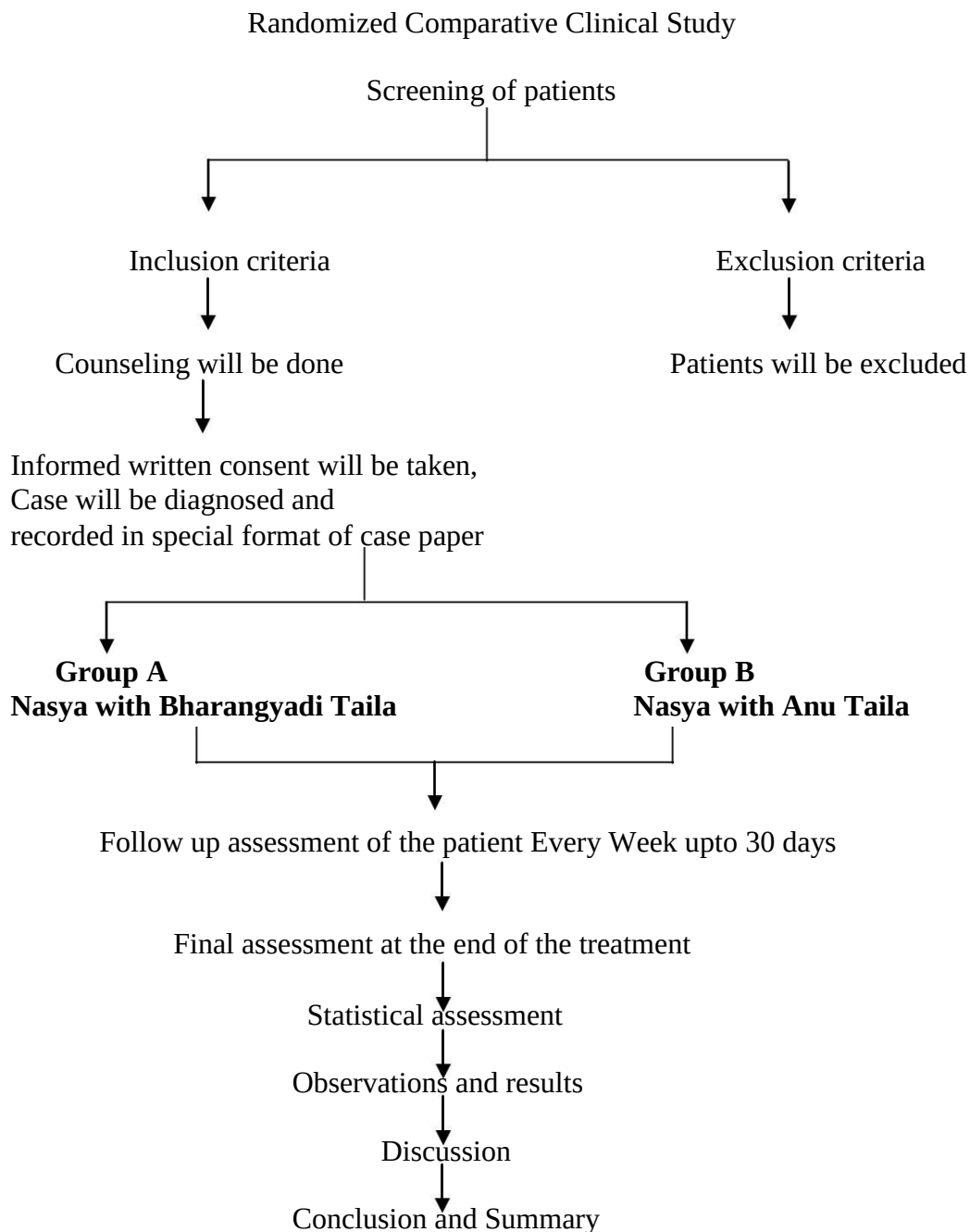
Pathya- Apathya in Pratishyaya:

Following Pathya - Apathya were Advised to enroll Patients to strictly follow.

Table No.25**Table Showing the Pathya- Apathya in Pratishyaya**

Sr.no	Do's in Pratishyaya	Dont's in Pratishyaya
1.	Intake of lukewarm water	Direct contact with wind.
2.	Avoid with holding natural urges eg urine,stool,thirst etc.	Long term exposure to AC.
3.	Avoid physical contact /follow brahmacharya	Intake of cold water/cold food items.
4.	Consumption of light diet eg. - moong daal	Intake of salad.
5.	Steam inhalation (vicks or any other)- for thick discharge or blocked nose	Physical contact.
6.	Proper covering of body with warm clothes.	With holding natural urges.
7.	Gargling with warm water added with salt.	Alcohol consumption.
8.	Take warm, fresh & homemade food	Rough food items such as chips, junk food.
9.	Foods having Omega 3 Fatty acid	Oily food items.

Study Design:



Research Design¹:

The selected patients were subjected for the **Randomized Comparative Clinical Trial** as follows.

1.B K Mahajan. Methods in Biostatistics.Dariyaganj New Delhi: Jaypee Brothers Medical Publisers Pvt. Ltd. ,1999.

Sample size calculation with prevalence:-

With reference to the research methodology the formula of sample size of finite population was as follows¹.

$$n = z^2 pq / e^2$$

n = sample size

z = confidence level =

1.96 p = prevalence rate

$$q = (1 - p)$$

e = error of margin

$$n = z^2 pq / e^2$$

Prevalence rate of Allergic rhinitis in India = 30% = p

$$\begin{aligned} n &= z^2 pq / e^2 \\ &= (1.96)^2 \times 0.3 \times 0.7 / (0.05)^2 \\ &= 3.8416 \times 0.3 \times 0.7 / 0.0025 \\ &= 0.806736 / 0.0025 \\ &= 322.6944 \end{aligned}$$

So the total sample size required is approximated to 323

patients n=323

For our study we will take total 330

n=330

Hence each group will have 165 patients.

Sample size:

Group A = N₁ = 165

Group B = N₂ = 165

Total = 330

1.C R Kothari. Research Methodology: New Delhi: New Age International Publisher: 2009

Method of Collection of Data:

330 patients who fulfilled the inclusive criteria were being selected irrespective of sex, religion, economic status and marital status.

Grouping: 2 groups:**1. Group A:-**

Treatment with Bharangyadi Taila Nasya (Includes Pre & Post Procedure).

2. Group B:-

Treatment with Anu Taila Nasya (Includes Pre & Post Procedure).

Posology:

Group A – Nasya with Bharangyadi Taila – QS (6 drops¹ in each nostril)

Group B – Nasya with Anu Taila –QS (6 drops¹ in each nostril)

Treatment duration:

Group A – Nasya with Bharangyadi Taila – 21 days (in 3Sittings having 3 day interval)

Group B – Nasya with Anu Taila – 21 days (in 3Sittings having 3 day interval)

Mental state –Regular counseling will be done to avoid stress, tension, anxiety and aggressiveness.

Center of study:-

OPD & IPD of Institute.

Duration of study:-

Patient study will be of 21 days².

1) Atrideva Vidyalankar Editor Yadunadan Upadhyaya.Ashtang Hridaya-Vagbhat vidyotini Hindi comm.अ .हृ. सू.अ. २७/९-१०.Varanasi: Chaukhumbha Prakashan:1993.

२) एकान्तरं द्वयन्तरं वा सप्ताहं वा पुनःपुनः। एकविंशतिरात्रं वा यावद्वा साधु मन्यते ॥ सु.चि.अ. ४०/४२

Table No.26
Table Showing the Drug Administration/ Intervention details

Grouping	GROUP A	GROUP B
Sample size	165	165
Intervention	Bharangyadi Taila Nasya	Anu Taila Nasya
Treatment duration	21 days (Daily once in morning)	21 days(Daily once in morning)
Interval	3 days, after every 7 days	3 days, after every 7 days
Follow up	Daily with assessment on every Week	Daily with assessment on every Week

Selection Criteria:

A) Inclusion Criteria –

1. Patients who fulfilled diagnostic criteria of Pratishyay (Allergic Rhinitis).
2. Patients suffered from Vataj, Pittaj, Kaphaj & Sannipataj Pratishyaya.
3. Patients of age limit – 20 years to 60 years.
4. Both Male & Female Gender.
5. Patients with allergic history
6. Rhinoscopic Examination Suggested Allergic Rhinitis.

B) Exclusion Criteria –

1. Pregnant & lactating mothers.
2. Patient who were not willing to participate.
3. Patient suffered from nasal polyp, epistaxis, Benign & Malignant tumors.
4. Patient with major nasal Structural Deformity.
5. Patient with Immunosuppression.

Withdrawal Criteria:

During the course of treatment, if any serious condition or any serious adverse events occurred or if subject himself / herself wanted to withdraw from the study, such subjects were withdrawn from the study.

Criteria of Diagnosis:

The methods of diagnosis was done on Ayurvedic lines which includes chief complaints of patient and its duration, sign, symptoms, detail personal and family history was taken Sarvadehik parikshan was done on the basis of Prakriti pariksha as well as Ashtavidh pariksha. Nasa parikshan was done in detail subsequently with the help of modern viewing technique like Rhinoscopy.

Subjective Criteria: (Ref.Sushruta Uttar Ch.24/5-11)

Assessment were done on the basis of

Improvement in the signs and symptoms of the disease on the basis of the score decided

Following symptom score were adopted for the assessment.

0 -Completely relieved.

+ -Mild symptoms present.

++ -Moderate symptoms present.

+++ - Moderately Severe symptoms present.

++++ -Severe symptoms present.

1)Nasa-Strav (Rhinorrhea)	Grades
No Nasa-Strav	Nil
Occasional	+
Frequent	++
Continuous	+ ++
Continuous & heavy	++++

2)Nasa-Avarodh(Blocking of Nose) Grades

No Nasa-Avarodh	Nil
Partial & unilateral	+
Partial & bilateral	++
Complete & unilateral	+++
Complete & bilateral	++++

3)Kshavatu (Sneezing) Grades

No Kshavatu	Nil
Occasional	+
Frequent	++
Continuous	+ ++
Continuous & heavy	++++

4)Shiro-Gurutva(Heaviness of Head) Grades

No Shiro-Gurutva	Nil
Occasional	+
Frequent	++
Continuous	+ ++
Continuous & heavy	++++

Objective Criteria:

Assessment of Inferior Turbinate Size¹:

Physical assessment was done on the basis of Variation in Inferior Turbinate size. Inferior Turbinate Size is based on the Degree of Obstruction Caused by the anterior aspect of Inferior Turbinate relative to the Total Airway Space.

Inferior Turbinate Size	Grades
1) 0% - 25% of Total Airway Space -	1
2) 26%-50% of Total Airway Space -	2
3) 51%-75% of Total Airway Space -	3
4) 76%-100% of Total Airway Space -	4

The above tests were estimated before the treatment as a routine and after 1 months of the treatment for assessment.

Over all Assessment of Clinical Response:

The overall effect of the clinical trial was assessed by considering all the parameters of assessment before and after treatment as follows;

1.Camacho, Zaghi,Certal.InferiorTurbinate Classification System “The Laryngoscope”:Vol.125, pp296-302,2015.

OBSERVATION & RESULT

In this study 330 patients suffering from Pratishyaya were studied into two groups of 165 patients each.

A total number of 335 subjects fulfilling the inclusion criteria were Registered.

Number of subjects registered for the study - 335

Number of subjects completed the study - 330

□ Number of dropout - 5

1. **Group A:** 165 Patient of Group A were treated with Bharangyadi Taila Nasya.
2. **Group B:** 165 Patient of group B were treated with Anu Taila Nasya.

The clinical study was carried out in the above two groups in the management of Pratishyaya w.s.r. to Allergic Rhinitis.

The data collected from all the 330 Patient of both groups was summarized & statistically represented in terms of

1. Vital Statistics
2. Observations during study
3. Results of the study
4. Statistical comparison of both the group

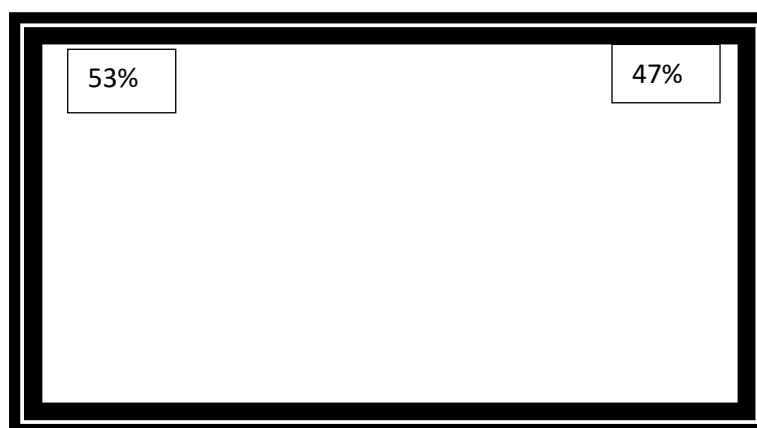
- SPSS version 22.0 statistical software package for Microsoft Windows (SPSS Inc., Chicago, IL) and MS-Excel were used for analysis.
- Study data was cleaned and coded
- Quantitative, qualitative, and mixed designed questions were included in the questionnaire during the study. Hence integration of quantitative and qualitative analyses has been carried out.
- 330 patients were grouped into two. One group was treated with Bharangyadi Taila Nasya whereas other group was treated with Anu Taila Nasya.
- Distribution of demographic variables in terms of tables and graphs for all patients has been carried out as per their treatment groups in descriptive analysis.
- For inferential statistics, null hypothesis has been considered as H_0 : median of difference between pre-test score and post-test score is not zero.
- To check the impact of two drugs with respect to symptoms of disease, a non-parametric Wilcoxon Signed Rank test has been used in the data analysis.
(p values less than 0.05 considered as significant value)

Descriptive Statistics

Total 330 patients lying in 20 to 60 years of age group, provided with consent to participate in the study.

Age of all participants lying as 40 ± 25 years at 95% level of confidence (CI).

Also 154 males (47%) and 176 females (53%) were participated in study.



These 330 Subjects were grouped into two groups Group A & Group B. Group A was treated with Bharangyadi Taila Nasya whereas Group B was treated with Anu Taila Nasya. Hence distribution of demographic variables in terms of tables and graphs for all patients has been carried out as per their treatment groups.

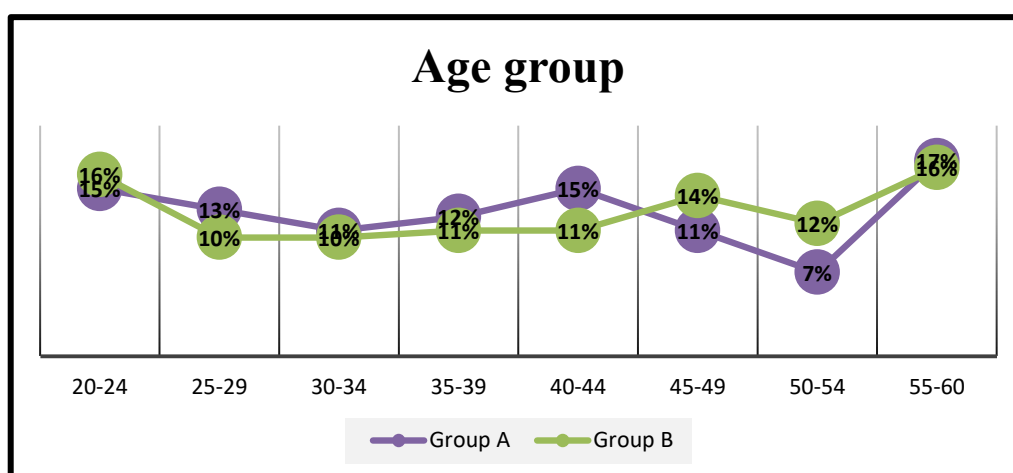
Table No.27

Group wise Distribution according to Age in 330 Patients of Pratishyaya

	Group A		Group B	
Age group(YR)	No of patients	%	No of patients	%
20-24	24	15%	26	16%
25-29	21	13%	17	10%
30-34	18	11%	17	10%
35-39	20	12%	18	11%
40-44	24	15%	18	11%
45-49	18	11%	23	14%
50-54	12	7%	19	12%
55-60	28	17%	27	16%
Total	165		165	

Chart No. 1

Chart Showing Distribution According to Age in 330 Patients of Pratishyaya



Age of all participants lying as 40 ± 25 years at 95% level of confidence. Maximum patients have been seen in the age-group of 55 to 60 years in both groups.

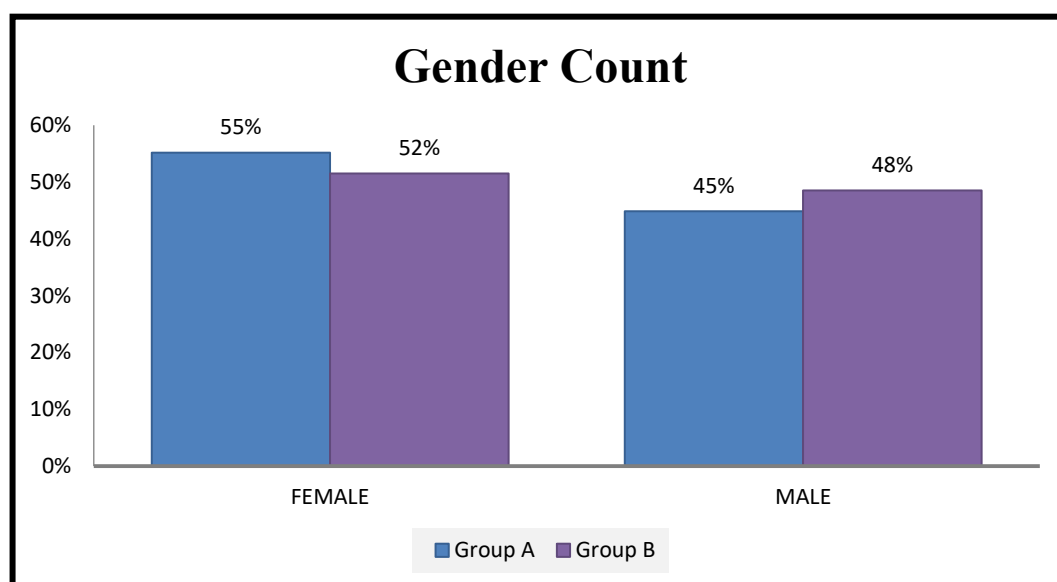
Table No. 28

Group wise Distribution according to Gender in 330 Patients of Pratishyaya

Gender	Group A		Group B	
	No. of Patients	%	No. of Patients	%
Female	91	55%	85	52%
Male	74	45%	80	48%
Grand Total	165		165	

Chart No. 2

Chart Showing Distribution According to Gender in 330 Patients of Pratishyaya



Almost equal proportion of gender was seen in both groups

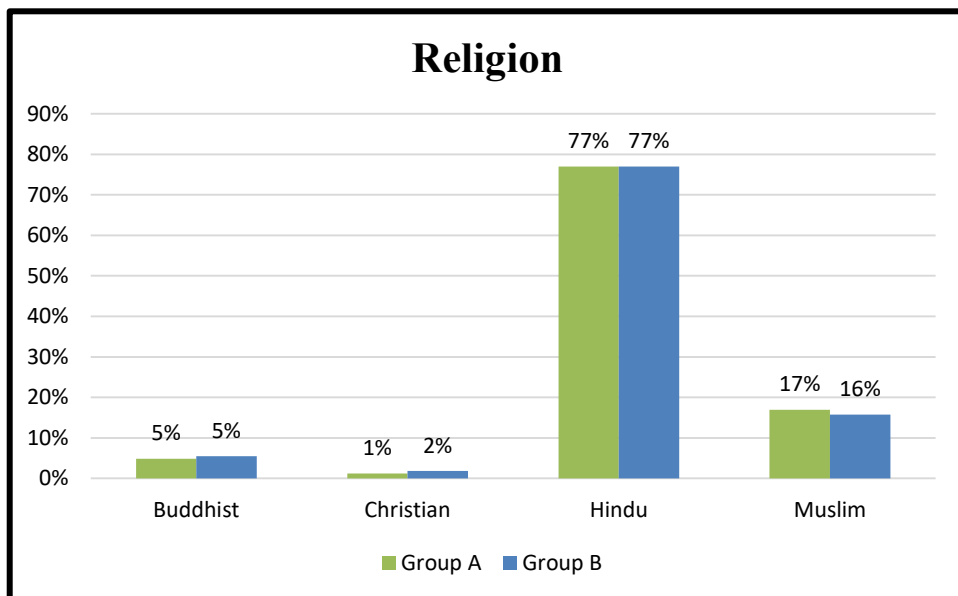
Table No. 29

Group wise Distribution according to Religion in 330 Patients of Pratishyaya

	Group A		Group B	
Religion	No. of Patients	%	No. of Patients	%
Buddhist	8	5%	9	5%
Christian	2	1%	3	2%
Hindu	127	77%	127	77%
Muslim	28	17%	26	16%
Total	165		165	

Chart No. 3

Chart Showing Distribution According to Religion in 330 Patients of Pratishyaya



Hindu participants were more in whole study, but as there was No any relation of Religion & Incidence / Predominance of Pratishyaya.

Table No. 30

Group wise Distribution according to Education Status in 330 Patients of Pratishyaya

	Group A		Group B	
Education	Frequency	%	Frequency	%
Graduate	75	45%	73	44%
Higher Secondary	52	32%	55	33%
Middle	25	15%	34	21%
Primary	13	8%	3	2%

Chart No. 4

Chart Showing Distribution According to Education Status in 330 Patients of Pratishyaya

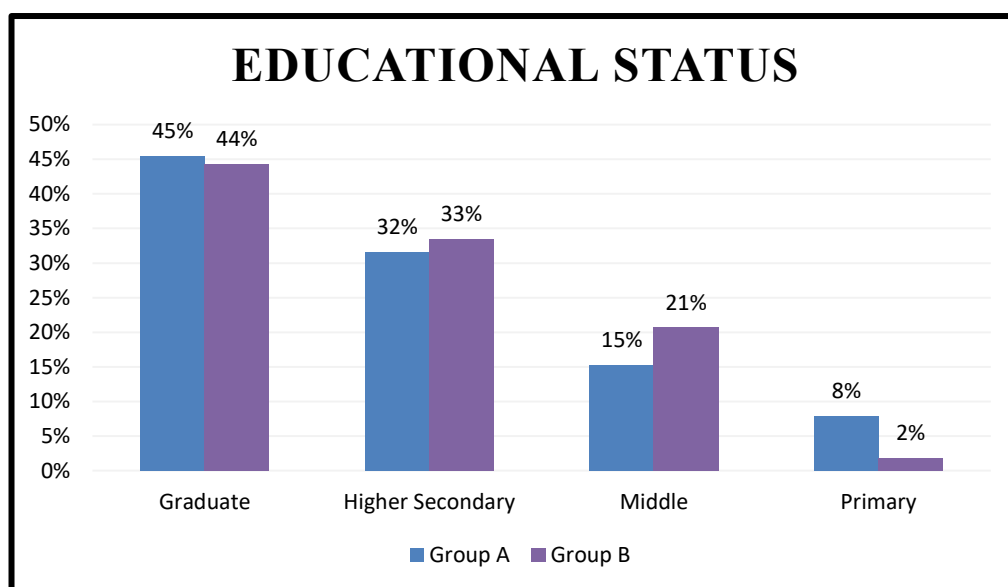


Table No. 31

Group wise Distribution according to Socioeconomic Status in 330 Patients of Pratishtyaya

	Group A		Group B	
Economic status	No. of Patients	%	No. of Patients	%
Higher	6	4%	8	5%
Lower	38	23%	67	41%
Middle	121	73%	90	55%

Chart No. 5

Chart Showing Distribution According to Socioeconomic Status in 330 Patients of Pratishtyaya

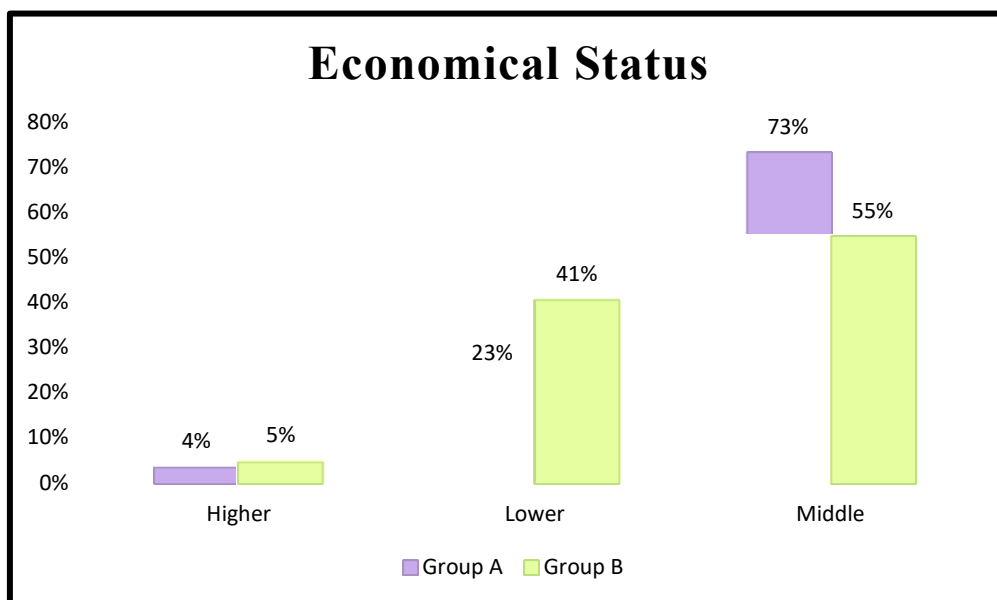


Table No. 32

Group wise Distribution according to Marital Status of 330 Patients of Pratishyaya

Marital status	Group A		Group B	
	Frequency	%	Frequency	%
Married	113	68%	120	73%
Unmarried	52	32%	45	27%
Grand total	165	1	165	1

Chart No. 6

Chart Showing Distribution According to Marital Status of 330 Patients of Pratishyaya

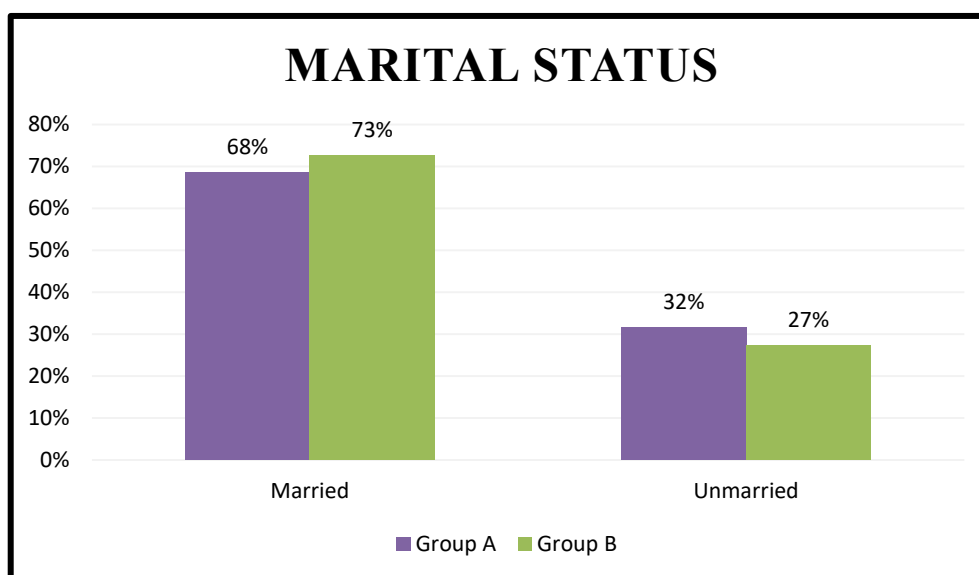


Table No. 33

Group wise Distribution according to Family history of 330 Patients of Pratishyaya

Family history	Group A		Group B	
	Frequency	%	Frequency	%
Brother suffering from same disease	20	12%	14	8%
Father suffering from same disease	11	7%	10	6%
Mother suffering from same disease	19	12%	30	18%
Sister suffering from same disease	26	16%	23	14%
No one suffering same disease	89	54%	88	53%
Grand Total	165	1	165	1

Chart No. 7

Chart Showing Distribution according to Family history of 330 Patients of Pratishyaya

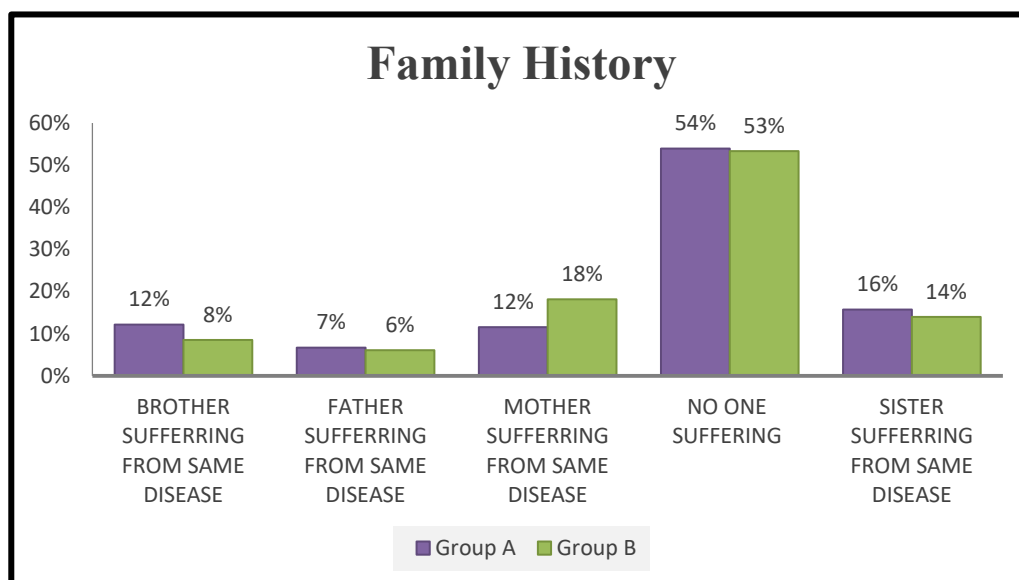


Table No. 34

Group wise Distribution according to Chronic Condition history in 330 Patients of Pratishyaya

	Group A		Group B	
Past history	Frequency	%	Frequency	%
1 to 2 Years	21	13%	28	17%
2 to 5 Years	65	39%	68	41%
>5 Years	79	48%	69	42%

Chart No. 8

Chart Showing Distribution according to Chronic Condition history in 330 Patients of Pratishyaya

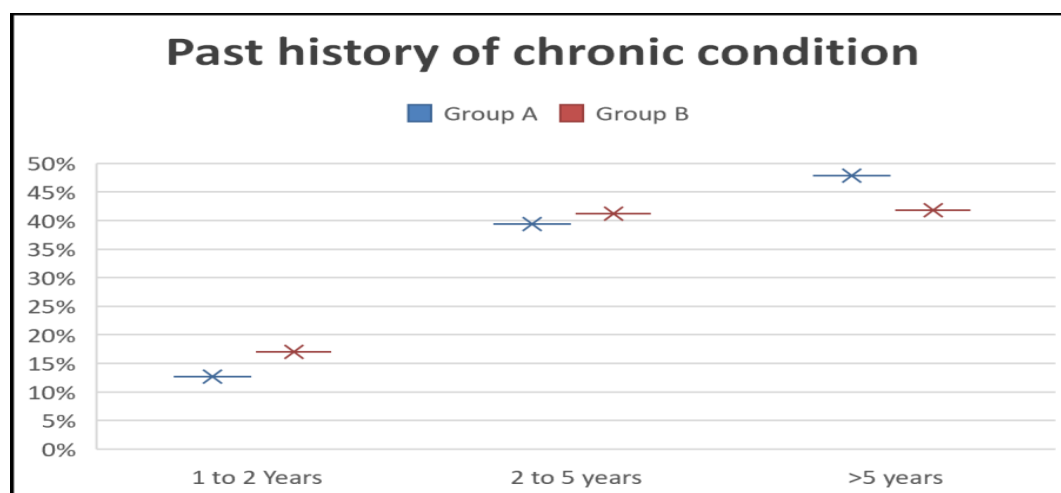


Table No. 35

Group wise Distribution as per the Residential Area of patients of Pratishyaya

	Group A		Group B	
Residential Area	Frequency	%	Frequency	%
Polluted residential area	71	43%	80	48%
Unpolluted residential area	94	57%	85	52%
	165		165	

Chart No.9

Chart Showing Distribution as per the Residential Area of patients of Pratishyaya

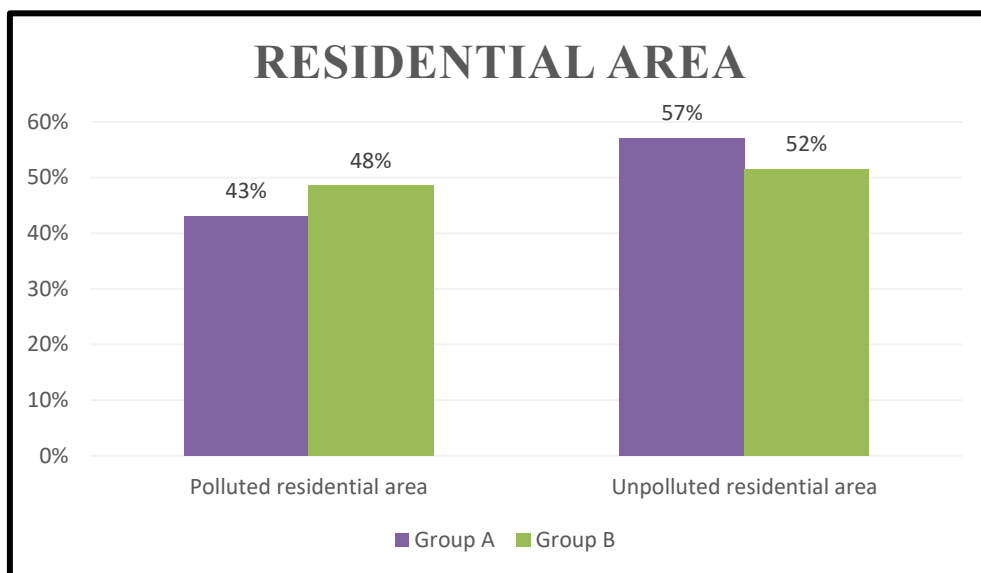


Table No. 36

Group wise Distribution as per the Nature of work of patients of Pratishyaya

	Group A		Group B	
Nature of work	Frequency	%	Frequency	%
Education	37	22%	40	24%
Household work	23	14%	38	23%
Labour work	33	20%	18	11%
Office work	72	44%	69	42%
	165		165	

Chart No.10

Chart Showing Distribution as per the Nature of work of patients of Pratishyaya

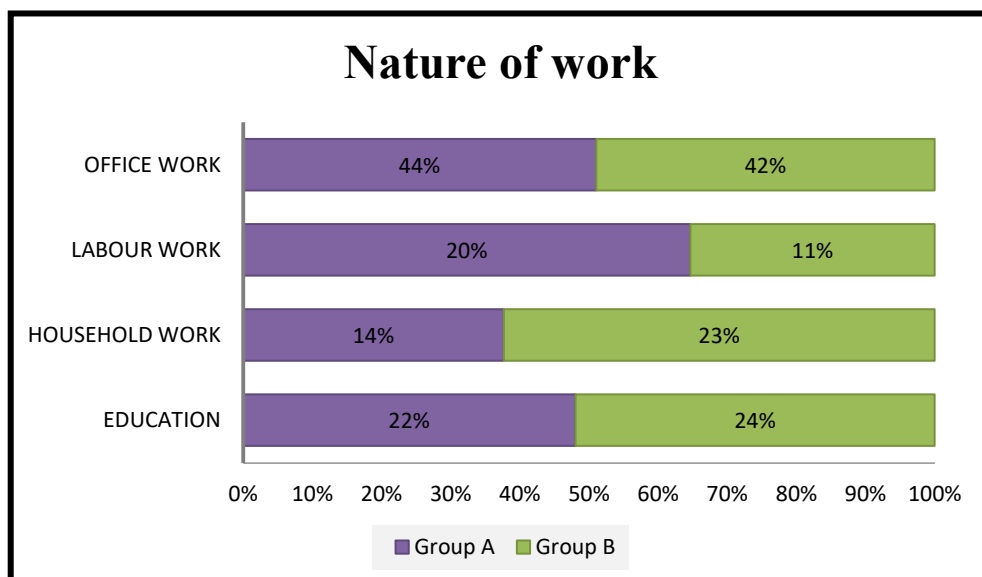


Table No. 37

Group wise Distribution as per the type of Prakriti of patients of Pratishyaya

Prakriti	Group A		Group B	
	Frequency	%	Frequency	%
Kaphapittaja	0	0%	12	7%
Kaphavataj	116	70%	108	65%
Vatapittaja	49	30%	45	27%
Grand Total	165		165	

Chart No.11

Chart Showing Distribution as per the type of Prakriti of patients of Pratishyaya

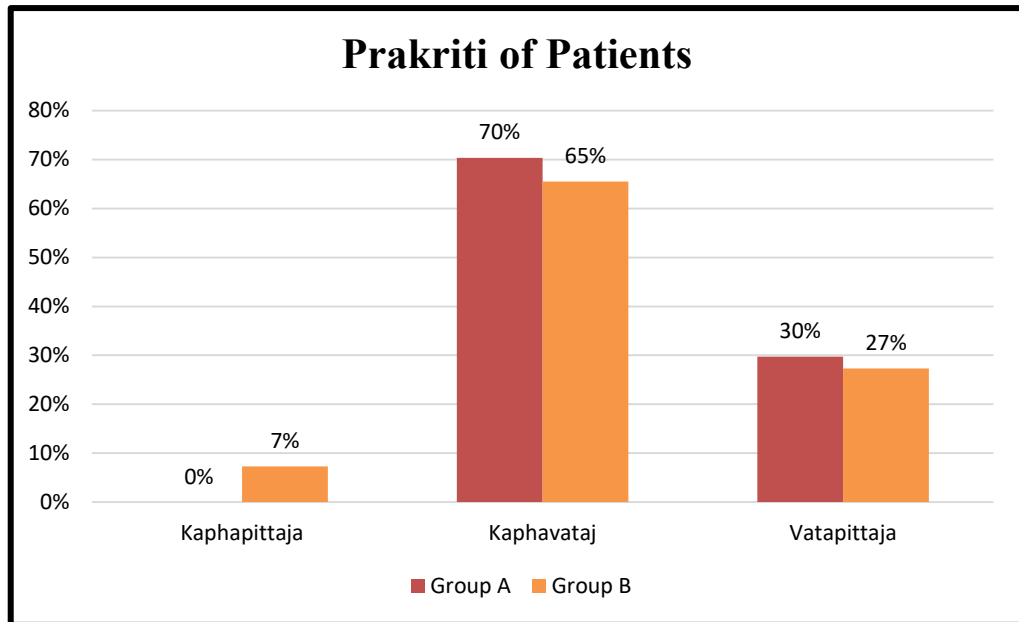


Table No. 38

Group wise Distribution as per the Agni Parikshan of patients of Pratishyaya

Agni Parikshan	Group A		Group B	
	Frequency	%	Frequency	%
Manda	37	22%	57	35%
Sama	88	53%	57	35%
Tikshna	8	5%	13	8%
Visham	32	19%	38	23%
Grand Total	165		165	

Chart No.12

Chart Showing Distribution as per the Agni Parikshan of patients of Pratishyaya

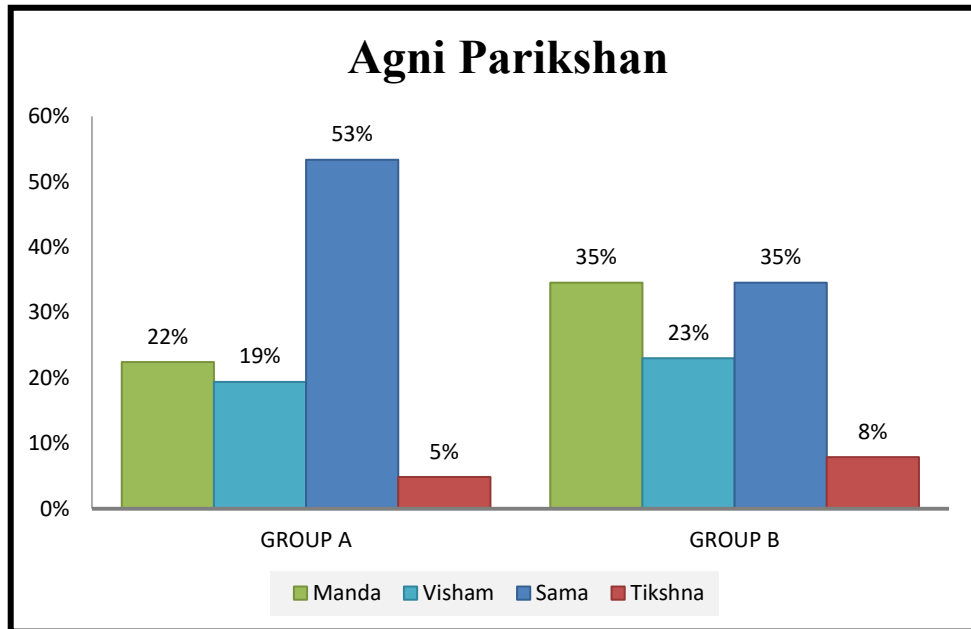


Table No. 39

Group wise Distribution as per the Aaharaja Hetu of patients of Pratishyaya

Sr. No	Agni	Group A		Group B		total
		No. of Patient	%	No. of Patient	%	
1	Praman of Ahar					
	Alpa	32	19%	21	13%	53
	Adhyashan	31	19%	56	34%	87
	Sama	77	47%	28	17%	105
	Visham	25	15%	60	36%	85
2	Dominant Rasa Ahar					
	Amla	10	6%	8	5%	18
	Katu	57	35%	82	50%	139
	Madhur	98	59%	75	45%	173
	Lavan	0	0%	0	0%	0
3	Type of Ahar					
	a. Veg	98	59%	89	54%	187
	b. Veg+Non Veg	67	41%	76	46%	143

Table No. 40

Group wise Distribution as per the Aahar Pramana of patients of Pratishyaya

	Group A		Group B	
Praman	Frequency	%	Frequency	%
Alpa	32	19%	21	13%
Adhyashan	31	19%	56	34%
Sama	77	47%	28	17%
Visham	25	15%	60	36%
Grand total	165		165	

Chart No.13

Chart Showing Distribution as per the Aahar Pramana of patients of Pratishyaya

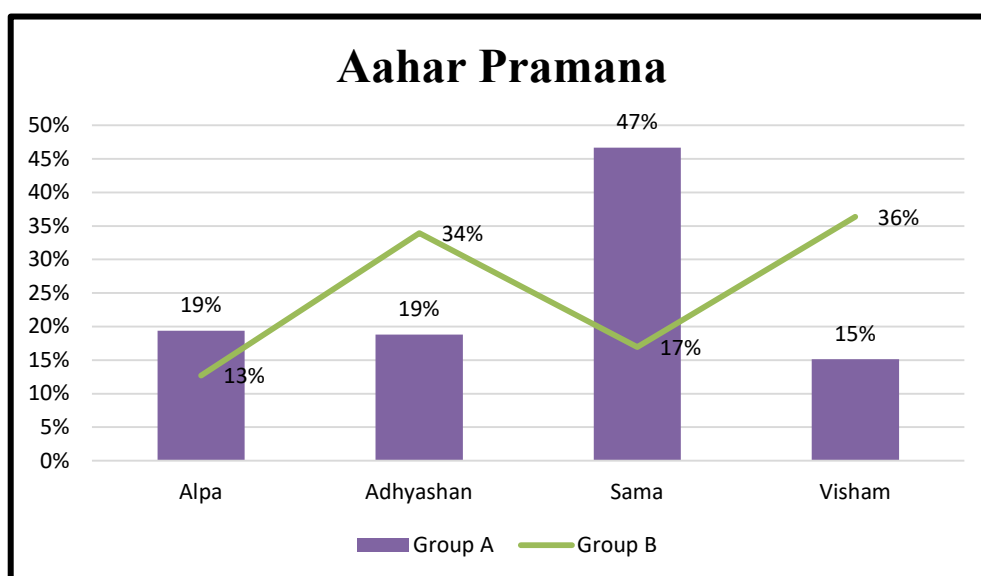


Table No. 41

Group wise Distribution according to Dominant Rasa in Ahar of 330 Patients of Pratishyaya

	Group A		Group B	
Dominant Rasa	Frequency	%	Frequency	%
Amla	10	6%	8	5%
Katu	57	35%	82	50%
Madhur	98	59%	75	45%
Grand total	165		165	

Chart No.14

Chart Showing Distribution according to Dominant Rasa in Ahar of 330 Patients of Pratishyaya

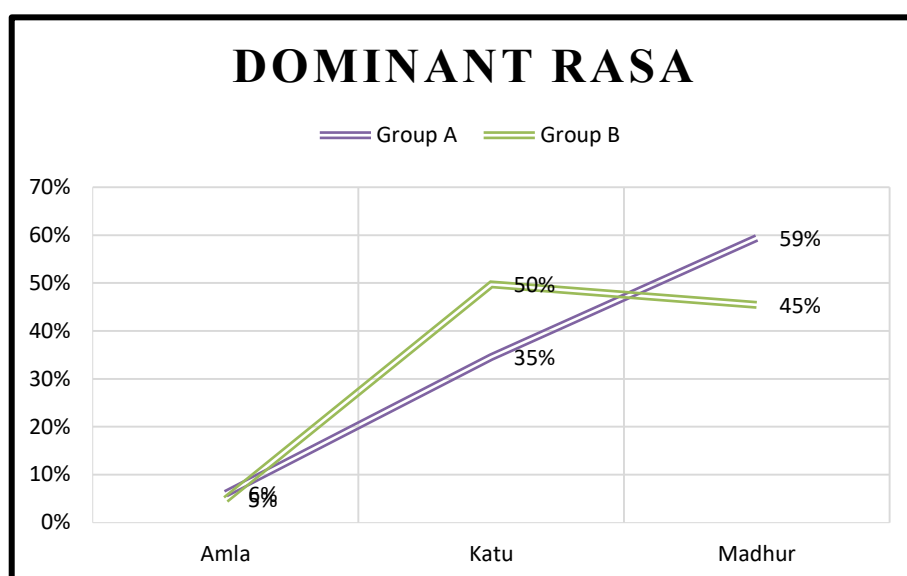


Table No. 42

Group wise Distribution according to Dominant Guna in Ahar of 330 Patients of Pratishyaya

	Dominant Guna	
Dominant Guna	Group A	Group B
Ruksha & Sheet	127	125
Snigdha & Ushna	38	40
Grand Total	165	165

Chart No.15

Chart Showing Distribution According to Dominant Guna in Ahar of 330 Patients of Pratishyaya

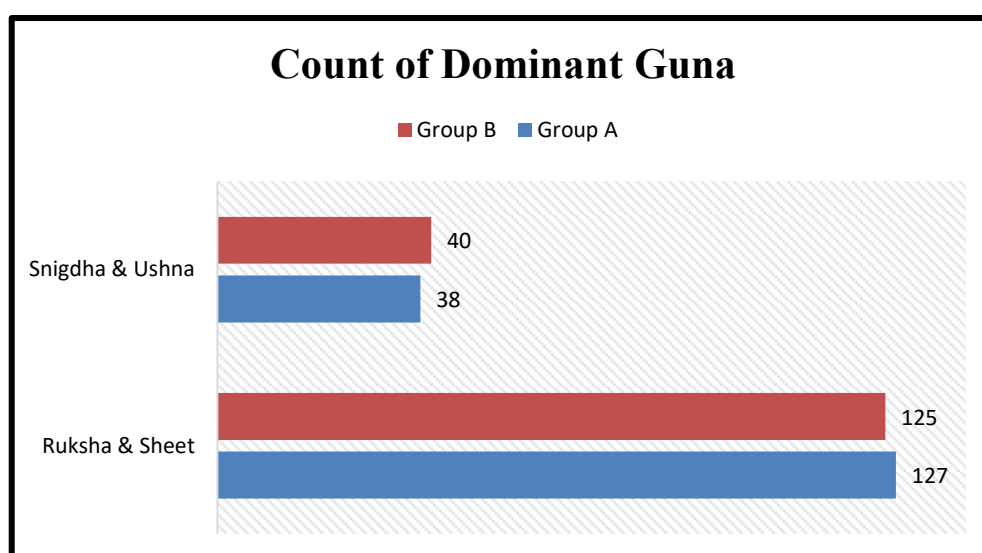


Table No. 43

Group wise Distribution according to Dominant Ushna Guna in Ahar of 330 Patients of Pratishyaya

Dominant Guna Ushna	Group A		Group B	
	Frequency	%	Frequency	%
No	127	77%	125	76%
Yes	38	23%	40	24%
	165		165	

Chart No.16

Chart Showing Distribution According to Dominant Ushna Guna in Ahar of 330 Patients of Pratishyaya

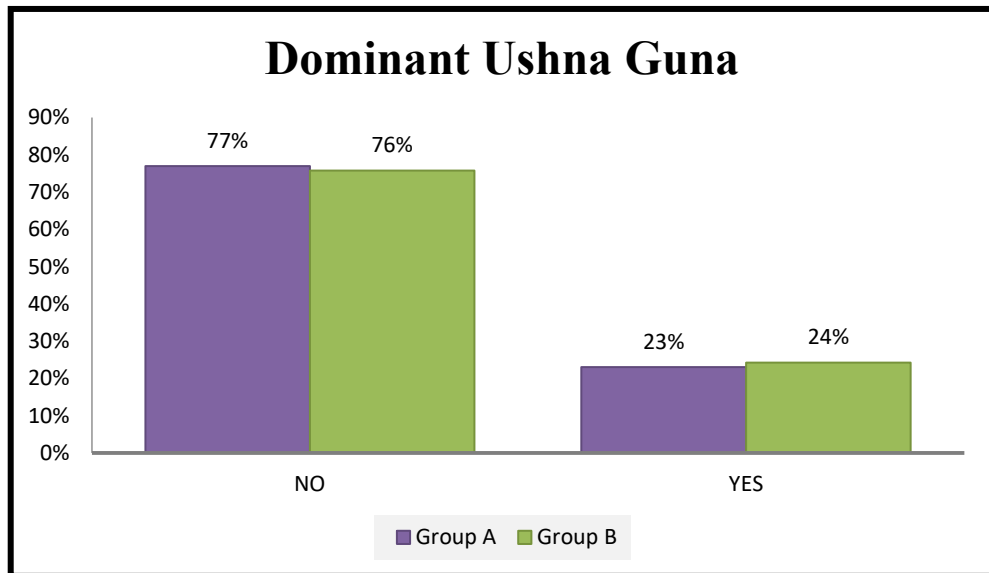


Table No. 44

Group wise Distribution according to Dominant Sheeta Guna in Ahar of 330 Patients of Pratishyaya

	Group A		Group B	
Dominant Guna Sheeta	Frequency	%	Frequency	%
No	38	23%	40	24%
Yes	127	77%	125	76%
Grand total	165		165	

Chart No.17

Chart Showing Distribution According to Dominant Sheeta Guna in Ahar of 330 Patients of Pratishyaya

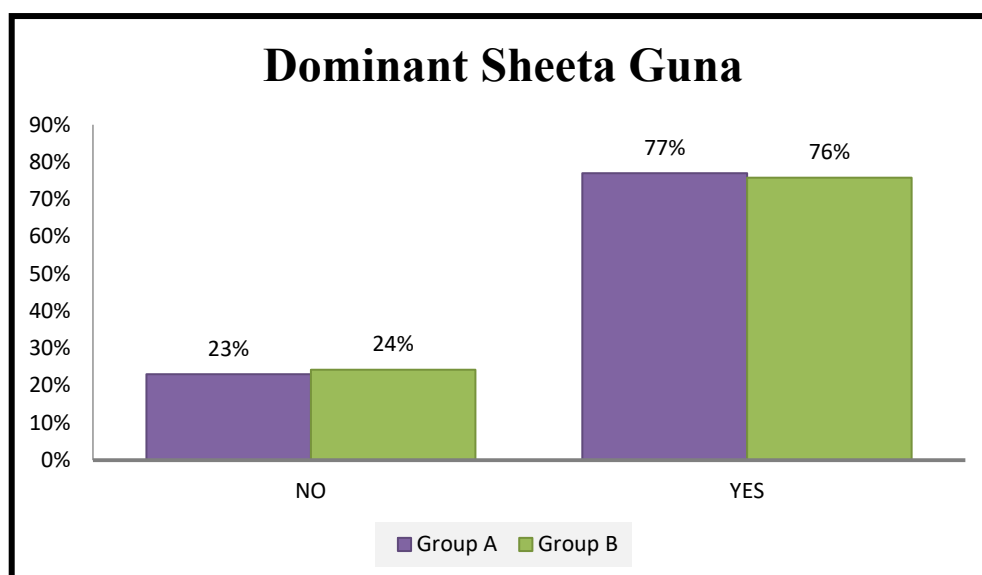


Table No. 45

Group wise Distribution according to Dominant Ruksha Guna in Ahar of 330 Patients of Pratishyaya

	Group A		Group B	
Dominant Guna Ruksha	Frequency	%	Frequency	%
No	38	23%	40	24%
Yes	127	77%	125	76%
Grand total	165		165	

Chart No.18

Chart Showing Distribution According to Dominant Ruksha Guna in Ahar of 330 Patients of Pratishyaya

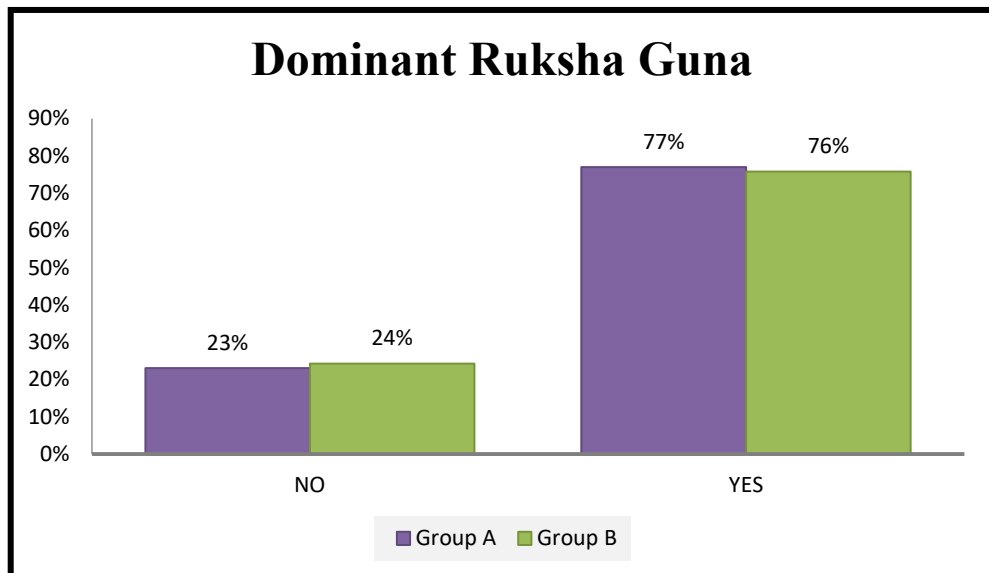


Table No. 46

Group wise Distribution according to Dominant Snigdha Guna in Ahar of 330 Patients of Pratishyaya

	Group A		Group B	
Dominant Guna Snigdha	Frequency	%	Frequency	%
No	127	77%	125	76%
Yes	38	23%	40	24%
Grand total	165		165	

Chart No.19

Chart Showing Distribution According to Dominant Snigdha Guna in Ahar of 330 Patients of Pratishyaya

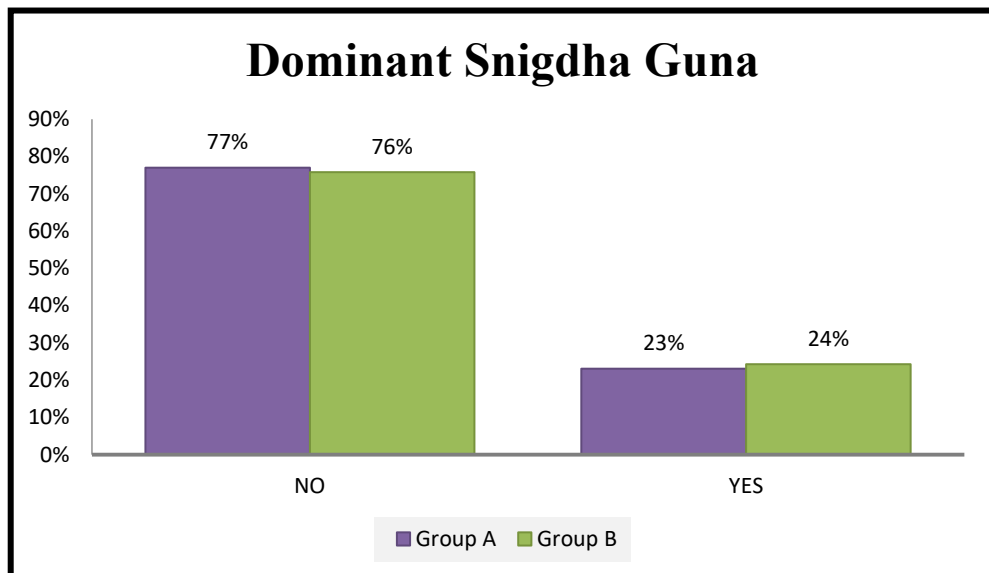


Table No. 47

Group wise Distribution according to Pattern of Nidra in 330 Patients of Pratishyaya

Nidra	Group A		Group B	
	Frequency	%	Frequency	%
Diwaswap	24	15%	34	21%
Ratrijagaran	32	19%	43	26%
Samyak	109	66%	88	53%
	165		165	

Chart No.20

Chart Showing Distribution According to Pattern of Nidra in 330 Patients of Pratishyaya

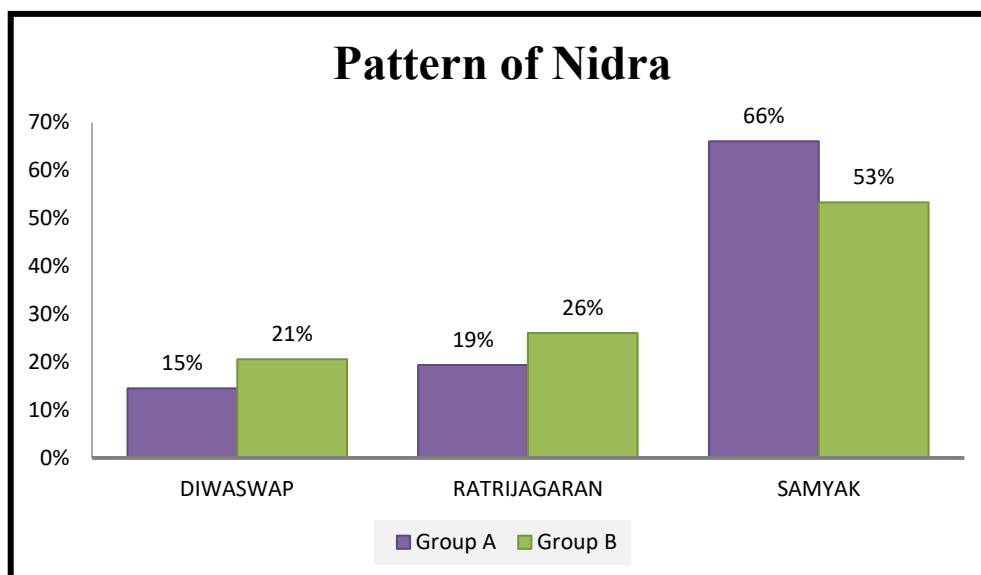


Table No. 48

Group wise Distribution according to Type of Vyasana in 330 Patients of Pratishyaya

	Group A		Group B	
Vyasana	Frequency	%	Frequency	%
Alcohol	24	15%	17	10%
No addiction	116	70%	100	61%
Smoking	15	9%	30	18%
Tobacco	10	6%	18	11%
	165		165	

Chart No.21

Chart Showing Distribution According to Type of Vyasana in 330 Patients of Pratishyaya

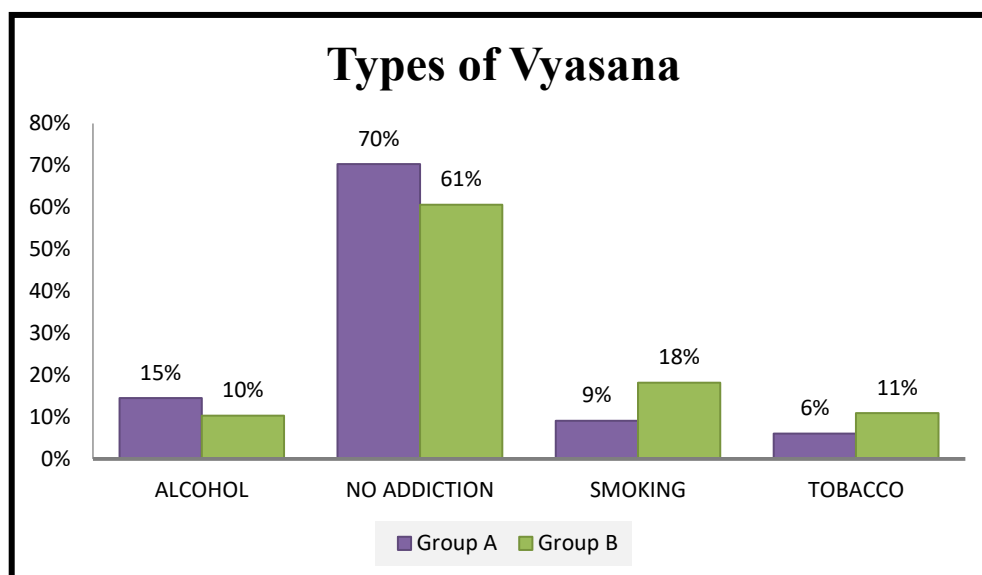


Table No. 49

Group wise Distribution according to Type of Dosh Dushti in 330 Patients of Pratishyaya

Dosh Dushti	Group A		Group B	
Vaat dushti	165	100%	153	93%
Pitta dushti	49	30%	120	73%
Kapha dushti	116	70%	57	35%
	330		330	

Chart No.22

Chart Showing Distribution According to Type of Dosh Dushti in 330 Patients of Pratishyaya

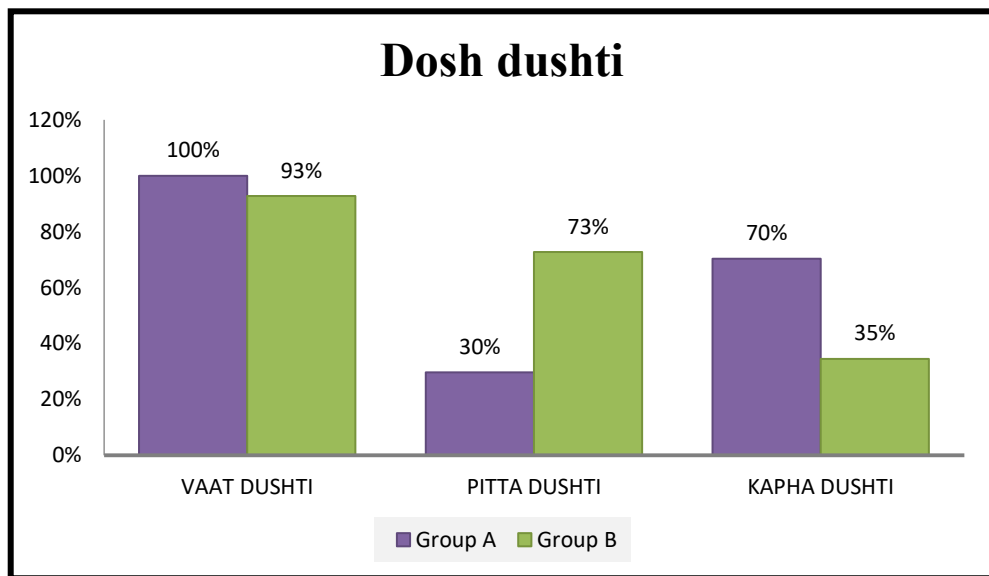


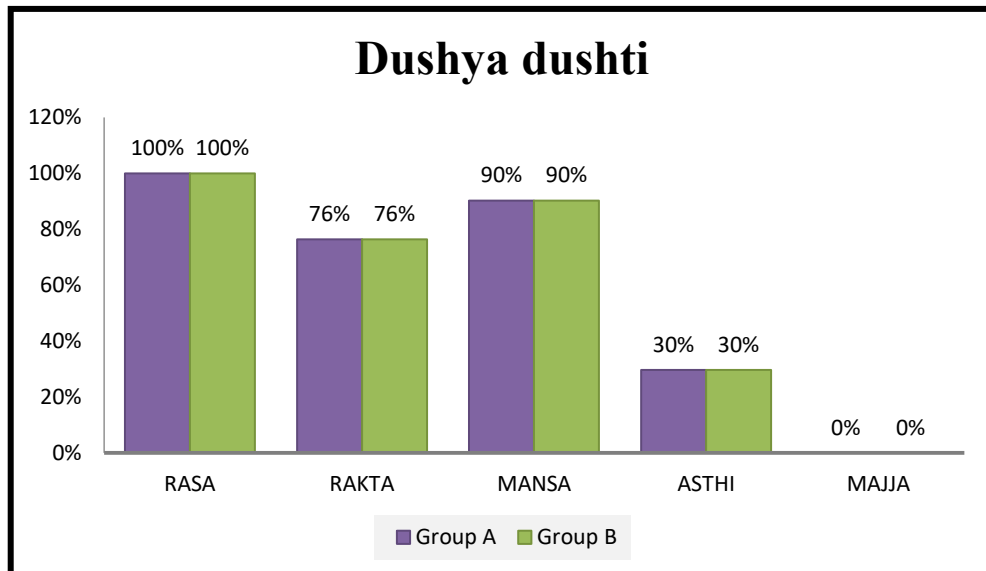
Table No. 50

Group wise Distribution according to Type of Dushya Dushti in 330 Patients of Pratishyaya

	Group A		Group B	
Dushya Dushti	Frequency	%	Frequency	%
Rasa	165	100%	165	100%
Rakta	126	76%	126	76%
Mansa	149	90%	149	90%
Asthi	49	30%	49	30%
Majja	0	0%	0	0%

Chart No.23

Chart Showing Distribution According to Type of Dushya Dushti in 330 Patients of Pratishyaya



Inferential Statistics

330 patients with Pratishyaya (Allergic Rhinitis) were divided into two groups. Group A was treated with Bharangyadi Taila Nasya and Group B with Anu Taila Nasya.

For this research, the Study were designed to compare effectiveness of Bharangyadi Taila Nasya compared to Anu Taila Nasya in management of Allergic Rhinitis.

On the basis of Rectifications in signs and symptoms of the disease scores, the performance of two Types of Taila Nasya was assessed. Scores were generated for 165 participants who were treated with Bharangyadi Taila Nasya (Group A) and for other 165 participants who received Anu Taila Nasya (Group B) with respect to four symptoms of Pratishyaya (Allergic Rhinitis) namely Nasa-Strav (Rhinorrhea), Nasa-Avarodh (Blocking of Nose), Kshavatu (Sneezing), Shiro-Gurutva (Heaviness of Head).

Scores obtained for all four types of symptoms before and after the treatment. These scores were ranging from 0 to 660 as scores were in ordinal form i.e., from 0 to 4.

Hence to check the impact of these two drugs with respect to symptoms of disease, a non-parametric Wilcoxon Signed Rank test has been used in the data analysis.

Null hypothesis has been considered as

Ho: median of difference between pre-test score and post-test score is not zero.

Or

Ho: There is no significant difference between pre-test and post-test scores

(A) Vishesh Pariksha (subjective score)

Result A - 1:

Ho: There is no significant difference between pre-test and post-test scores of Nasa-Strav (Rhinorrhea) symptom.

Table No. 51

Table Showing the Descriptive Statistics of Symptom Nasa-Strav

Descriptive Statistics				
Nasa-Strav (Rhinorrhea)	Bharangyadi Taila Nasya		Anu Taila Nasya	
	Before treatment	After treatment	Before treatment	After treatment
Mean	2.97	0.71	2.21	1.05
SD	0.768	0.518	0.777	0.802
Maximum	4	2	3	2
Minimum	2	0	1	0
Difference	2.26		1.16	
Symptoms	AT < BT**		AT < BT**	

*** symptoms are decreasing after treatment*

From the above table (table 51) of descriptive statistics, average for post-test score is lower than the pre-test score hence severity of symptoms is decreasing in post test by applying both Bharangyadi Taila Nasya and Anu Taila Nasya.

Table No. 52

Table Showing the Wilcoxon signed Rank Test for Nasa-Strav (Rhinorrhea) Score

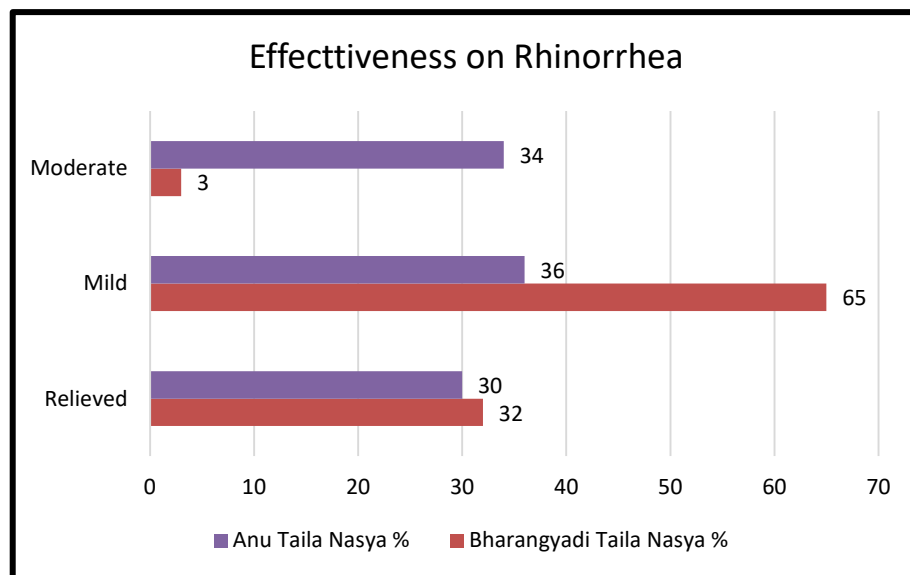
Wilcoxon signed Rank Test						
Nasa-Strav (score after treatment – score before treatment)						
Parameters	Bharangyadi Taila Nasya			Anu Taila Nasya		
	Count	Mean Rank	Sum of Rank	Count	Mean Rank	Sum of Rank
-ve Rank	165	83	13695	160	80.5	12880
+ve Rank	0	0	0	0	0	0
Ties	0			5		
Total	165			165		
Test Statistics Z		-11.441			-11.773	
P value		0.000			0.000	
Significance	Reject Ho	Significant*			Significant*	
Symptoms		AT < BT			AT < BT	

*Hypothesis has been rejected if $p < 0.05$

From the above table (table no 52) of analysis testing with Wilcoxon-signed rank test, there is a significant difference in pretest score and post test score by applying Bharangyadi Taila Nasya ($p < 0.05$) and by applying Anu Taila Nasya ($p < 0.05$)

Chart No.24

Chart Showing Effectiveness of Bharangyadi Taila Nasya & Anu Taila Nasya on Rhinorrhea



By applying Bharangyadi Taila Nasya to 165 patients, count of negative rank is 165. Hence 165 patients had lower severity of symptoms of Nasa-Strav (Rhinorrhea) by applying Bharangyadi Taila Nasya (table 52) and count of negative rank is 160 by application of Anu Taila Nasya for 165 patients.

Hence 160 patients had lower severity of symptoms of Nasa-Strav (Rhinorrhea) by applying Anu Taila Nasya and 5 patients have no change in their symptoms even by applying Anu Taila Nasya. (Table 52)

Also average of difference of score by Bharangyadi Taila Nasya is more than average of difference of score by Anu Taila Nasya (table 51). For Nasa-Strav (Rhinorrhea) symptom effectiveness of Bharangyadi Taila Nasya is more than Anu Taila Nasya (chart 24)

Hence Bharangyadi Taila Nasya is showing better result than Anu Taila Nasya in case of Nasa-Strav (Rhinorrhea).

Result A - 2:

Ho: There is no significant difference between pre-test and post-test scores of Nasa-Avarodh (Blocking of Nose) symptom.

Table No. 53

Table Showing the Descriptive Statistics of Symptom Nasa-Avarodh

Descriptive Statistics				
Nasa-Avarodh (Blocking of Nose)	Bharangyadi Taila Nasya		Anu Taila Nasya	
	Before treatment	After treatment	Before treatment	After treatment
Mean	2.13	0.88	1.71	1.61
SD	0.565	0.599	0.931	0.991
Maximum	3	2	3	3
Minimum	1	0	0	0
Difference	1.25		0.10	
Symptoms	AT < BT**		AT < BT**	

*** symptoms are decreasing after treatment*

From the above table (table 53) of descriptive statistics, average for post-test score is lower than the pre-test score hence severity of symptoms is decreasing in post-test by applying both Bharangyadi Taila Nasya and Anu Taila Nasya.

Table No. 54

Table Showing the Wilcoxon signed Rank Test for Nasa-Avarodh (Blocking of Nose) symptom Score

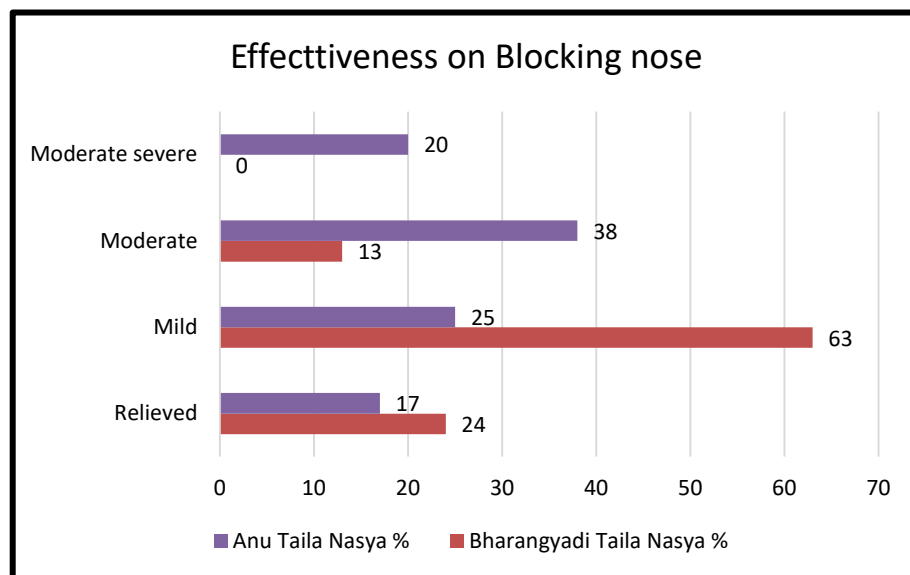
Wilcoxon signed Rank Test						
Nasa-Avarodh (Blocking of Nose) (score after treatment – score before treatment)						
Parameters	Bharangyadi Taila Nasya			Anu Taila Nasya		
	Count	Mean Rank	Sum of Rank	Count	Mean Rank	Sum of Rank
-ve Rank	165	83	13695	16	8.5	136
+ve Rank	0	0	0	0	0	0
Ties	0			149		
Total	165			165		
Test Statistics Z		-11.818			-4.000	
P value		0.000			0.000	
Significance	Reject Ho	Significant*			Significant*	
Symptoms		AT < BT			AT < BT	

*Hypothesis has been rejected if $p < 0.05$

From the above table (table no 54) of analysis testing with Wilcoxon-signed rank test, there is a significant difference in pretest score and post test score by applying Bharangyadi Taila Nasya ($p < 0.05$) and by applying Anu Taila Nasya ($p < 0.05$)

Chart No.25

Chart Showing Effectiveness of Bharangyadi Taila Nasya & Anu Taila Nasya on Blocking of Nose



By applying Bharangyadi Taila Nasya to 165 patients, count of negative rank is 165. Hence 165 patients had lower severity of symptoms of Nasa-Avarodh (Blocking of Nose) symptom by applying Bharangyadi Taila Nasya (table 54).

Count of negative rank is 16 by application of Anu Taila Nasya from 165 patients. Hence 16 patients had lower severity of symptoms of Nasa-Avarodh (Blocking of Nose) by applying Anu Taila Nasya and 149 patients have no change in their symptoms even by applying Anu Taila Nasya. (Table 54)

Also average of difference of score by Bharangyadi Taila Nasya is more than average of difference of score by Anu Taila Nasya (table 53). For blocking of nose symptom effectiveness of Bharangyadi Taila Nasya is showing more results than Anu Taila Nasya (chart 25)

Hence Bharangyadi Taila Nasya is showing better result than Anu Taila Nasya in case of Nasa-Avarodh (Blocking of Nose) symptom.

Result A - 3:

Ho: There is no significant difference between pre-test and post-test scores of sneezing symptoms.

Table No. 55

Table Showing the Descriptive Statistics of Symptom Kshavatu

Descriptive Statistics				
Kshavatu (Sneezing)	Bharangyadi Taila Nasya		Anu Taila Nasya	
	Before treatment	After treatment	Before treatment	After treatment
Mean	2.49	0.67	2.49	0.75
SD	0.853	0.701	0.853	0.702
Maximum	4	2	4	2
Minimum	1	0	1	0
Difference	1.82		1.74	
Symptoms	AT < BT**		AT < BT**	

*** symptoms are decreasing after treatment*

From the above table (table 55) of descriptive statistics, average for post-test score is lower than the pre-test score hence severity of symptoms is decreasing in post test by applying both Bharangyadi Taila Nasya and Anu Taila Nasya.

Table No. 56

Table Showing the Wilcoxon signed Rank Test for sneezing symptom Score

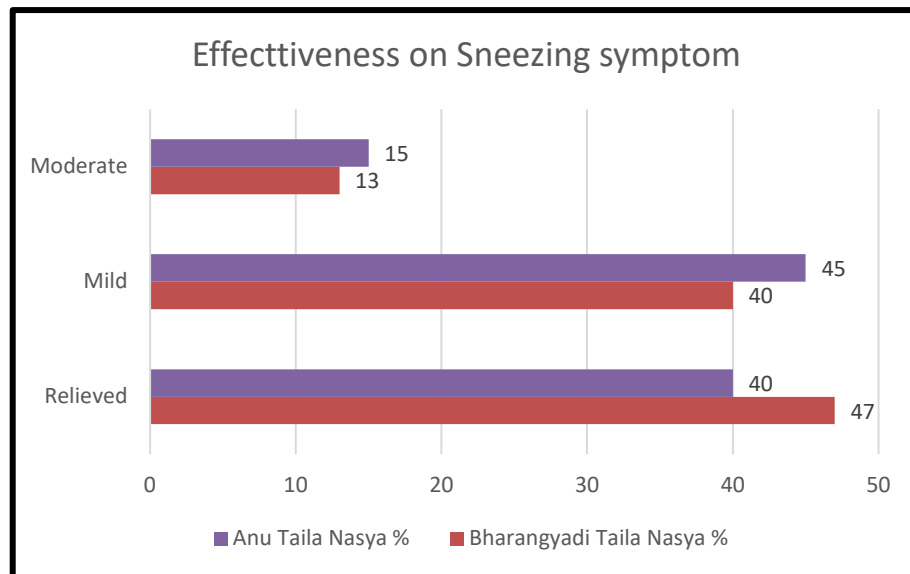
Wilcoxon signed Rank Test						
Kshavatu (Sneezing) (score after treatment – score before treatment)						
Parameters	Bharangyadi Taila Nasya			Anu Taila Nasya		
	Count	Mean Rank	Sum of Rank	Count	Mean Rank	Sum of Rank
-ve Rank	165	83	13695	165	83	13695
+ve Rank	0	0	0	0	0	0
Ties	0			0		
Total	165			165		
Test Statistics Z		-12.014			-11.773	
P value		0.000			0.000	
Significance	Reject Ho	Significant*			Significant*	
Symptoms		AT < BT			AT < BT	

*Hypothesis has been rejected if $p < 0.05$

From the above table (table no 56) of analysis testing with Wilcoxon-signed rank test, there is a significant difference in pretest score and post test score by applying Bharangyadi Taila Nasya ($p < 0.05$) and by applying Anu Taila Nasya ($p < 0.05$)

Chart No.26

Chart Showing Effectiveness of Bharangyadi Taila Nasya & Anu Taila Nasya on Sneezing



By applying Bharangyadi Taila Nasya to 165 patients, count of negative rank is 165. Hence 165 patients had lower severity of symptoms of Kshavatu (Sneezing) symptom by applying Bharangyadi Taila Nasya (table 56).

Count of negative rank is 165 by application of Anu Taila Nasya from 165 patients. Hence all 165 patients had lower severity of Kshavatu (Sneezing) symptom by applying Anu Taila Nasya (table 56).

Also average of difference of score by Bharangyadi Taila Nasya is more than average of difference of score by Anu Taila Nasya (table 55).

For Kshavatu (Sneezing) symptom effectiveness of Bharangyadi Taila Nasya is more effective than Anu Taila Nasya (chart 26).

Hence Bharangyadi Taila Nasya is showing better result than Anu Taila Nasya in case of Kshavatu (Sneezing) symptom.

Result A - 4:

Ho: There is no significant difference between pre-test and post-test scores of Shiro-Gurutva (Heaviness of Head) symptom.

Table No. 57

Table Showing the Descriptive Statistics of Symptom Shiro-Gurutva

Descriptive Statistics				
Shiro-Gurutva (Heaviness of Head)	Bharangyadi Taila Nasya		Anu Taila Nasya	
	Before treatment	After treatment	Before treatment	After treatment
Mean	2.47	0.77	2.47	0.72
SD	0.558	0.659	0.558	0.603
Maximum	3	2	3	2
Minimum	1	0	1	0
Difference	1.7		1.75	
Symptoms	AT < BT**		AT < BT**	

*** symptoms are decreasing after treatment*

From the above table (table 57) of descriptive statistics, average for post-test score is lower than the pre-test score hence severity of symptoms is slightly decreasing in post-test by applying both Bharangyadi Taila Nasya and Anu Taila Nasya.

Table No. 58

**Table Showing the Wilcoxon signed Rank Test for Shiro-Gurutva
(Heaviness of Head) symptom Score**

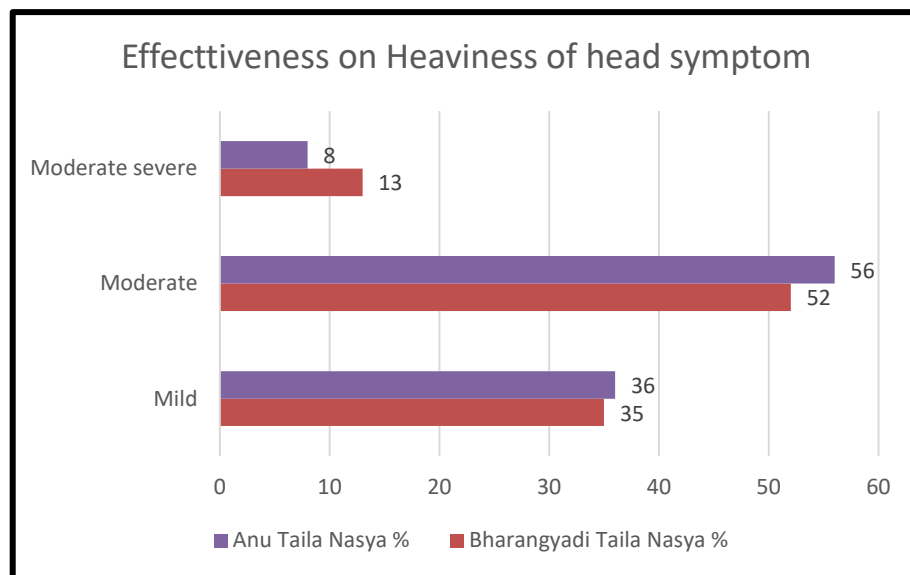
Wilcoxon signed Rank Test						
Heaviness of head symptom (score after treatment – score before treatment)						
Parameters	Bharangyadi Taila Nasya			Anu Taila Nasya		
	Count	Mean Rank	Sum of Rank	Count	Mean Rank	Sum of Rank
-ve Rank	165	83	13695	165	83	13695
+ve Rank	0	0	0	0	0	0
Ties	0			0		
Total	165			165		
Test Statistics Z		-11.684			-11.803	
P value		0.000			0.000	
Significance	Reject Ho	Significant*			Significant*	
Symptoms		AT ≤ BT			AT ≤ BT	

*Hypothesis has been rejected if $p < 0.05$

From the above table (table no 58) of analysis testing with Wilcoxon-signed rank test, there is a significant difference in pre-test score and post test score by applying Bharangyadi Taila Nasya ($p < 0.05$) and by applying Anu Taila Nasya ($p < 0.05$).

Chart No.27

Chart Showing Effectiveness of Bharangyadi Taila Nasya & Anu Taila Nasya on Heaviness of Head



By applying Bharangyadi Taila Nasya to 165 patients, count of negative rank is 165. Hence 165 patients had lower severity of Shiro-Gurutva (Heaviness of Head) symptom by applying Bharangyadi Taila Nasya (table 58).

Count of negative rank is 165 by application of Anu Taila Nasya from 165 patients. Hence all 165 patients had lower severity of Shiro-Gurutva (Heaviness of Head) symptom by applying Anu Taila Nasya (table 58).

Also average of difference of score by Bharangyadi Taila Nasya is slightly less than average of difference of score by Anu Taila Nasya (table 57).

On Shiro-Gurutva (Heaviness of Head) symptom effectiveness of Bharangyadi Taila Nasya is marginally less than Anu Taila Nasya (chart 27).

Hence Anu Taila Nasya is showing almost equivalent results as compared to Bharangyadi Taila Nasya in case of Shiro-Gurutva (Heaviness of Head) symptom.

(B) Inferior Turbinate Size (objective score)

Ho: There is no significant difference between pre-test and post-test scores of Inferior Turbinate Size score

Table No. 59
Table Showing the Descriptive Statistics of Inferior Turbinate Size score

Descriptive Statistics				
Inferior Turbinate Size score	Bharangyadi Taila Nasya		Anu Taila Nasya	
	Before treatment	After treatment	Before treatment	After treatment
Mean	2.13	1.13	1.83	1.68
SD	0.5656	0.334	7.46	0.672
Maximum	3	2	3	3
Minimum	1	1	1	1
Difference	1		0.15	
Symptoms	AT < BT**		AT < BT**	

*** symptoms are decreasing after treatment*

From the above table (table 59) of descriptive statistics, average for post-test score is lower than the pre-test score hence Inferior Turbinate Size score is decreasing in post-test by applying both Bharangyadi Taila Nasya and Anu Taila Nasya.

Table No. 60

Table Showing the Wilcoxon signed Rank Test for Inferior Turbinate Size score

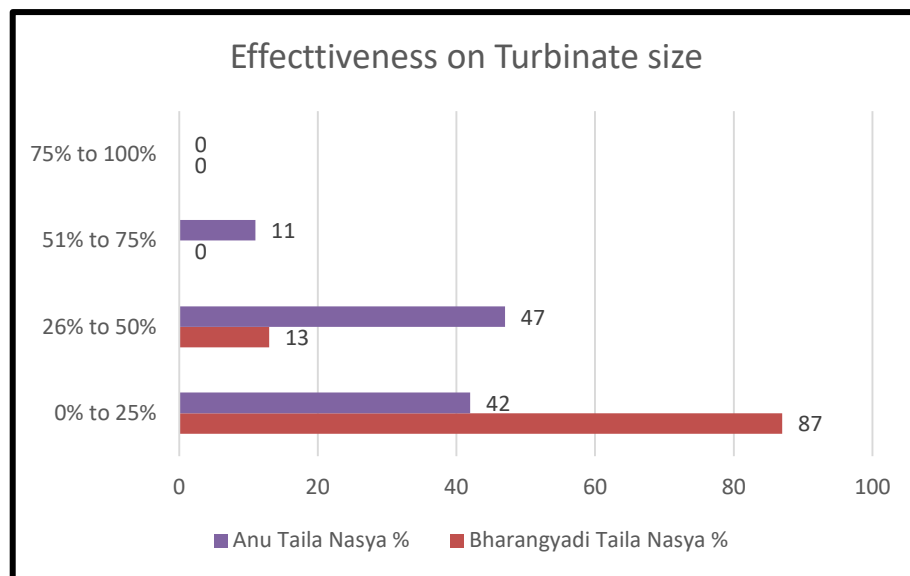
Wilcoxon signed Rank Test						
Inferior Turbinate Size score (score after treatment – score before treatment)						
Parameters	Bharangyadi Taila Nasya			Anu Taila Nasya		
	Count	Mean Rank	Sum of Rank	Count	Mean Rank	Sum of Rank
-ve Rank	148	74.5	11026	25	13	325
+ve Rank	0	0	0	0	0	0
Ties	17			140		
Total	165			165		
Test Statistics Z		-11.598			-5.00	
P value		0.000			0.000	
Significance	Reject Ho	Significant*			Significant*	
Symptoms		AT < BT			AT < BT	

**Hypothesis has been rejected if $p < 0.05$*

From the above table (table no 60) of analysis testing with Wilcoxon-signed rank test, there is a significant difference in pretest score and post test score by applying Bharangyadi Taila Nasya ($p < 0.05$) and by applying Anu Taila Nasya ($p < 0.05$)

Chart No.28

Chart Showing Effectiveness of Bharangyadi Taila Nasya & Anu Taila Nasya on Inferior Turbinate Size



By applying Bharangyadi Taila Nasya to 165 patients, count of negative rank is 148. Hence 148 patients had lower severity of symptoms of Inferior Turbinate Size by applying Bharangyadi Taila Nasya and 17 patients have no change in their symptoms by applying Bharangyadi Taila Nasya. (Table 60).

Count of negative rank is 25 by application of Anu Taila Nasya for 165 patients. Hence 25 patients had lower severity of symptoms of Inferior Turbinate Size by applying Anu Taila Nasya and 140 patients have no change in their symptoms even by applying Anu Taila Nasya. (Table 60).

Also average of difference of score by Bharangyadi Taila Nasya is more than average of difference of score by Anu Taila Nasya (table 59).

However, effectiveness of Bharangyadi Taila Nasya found to be more than Anu Taila Nasya for Inferior Turbinate Size score upto 25% but effect of Anu Taila Nasya is more when Inferior Turbinate Size is more than 25% (chart 28).

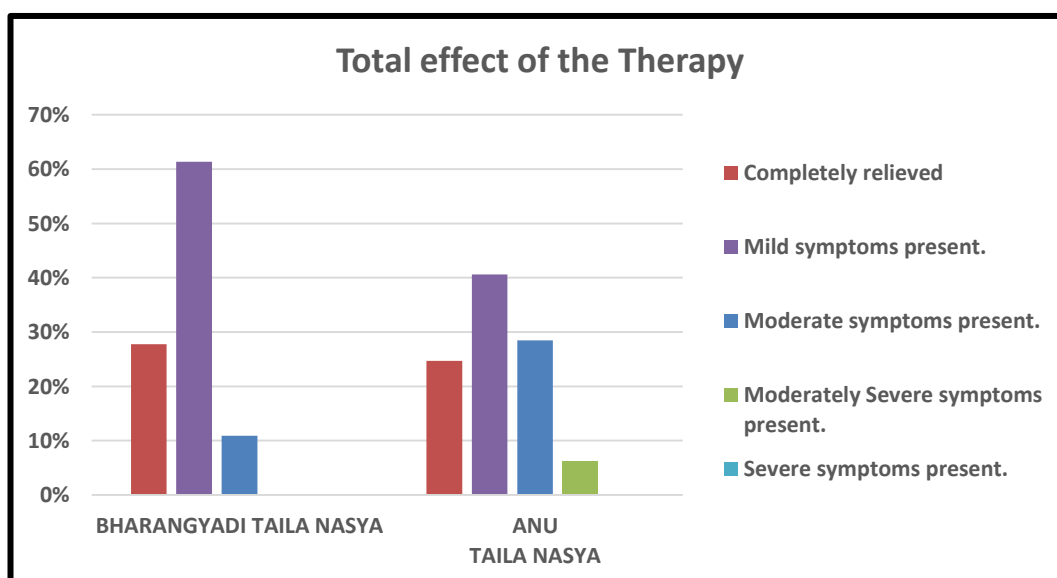
Table No. 61

Total effect of Therapy in experimental Group i.e. Group A and standard Group i.e. Group B

SR. NO.	Total effect of therapy (relief in symptoms)	Group A Bharangyadi Taila Nasya		Group B Anu Taila Nasya	
			%		%
1.	Completely relieved	229	28%	204	25%
2.	Mild symptoms present.	506	61%	335	41%
3.	Moderate symptoms present.	90	11%	235	28%
4.	Moderately Severe symptoms present.	0	0%	51	6%
5.	Severe symptoms present.	0	0%	0	0%

Chart No.29

Chart Showing Total Effect of Bharangyadi Taila Nasya & Anu Taila Nasya on Pratishyaya



DISCUSSION

Discussion on this study is made under the following headings:

1. Discussion on Procedure - Nasya.
2. Discussion on Pratishyaya.
3. Discussion on the methodology.
4. Discussion on clinical study.
5. Discussion on the Studied Subjects.
6. Operating Principle of Bharangyadi Taila Nasya and Anu Taila Nasya.

1. Discussion on Procedure - Nasya:

There are many concepts in Ayurveda, Pancha-karma siddhanta is principle among them. It is a therapy which composite different procedures, required to eliminate & disintegrate the morbid or exaggerated doshas from the body. Nasya karma stands unique in these five principles due to its easy acceptability and administration.

In Ashtang Hridya, Vagbhatacharya has described the importance of Nasya karma especially in urdhvajatrugat vikar.

Reasons for selecting the procedure:

Nasya stands unique in out of five principles due to its easy acceptability and administration, having a wide range of effectiveness which should be taken into consideration by the physicians in their daily practice. The Nasya having importance in various preventive and curative aspects. In nasya karma, the drug entered through nostril reaches shrungatak, then having influence on the whole head and dislodges the doshas and morbid factors which are throw out easily. Nasya karma may be given with intervals of either one, two or seven days or for twenty-one days or for that period which is found desirable for the disease.

2. Discussion on Pratishyaya:

Prati denotes Abhimukha and Shyaya means to Gamanam. So in pratishyaya Kaphadi Dosha undergo upward movement due to aggravated Vatadosha. It means the condition in which there is continuous flow.

Pratishyaya occurs mainly because of exaggeration of Kapha dosha that exaggerated dosha gets lodged in Head which is primarily exaggerated by the Vatadosha. In an equal context in contemporary science allergic rhinitis has been described.

The etiological factors mentioned in classics have the potential to cause Pratishyay; they are:

Aharaj (Dietery) - Mandagni, Ajeerna, Vishmasanam, Atijalapana after meals, Atiguru madhur sheeta ruksha Sevan, Atisheet Ambupanam etc.

Viharaj (Behavioural)- Vega sandharana, Rajahdhumrasevan, Atisambhasanam, Rituvaishamya, Shirasoabhitapam, Prajagratiswapnam, Diwasayanam, Atinariprasang, Apavitramukhashayanam, Tapa sevana, Snana in Ajirna etc.

The continuous exposure to Nidanas lead to Agnimandya, Prakopa of Udanavayu, Bhrajaka Pitta, Tarpaka Kapha, Vitiation of Rasa and Rakthadhatus, Rasavaha, Raktavaha and Pranavaha Srotodushti which all responsible for the Sthanasamsraya of Doshas in Shira. Here the vitiated Doshas travel through all six Kriyakalas to produce the disease Pratishyaya .Pratishyaya has been differentiated into 5 types viz, Vataja, Pittaja, Kaphaja, Raktaja and Sannipataja.

3. Discussion on the methodology:

Randomized comparative clinical study was done. Patients of Group A received Bharangyadi Taila Nasya 6 Drops in Both Nostrils Once daily in Morning for 21 days in three Sittings having 3 days' interval.

While the patients of Group B received Anu Taila Nasya 6 Drops in Both Nostrils Once daily in Morning for 21 days in three Sittings having 3 days' interval.

A total number of 335 subjects fulfilling the inclusion criteria were studied.

Number of subjects registered for the study - 335

Number of subjects completed the study - 330

Number of dropout - 5

1. Group A: 165 Patient of Group A were treated with Bharangyadi Taila Nasya.

2. Group B: 165 Patient of group B were treated with Anu Taila Nasya.

4. Discussion on clinical study:

335 patients were registered for the clinical study. All the patients were subjected to go thorough routine Clinical examinations. All these patients were examined thoroughly and were diagnosed on the basis of Ayurvedic principles. Out of which 5 discontinued during the trial, the reason for the discontinuity was not known as the patient did not consult even after contacting them by phone. And other 330 patients appeared for the assessment of results.

After scrutinizing the literatures of Ayurveda and Modern Medicine for subjective parameters Nasa-Strav (Rhinorrhea), Nasa-Avarodh (Blocking of Nose), Kshavatu (Sneezing), Shiro-Gurutva (Heaviness of Head) were fixed for clinical assessment whereas Assessment of Inferior Turbinate Size were considered as the objective parameters for clinical assessment.

In Group A Bharangyadi Taila Nasya, whereas in Group B Anu Taila Nasya was administered (Includes Pre & Post Procedure) and later each patient was observed for samyaka/ayoga/atiyoga anuvasita Lakshanas. For Each Subject Nasya is given Once daily in Morning for 21 days in 3 Sittings having 3-day interval & final assessment was done on 30th day.

5. Discussion on the Studied Subjects:

The observations obtained during the clinical study are discussed below –

Age: - In this present study Patients are found in all Age Group from 20 years to 60 years but Maximum patients has been seen in the age-group of 55 to 60 years in both groups i.e. 17% & 16% respectively.

This suggests more prevalence of disease in old age, which might be because of Low Immunity of individuals to disease in this age Group. Also in this Age Group Diseases due to Exaggeration of Vata-Dosha are Predominantly Found. (Table no.27)

Gender: - In the present study, majority of the patients i.e. 55% & 52% were Female in Group A and B respectively. which indicate that almost equal proportion of gender was seen in both Groups. (Table no.28)

Religion: - This study shows a greater prevalence of Pratishyaya in Hindus i.e 77% in Both Group A and B, which is followed by prevalence in Muslims i.e 17% & 16% in Group A and B respectively. The greater prevalence may be due to more population of Hindus in and around this area. (Table no.29)

Education: - In this study, maximum number of patient i.e. in Group A 45% and in Group B 44% were graduated, while in Group A 32% and in Group B 33% took Higher Secondary Education. People with higher Education usually work in an indoor environment, thus exposing them to indoor allergens. (Table no.30)

Socioeconomic Status: - 73% patients in Group A and 55% patients in Group B were from Middle class, this shows the Socioeconomic condition of the patients attending the OPD and IPD of this Hospital; also it may be due to the Majority of Population in this Study were found to do Office Work. (Table no.31)

Marital Status: - In Group A 68% Subjects and in Group B 73% Subjects were married and in Group A 32% Subjects and in Group B 27% Subjects were unmarried. (Table no.32)

Family History: - 54% patients in Group A and 53% patients in Group B were having No Family history of suffering from the same disease (Pratishyaya). (Table no.33)

Chronic Condition History: - In Group A 48% patients and in Group B 42% patients were having >5 years, in Group A 39% patients and in Group B 41% patients were having 2 to 5 years and in Group A 13% patients and in Group B 17% patients were having 1 to 2 years' history of suffering from the disease Pratishyaya. (Table no.34)

Residential Area: - 43% patients in Group A and 48% patients in Group B were live in Polluted residential area. (Table no.35)

Nature of work: -In Group A Office working patients were 44% and 42% patients in Group B. 22% patients and 24% patients were doing Education in Group A and Group B respectively. 14% and 23% patients were doing Household work in Group A and Group B respectively. 20% and 11% patients were doing Labour work in Group A and Group B respectively. (Table no.36)

Prakriti: - In the present study, it was observed that patient of Kaphavataj Prakriti patients were 70% in Group A and 65% in Group B, in Group A 30% patients and in Group B 27% patients were having Vatapittaja Prakriti and Only 07% patients in Group A were having Kaphapittaja Prakriti. (Table no.37)

Agni Parikshan: - 53% patients in Group A and 35% patients in Group B were having Sama Agni. Manda Agni were found in 22% patients in Group A and 35% patients in Group B. Visham Agni were found in 19% patients in Group A and 23% patients in Group B and 5% patients in Group A and 8% patients in Group B were having Tikshna Agni. (Table no.38)

Type of Ahar: - In the present study, it was observed that 59% patients in Group A and 54% patients in Group B Were Purely having Vegetarian Diet; While 41% patients in Group A and 46% patients in Group B were having Mixed (Veg+ Non-Veg) Diet. This shows the food habit of the society and there is no relation of the disease with food habits. (Table no.39)

Aahar Pramana: - It was observed that 47% patients in Group A and 17% patients in Group B were taking Aahar in Sama Praman. Adhyashan were practised by 19% patients in Group A and 34% patients in Group B. Vishamashan were practised by 15% patients in Group A and 36% patients in Group B and 19% patients in Group A and 13% patients in Group B were taking Aahar in Alpa Praman. (Table no.40)

Dominant Rasa Ahar: - It was observed that Madhur Rasa Dominant Aahar were taken by 59% patients in Group A and 45% patients in Group B, Katu Rasa Dominant Aahar were taken by 35% patients in Group A and 50% patients in Group B while Amla Rasa Dominant Aahar were taken by 6% patients in Group A and 5% patients in Group B. (Table no.41)

Dominant Guna Ahar: - It was observed that 127 patients in Group A and 125 patients in Group B were taking Aahar in Ruksha & Sheet Dominant Guna and 38 patients in Group A and 40 patients in Group B were taking Snigdha & Ushna Guna Dominant Aahar. (Table no.42)

It was observed from above study that 23% patients in Group A and 24% patients in Group B were taking Aahar in Dominant Ushna Guna. (Table no.43)

It was observed from above study that 77% patients in Group A and 76% patients in Group B were taking Aahar in Dominant Sheeta Guna. (Table no.44)

It was observed from above study that 77% patients in Group A and 76% patients in Group B were taking Aahar in Dominant Ruksha Guna. (Table no.45)

It was observed from above study that 23% patients in Group A and 24% patients in Group B were taking Aahar in Dominant Snigdha Guna. (Table no.46)

Pattern of Nidra: - Having Samyak Nidra were found in 66% patients in Group A and 53% patients in Group B, Having Diwaswap were found in 15% patients in Group A and 21% patients in Group B and Ratrijagaran were practised by 19% patients in Group A and 26% patients in Group B. (Table no.47)

Vyasana: - It was observed from above study that 70% patients in Group A and 61% patients in Group B Were Not having any Vyasan (addiction). Alcohol addiction were observed in 15% patients in Group A and 10% patients in Group B, Smoking as addiction were observed in 9% patients in Group A and 18% patients in Group B and 6% patients in Group A and 11% patients in Group B were addicted to Tobacco. (Table no.48)

Discussion on the Result: -

Dosh Dushti: - 100% patients in Group A and 93% patients in Group B were diagnosed with Vata Dosh Dushti, 70% patients in Group A and 35% patients in Group B were diagnosed with Kapha Dosh Dushti and 30% patients in Group A and 73% patients in Group B were diagnosed with Pitta Dosh Dushti. (Table no.49)

Dushya Dushti: - Rasa Dushya Dushti were diagnosed in 100% patients of both Group A and Group B, Rakta Dushya Dushti were diagnosed in 76% patients of both Group A and Group B, Mansa Dushya Dushti were diagnosed in 90% patients of both Group A and Group B while Asthi Dushya Dushti were diagnosed in 30% patients of both Group A and Group B (Table no.50)

Nidana: -

43% patients in Group A and 48% patients in Group B were live in Polluted residential area. As Exposure to Indoor & outdoor Pollutant is measure Cause for Allergic Rhinitis.

Kaphavataj Prakriti were observed in 70% patients in Group A and 65% patients in Group B, Vatapittaja Prakriti were observed in 30% patients in Group A and 27% patients in Group B and Only 7% Kaphapittaja Prakriti.patients observed in Group A.

Patient having Manda Agni were diagnosed in 22% patients in Group A and 35% patients in Group B. Patient having Visham Agni were diagnosed 19% patients in Group A and 23% patients in Group B.

77% patients in Group A and 76% patients in Group B were taking Aahar in Dominant Sheeta Guna.

77% patients in Group A and 76% patients in Group B were taking Aahar in Dominant Ruksha Guna.

All above data supports the existence of Vata and Kapha vardhaka Aahar and Viharas as predisposing factors of Pratishyaya.

The Results obtained during the clinical study are discussed below: -

Hence to check the impact of these two drugs with respect to symptoms of disease, a non-parametric Wilcoxon Signed Rank test has been used in the data analysis.

SPSS version 22.0 statistical software package for Microsoft Windows (SPSS Inc., Chicago, IL) and MS-Excel were used for analysis. Wilcoxon Signed Rank test has been generated at 5% level of significance and probability has been checked at 0.05. the hypothesis has been rejected if $p < 0.05^*$.

Subjective parameters:

Nasa-Strav (Rhinorrhea): - Highly significant decrease in Nasa-Strav was observed on in both the Groups. ($p < 0.05$).

165 patients had decreased in symptoms of Nasa-Strav (Rhinorrhea) by having Bharangyadi Taila Nasya. 160 patients had decreased in symptoms of Nasa-Strav (Rhinorrhea) by having Anu Taila Nasya and 5 patients had no change in their symptoms even by having Anu Taila Nasya.

Average of difference of score by Applying Bharangyadi Taila Nasya is more than average of difference of score by Applying Anu Taila Nasya.

Here we can conclude that Bharangyadi Taila Nasya is having better result than Anu Taila Nasya in the treatment of Nasa-Strav (Rhinorrhea).

Nasa-Avarodh (Blocking of Nose): -

165 patients had decreased in symptoms of Nasa-Avarodh (Blocking of Nose) symptom by having Bharangyadi Taila Nasya. 16 patients had decreased in symptoms of Nasa-Avarodh (Blocking of Nose) by having Anu Taila Nasya and 149 patients have no change in their symptoms even by having Anu Taila Nasya. Average of difference of score by Applying Bharangyadi Taila Nasya is more than average of difference of score by Applying Anu Taila Nasya.

Here we can conclude that Bharangyadi Taila Nasya is having better result than Anu Taila Nasya in the treatment of Nasa-Avarodh (Blocking of Nose) symptom.

Kshavatu (Sneezing): - Highly significant decrease in Kshavatu was observed on in both the Groups. ($p < 0.05$)

165 patients had decreased in symptoms of Kshavatu (Sneezing) symptom by having Bharangyadi Taila Nasya. 165 patients had decreased in symptom of Kshavatu (Sneezing) by having Anu Taila Nasya.

Average of difference of score by Applying Bharangyadi Taila Nasya is more than average of difference of score by Applying Anu Taila Nasya.

Here we can conclude that Bharangyadi Taila Nasya is having better result than Anu Taila Nasya in the treatment of Kshavatu (Sneezing) symptom.

Shiro-Gurutva (Heaviness of Head): - Highly significant decrease in Shiro-Gurutva was observed on in both the Groups. ($p < 0.05$)

165 patients had decreased in symptom of Shiro-Gurutva (Heaviness of Head) by having Bharangyadi Taila Nasya. 165 patients had decreased in symptom of Shiro-Gurutva (Heaviness of Head) by having Anu Taila Nasya.

Average of difference of score by Applying Bharangyadi Taila Nasya is slightly less than average of difference of score by Applying Anu Taila Nasya

Here we can conclude that Effectiveness of Bharangyadi Taila Nasya on Shiro-Gurutva (Heaviness of Head) symptom is marginally less than Anu Taila Nasya.

Objective parameters: -

Inferior Turbinate Size score: -

148 patients had decreased in severity in sign of Inferior Turbinate Size by having Bharangyadi Taila Nasya and 17 patients have no change in their symptoms by having Bharangyadi Taila Nasya. 25 patients had lower severity in sign of increased Inferior Turbinate Size by instilling Anu Taila Nasya and 140 patients have no change in their symptoms even by instilling Anu Taila Nasya.

However, effectiveness by Applying Bharangyadi Taila Nasya is more than by Applying Anu Taila Nasya for increased Inferior Turbinate Size score upto 25% but

effectiveness by Applying Anu Taila Nasya is more when Inferior Turbinate Size is more than 25%.

By looking into above results, it can be concluded that Group A (Bharangyadi Taila Nasya) and Group B (Anu Taila Nasya) showed highly significant result in the symptoms of the patients.

Average of difference of score by Applying Bharangyadi Taila Nasya is more than average of difference of score by Applying Anu Taila Nasya for all Parameters Except for Shiro-Gurutva (Heaviness of Head)

Though Bharangyadi Taila Nasya Nasya is more effective than Anu Taila Nasya Nasya in the management of Pratishyaya (Allergic Rhinitis)

Overall Effect of Therapies: -

In Group A out of 165 patients after the completion of treatment 28% were completely relieved, 61% showed Mild symptoms, 11% showed Moderate symptoms. None of the patients was having moderately Severe & Severe symptoms at the end of treatment.

In Group B out of 165 patients after the completion of treatment 25% were Completely relieved, 41% showed Mild symptoms, 28% showed Moderate Symptoms and 6% showed Moderately Severe symptoms. None of the patients was having Severe symptoms at the end of treatment.

6. Operating Principle of Bharangyadi Taila Nasya and Anu Taila Nasya: -

Pratishyaya occurs mainly because of exaggeration of Kapha dosha that exaggerated dosha gets lodged in Head which is primarily exaggerated by the Vatadosha. In an equal context in contemporary science allergic rhinitis has been described.

Looking towards Ayurved, there are lot of Panchakarma Procedures Advocated for Shalaky disorders. Among this Panchakarma Procedure Nasya Karma is the Primary Procedure.

Nasya is purificatory medication administered through nostrils is a specific therapy in the diseases of head, eye, ear, nose, throat and other parts of head. Nose is the way to the head, and the drug entered through nostrils reaches shrungatak then affects the

whole head and dislodges the doshas and morbid factors which are through out easily by this process.

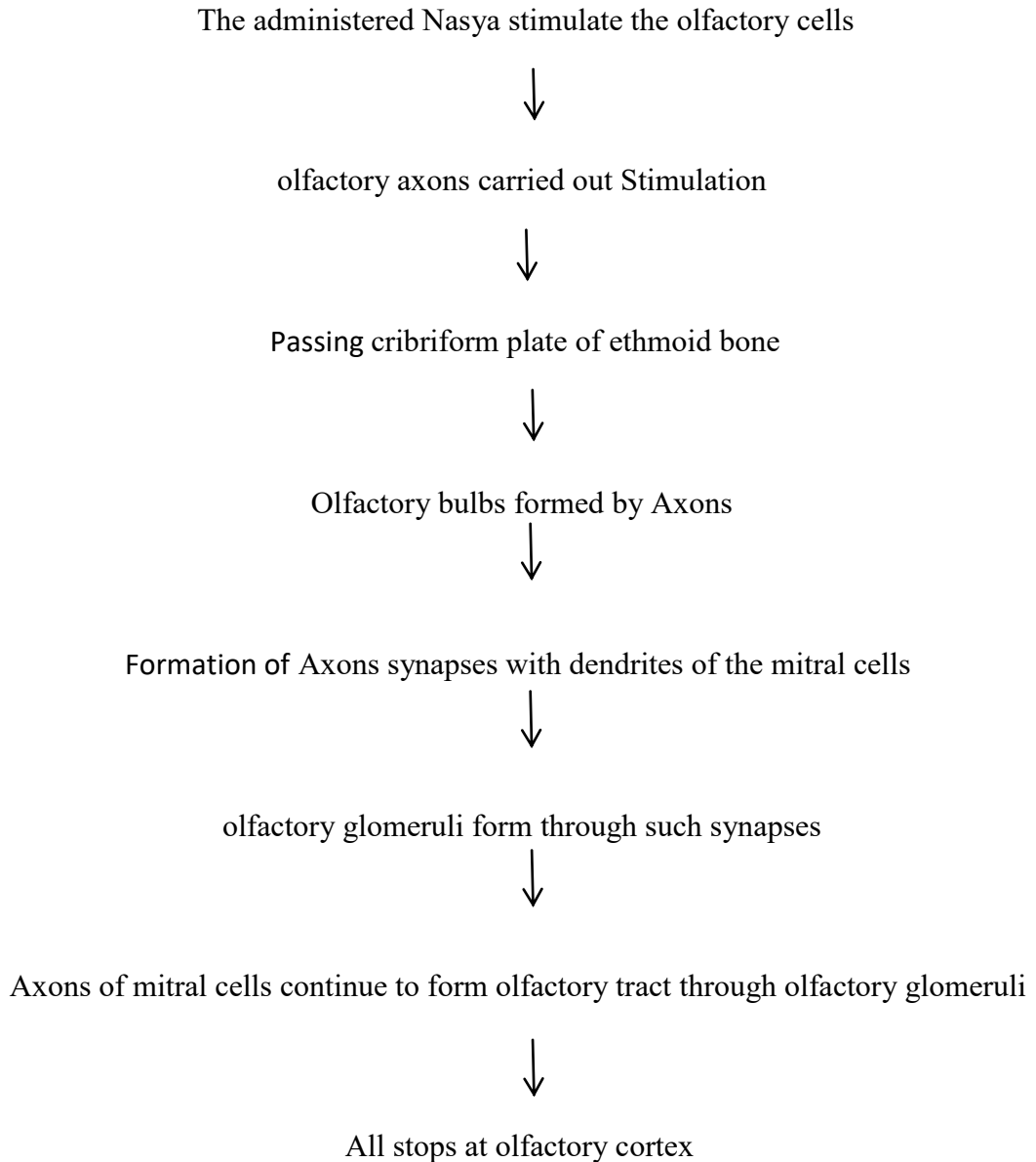
Acharya Charaka has used the term, “Nastah Pracchardana” for Nasya, which describe Shodhana done by Nasya. It is the best method to eliminate and alleviate the vitiated Doshas of Urdhvanga. Taila has been advocated for Nasya Karma in Kapha-Vata Dosha Pradhana condition.

In Shirovirechan the drugs which are used causes purgation to the head or using medicated oil with such drugs it is used in diseases such as kapha adhering to the palate, throat and head, loss of taste, feeling of heaviness and headache, rhinitis, migraine (Ardhavbhedak), nasal catarrh due to worms (bacteria virus etc.), epilepsy, loss of sense of smell and other urdhava-jatrugat vikar.

Sushratacharya has advocated for the selection of particular sneha dravya according to the doshas, in aggravations of kapha together with vata, Taila (medicated oil) should be used.

Nasya are very effective to reduce the inflammation of the nasal mucosa and help to reach to the cellular level of the nasal mucosa.

Nasal cavity is the way to the brain. The nerve cells of the olfactory epithelium project into the olfactory bulb of the brain, which gives a direct connection between the brain & external environment. The administered drugs through the brain from blood brain barrier, impeded to all but small, lipophilic substances. However, if drug substances can be travelled along the olfactory nerve cells, they can bypass the blood brain barrier and enter the brain directly. Olfactory & Ophthalmic nerve are inter connected. Thoracic (T1) is the lower limit of the Nasya Karma effect. Lateral & frontal lobes are connected with Nasya activity.



Sushrutacharya narrated that Nose is a way to the Cranial Cavity, the nasal medicine work on Shringatak marma and spread in the cranial cavity, eyes, ears, throat and the minute capillaries of Face. The drug administered reached the six sinus openings after travelling through superior, middle and inferior meatus.

Action is done by after absorption of drug essence & Stimulation of all through which lead to dosha vilayana, Snehan and Bruhana & Vata Kaphaghna are the properties of Nasya Karma, Sukshma srtotogami properties are also one of them. After administration of Nasya results in profuse secretion. Kapha Dosha invades the Chest, head, pallet and throat. Nasya works as Bruhana Therapy after removing the kaphadi doshas from these areas. All the doshas are removed by oil by reaching to minute channels.

Profuse Secretions Travel of the Sneha in the srotasas, Oleation and Strengthening action which takes place on upper part of the body ligaments and tendons.

Majority of the ingredients of Bharangyadi Taila and Anu Taila having Laghu-Tikshana guna, Ushna veerya, and Katu vipaka which ease Srotoshodhaka (cleansing) and due to Sukshma Srotogami (rapidly penetrating into microchannels) property, it consumes at the cellular level by entering microcirculation and causing profuse secretions by irritating the nasal mucosa. Hence, it dislodges the Kaphadi Doshas and then through them out from the nearest outlet and simultaneously strengthens the indriyas. Thereby, it removes the Avarana caused by Kapha Dosha over Vata.

Ingredients of Bharangyadi Taila viz- Ushna Virya and Kaphavataghna Properties are of Bharangi, Madana, Tarkari (Agnimantha), Surasa and Sarshpa Taila. Katu-rasa properties are bear by Bhargi, Tarkari (Agnimantha), Surasa and Sarshapa Taila. Because of such properties of ingredients there is subside of Amavastha. Also this drug helps in expellation of Kapha Dosha out from nasal root through its Karma like Chhedana, Vilayana and Shodhana. Which results in reduced sign & symptoms of Pratishyaya (Allergic Rhinitis).

CONCLUSION

- Nasya, An important Panchakarma procedure was dealt in the present study.
- Pratishyaya comes under Vata-Kapha vyadhi which commonly associated with the Nasa-Strav, Nasa-Avarodh, Kshavatu and Shiro-Gurutva are the prominent feature in its manifestation.
- As Pratishyaya is kaphavataj disease it is more commonly found in patients with kapha vataj prakriti.
- Patients taking Aahar in Ruksha & Sheet Dominant Guna are found to be measure concern for Pratishyaya.
- Vaat & Kapha dosha dushti are found to be measure concern for Pratishyaya.
- In the present study both groups showed statistically significant result in subjective and objective parameters.
- Highly significant decrease in Nasa-Strav and Kshavatu was observed on in both the Groups but Bharangyadi Taila Nasya is showing more marked result than Anu Taila Nasya.
- Highly significant decrease in Nasa-Avarodh was observed on only in Group A.
- Shiro-Gurutva was decreased significantly in both the Groups but Effectiveness of Bharangyadi Taila Nasya on Shiro-Gurutva (Heaviness of Head) symptom is marginally less than that in Group B.
- In management of Inferior Turbinate Size score upto 25% Bharangyadi Taila Nasya shows marked decrease in Turbinate Size than Anu Taila Nasya but when Inferior Turbinate Size score was more than 25% ; Anu Taila Nasya gives comparative good result in reducing Inferior Turbinate Size.
- Overall the Group A (Bharangyadi Taila Nasya) clinically showed better response than Group B (Anu Taila Nasya) in Pratishyaya.
- It can be concluded that in the management Pratishyaya (Allergic Rhinitis); Nasya with Bharangyadi Taila shows more effectiveness in reducing sign and symptoms of Pratishyaya as compare to Nasya with Anu Taila.
- No any adverse reactions are observed in patients of both groups during & after treatment.
- Bharangyadi Taila Nasya can be practiced safely without any complications.

RECOMMENDATIONS

As Pratishyaya (Allergic Rhinitis) is chronic disease, it is expected for the further clinical study that which must be done with more number of population & for long duration of treatment to get better result.

Comparative Management of Pratishyaya should have to study between Vaman Karma & Nasya Karma.

Also for further study along with Nasya karma oral Administration of drugs will be expected to get a synergistic effect & better outcome.

SUMMARY

This dissertation entitled Randomised Comparative Clinical study to evaluate the effect of Bharangyadi Taila Nasya and Anu Taila Nasya in the Management of Pratishyaya with special reference to 'Allergic Rhinitis'.comprises of Seven parts viz. Introduction, Literary review, Materials and Methods, Observation & Results, Discussion, Conclusion and Ssummary.

1. Introduction: Gives a brief account of need and scope for the study and the rationality behind selecting the procedure, drugs and objectives of the study.

2. Literary review: is subdivided into 3 chapters namely Ayurvedic review, Modern review, and Drug review.

A. Ayurvedic review: Includes Nasa sharir, Nasa-Dosh-Dhatu-Mala, Nasa Kriya sharir, literature of nasal diseases.

Gives description about Definition, Importance of Nasya Karma, Action of Nasya Karma, Types of Nasya according to different Acharya's, Indication of Nasya Karma, Person unsuitable for Nasya, Complete Procedure of Nasya Karma, Symptoms of Proper and Improper Use of Nasya, Complication of Nasya and its Treatment.

Under this heading the Pratishyaya- Definition, Etymology, Classification of Pratishyaya according to different Acharya's, etiological Factors, Pathogenesis of Pratishyaya, Clinical Features of the Pratishyaya, Chikitsa of Pratishyaya, Prognosis and Complications.

B.Modern review: Includes modern review with anatomy & physiology of nose followed by literature of Allergic Rhinitis & its management

C.Drug review: which includes description of contents of drugs i.e. Bharangyadi Taila & Anu Taila. Botanical name, Family, Rasa, Guna, Veerya, Vipaka, Doshaghnata, Rogaghnata and Karma of all the important ingredients of Bharangyadi Taila & Anu Taila is described. .Pharmacological Action of Bharangyadi Taila & Anu Taila on the Basis of Dravya Gunashastra. Analysis of Bharangyadi Taila & Anu Taila.

3. Materials & Methods: Description regarding the Study Type, Source of data, Material used, criteria of selection of patients, details of diagnostic, inclusion and exclusion criteria, Drug preparation, Sterilization & Packing, Research design, Sample size calculation with prevalence, Objectives of Study, Methodology of study and assessment criteria for assessing the effects of the therapies and actual course of the trial have been explained.

4. Observations & Results: Thereafter general observations of the 330 patients of Pratishyaya studied & are presented in tabular form along with brief description of each finding and graphs. In the end, the results along with statistical analysis are interpreted.

5. Discussion: Discussion regarding Procedure, Pratishyaya, methodology, and clinical study, patients of Pratishyaya who underwent the trial and working process of Nasya in Pratishyaya has been explained.

Effect of Bharangyadi Taila Nasya: - (Group A)

Showed highly significant improvement, highly significant decrease in Nasa-Strav, Nasa-Avarodh and Kshavatu was seen. Highly significant decrease in Shiro-Gurutva was observed in Group A but for Shiro-Gurutva (Heaviness of Head) symptom effect of Bharangyadi Taila Nasya is slightly less as compare to instillation of Anu Taila Nasya. Bharangyadi Taila Nasya shows marked result in reducing Inferior Turbinate Size for Size Score upto 25%

Effect of Anu Taila Nasya: - (Group B)

In this group also highly significant improvement were observed, But Effectiveness of Anu Taila Nasya on Nasa-Strav, Nasa-Avarodh and Kshavatu symptom are less than Bharangyadi Taila Nasya. Anu Taila Nasya in Shiro-Gurutva (Heaviness of Head) shows slightly more improvement in symptom as compare to Bharangyadi Taila Nasya. Anu Taila Nasya shows marked reduced in Inferior Turbinate Size when Inferior Turbinate Size Score is more than 25%.

Comparison of the effects of Procedures:

To know among which Group treatment procedure is more effective, the statistical analyses is done by using a non-parametric Wilcoxon Signed Rank test and MS-Excel were used for statistical analysis.

6. Conclusion:

Final Result is concluded between efficacy of Group A and Group B by comparing all their selected subjective and objective criteria findings & results. Concluded with description about more effective Management in Pratishyaya (Allergic Rhinitis).

ABBREVIATION

च.स.	Charak Samhita
सु.स.	Sushrut Samhita
मा.नि.	Madhav Nidan
अ. सं.	Ashtang Sangraha
अ.हु.	Ashtang Hrudaya
भा. प्र.	Bhavprakash
शा. स.	Sharangdhar Samhita
भै. र.	Bhaishajya Ratnawali
पु.	Purvakhanda
उ.	Uttar Tantra
चि.	Chikitsasthan
नि.	Nidansthan
शा.	Sharirsthan
अ.	Adhyaya
नासा.	Nasarogchikitsa
यो. र.	Yoga Ratnakar
कार्त.	Kartikacharya
वृ. सु.	Vruddha Sushrut
A.T.	After Treatment
B.T.	Before Treatment

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PATIENT INFORMATION SHEET

Study Title: Randomised Comparative Clinical Study To Evaluate The Effect Of Bharangyadi taila Nasya and Anutaila Nasya In The Management Of Pratishyaya With Special Reference To ‘Allergic Rhinitis’.

Invitation: You are being invited to take a part in a Research Study. Before you decide it is important for you to understand about this study. Please take a time to read following information carefully and ask us if that is not clear or if you would like more information.

What is the purpose of the Study? Our Research aims to discover the effect of Bharangyadi taila nasya & to compare the effect of Bharangyadi taila nasya and Anu Taila Nasya in the management of Pratishyaya w.s.r. to Allergic Rhinitis. **(Nasya: Instillation of Ayurvedic Medicated Nasal drops in Nose)**

Why have I been Chosen? You have been approached because you fulfill the entry criteria for the Study.

Do I have to Take Part? It is up to you whether or not to take part. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive.

What will happen to me if I take Part? We will have enrolled you as usual, we will ask you to answer questions related to sign & symptoms of your illness, we will also do your full ENT check-up & systemic assessment, we will ask you to do some blood test before & after Study. We will instill medicated Nasal Drops in your nose once a daily in the Morning for 21 days in 3 sittings, giving 3-day gap in between each sitting.

What are the side effects of treatments? As Nasya Procedure is well understood procedure given in Ayurvedic Literature, it is safe & do not have any side effect.

What are the possible benefits of taking Part? All patient in the study will benefit from regular follow up for Pratishyaya (Allergic Rhinitis), this may improve the recognition of problem & overall care for all participants.

Will my taking part in the study be kept Confidential? YES. The information about you will only be known to members of Research team. All information about you will be held using a unique research number so that you cannot be identified in any result, publications or publicity related to the Study.

रुग्ण माहिती पत्रक

अभ्यासाचे शीर्षक: Randomised Comparative Clinical Study To Evaluate The Effect Of Bharangyadi taila Nasya and Anutaila Nasya In The Management Of Pratishyaya With Special Reference To 'Allergic Rhinitis'.

आमंत्रण: आपल्याला एका संशोधन अभ्यासामध्ये भाग घेण्यासाठी आमंत्रित केले जात आहे. या अभ्यासाबद्दल आपण हे समजून घेणे महत्वाचे आहे त्याआधी निर्णय घ्या. कृपया खालील माहिती काळजीपूर्वक वाचण्यासाठी थोडा वेळ घ्या आणि ती स्पष्ट नाही किंवा आपल्याला अधिक माहिती हवी असल्यास आम्हाला विचारा.

अभ्यासाचा हेतू काय आहे ?: आमच्या संशोधनाचा हेतू एलर्जिक राइनाइटिस वर भारंग्यादि तैल नस्याचा प्रभाव शोधणे आणि अनु तैल नस्याच्या प्रभावाची तुलना करणे आहे. (नस्य: नाकात आयुर्वेदिक औषधी तैल थेंबाचा अंतर्भाव)

मी का निवडले गेले आहे ?: आपण अभ्यासासाठी प्रवेश निकष पूर्ण केल्यामुळे आपला संपर्क साधला आहे.

मला भाग घ्यावा लागेल ?: भाग घ्यावा की नाही हे आपल्यावर अवलंबून आहे. कोणत्याही वेळी माघार घेण्याचा निर्णय, किंवा भाग न घेण्याच्या निर्णयाचा आपल्यास प्राप्त झालेल्या काळजीच्या दर्जावर परिणाम होणार नाही.

मी भाग घेतल्यास माझे काय होईल ?: आम्ही नेहमीप्रमाणे नावनोंदणी करू, आम्ही आपल्या आजाराची चिन्हे व लक्षणांशी संबंधित प्रश्नांची उत्तरे देण्यास सांगू, आम्ही तुमची संपूर्ण ईएनटी तपासणी व प्रणालीगत मूल्यांकन करू, आम्ही विचारू अभ्यासापूर्वी आणि नंतर तुम्ही काही रक्त तपासणी करा. आम्ही आपल्या नाकात दररोज एकदा, 21 दिवस , 3 बैठकीत , 3 दिवसाचे अंतर देऊन, आपल्या नाकात औषधी थेंब टाकू.

उपचारांचा दुष्परिणाम काय आहेत ?: आयुर्वेदिक साहित्यात नस्य प्रक्रिया चांगल्या प्रकारे समजली गेली आहे, ती सुरक्षित आहे आणि त्याचा दुष्परिणाम होत नाही.

भाग घेण्याचे संभाव्य फायदे काय आहेत ?: अभ्यासातील सर्व रूग्णांना नियमित पाठपुरावा केल्याने (एलर्जिक राइनाइटिस)फायदा होईल, यामुळे समस्यांची ओळख आणि सर्व सहभागींची एकंदरीत काळजी सुधारू शकते.

माझा अभ्यासामध्ये घेतलेली माहिती गोपनीय ठेवण्यात येईल काय?: होय, आपल्याबद्दलची माहिती फक्त संशोधन कार्यसंघाच्या सदस्यांनाच कळेल .आपल्या विषयी सर्व माहिती एक अद्वितीय संशोधन क्रमांक वापरून घेण्यात येईल जेणेकरून आपणास कोणत्याही प्रकाशने किंवा अभ्यासाशी संबंधित प्रसिद्धी परीणामात ओळखता येणार नाही.

रोगी सूचना पत्र

अध्ययन का शीर्षक: Randomised Comparative Clinical Study To Evaluate The Effect Of Bharangyadi taila Nasya and Anutaila Nasya In The Management Of Pratishyaya With Special Reference To 'Allergic Rhinitis'.

निमंत्रण: आपको एक शोध अध्ययन में भाग लेने के लिए आमंत्रित किया जाता है। इससे पहले कि आप यह तय करें कि आपके लिए इस अध्ययन के बारे में समझना महत्वपूर्ण है। कृपया निम्नलिखित जानकारी को ध्यान से पढ़ने के लिए कुछ समय दें और हमसे पूछें कि क्या यह स्पष्ट नहीं है या यदि आप अधिक जानकारी चाहते हैं।

अध्ययन का उद्देश्य क्या है?: हमारे शोध का उद्देश्य एलर्जिक राइनाइटिस में भारंग्यादि तैल नस्य के प्रभाव की खोज करना है और अनु तैल नस्य के प्रभाव से तुलना करना है। (नस्य: नाक में आयुर्वेदिक औषधी की बूंदों का टपकना)।

मुझे क्यों चुना है?: आपसे अध्ययन के लिए प्रवेश मानदंडों को पूरा करने के कारण संपर्क किया गया है।

क्या मुझे भाग लेना है?: यह आप पर निर्भर है कि आपको भाग लेना है या नहीं। किसी भी समय वापस लेने का निर्णय, या भाग न लेने का निर्णय, आपके द्वारा प्राप्त देखभाल के मानक को प्रभावित नहीं करेगा।

अगर मैं भाग लेता हूं तो क्या होगा?: हम हमेशा की तरह आपका नामांकन करेंगे, हम आपसे आपकी बीमारी के संकेत और लक्षणों से संबंधित प्रश्न पूछेंगे, हम आपकी पूरी ईएनटी जांच और प्रणालीगत मूल्यांकन भी करेंगे, हम पूछेंगे आप अध्ययन से पहले और बाद में कुछ रक्त परीक्षण करते हैं। हम सुबह में एक बार दैनिक रूप से आपके नाक में 21 दिनों के लिए औषधीय बूंदें डालेंगे, 3 बैठक में, प्रत्येक बैठक के बीच 3 दिन का अंतर होगा।

उपचार के दुष्प्रभाव क्या हैं?: जैसा कि नस्य आयुर्वेदिक साहित्य में दी गई अच्छी तरह से समझी गई प्रक्रिया है, यह सुरक्षित है और इसका कोई दुष्प्रभाव नहीं है।

भाग लेने के संभावित लाभ क्या हैं?: अध्ययन के सभी रोगियों को नियमित रूप से एलर्जिक राइनाइटिस के लिए लाभ हो सकता है, इससे सभी प्रतिभागियों की समस्या और समग्र देखभाल में सुधार हो सकता है।

क्या अध्ययन में मेरे भाग लेने को गोपनीय रखा जाएगा?: हाँ,। आपके बारे में जानकारी केवल अनुसंधान टीम के सदस्यों को ही पता होगी। आपके बारे में सभी जानकारी एक अद्वितीय शोध संख्या का उपयोग करके आयोजित की जाएगी ताकि आपके अध्ययन से संबंधित प्रकाशन या प्रचार किसी भी परिणाम की पहचान न कर सकें।

PATIENT INFORMED CONSENT FORM

Patient identification number for this trial_____

Title of projects: **Randomised Comparative Clinical Study To Evaluate The Effect Of Bharangyadi taila Nasya and Anutaila Nasya In The Management Of Pratishyaya With Special Reference To ‘Allergic Rhinitis’.**

Name of Principal Investigator:

Tel. No.(s) :

The contents of the information sheet dated.....(version).....that was provided have been read carefully by me /explained in detail to me, in a language that I comprehend, and I have fully understood the contents. I confirm that I have had the opportunity to ask questions.

The nature and purpose of the study and its potential risks/ benefits and expected duration of the study, and other relevant details of the study have been explained to me in detail. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal right being affected.

I understand that the information collected about me from my participation in this research and sections of any of my medical notes may be looked at by responsible individuals. I give permission for these individuals to have access to my records.

I agree to take part in the above study.

..... Date:

(Signature/Left Thumb Impression) Place:

Name of the Participant: _____

Son/Daughter/Spouse of: _____

Complete postal address: _____

This is to certify that the above consent has been obtained in my presence.

..... Date:

Signatures of the Principal Investigator Place:

रोगी सूचित सहमति फॉर्म

इस परीक्षण के लिए रोगी की पहचान संख्या: _____

परियोजनाओं का शीर्षक: **Randomised Comparative Clinical Study To Evaluate The Effect Of Bharangyadi taila Nasya and Anutaila Nasya In The Management Of Pratishyaya With Special Reference To 'Allergic Rhinitis'.**

प्रधान अन्वेषक का नाम:.

दूरध्वनी. क्रमांक

दी गई सूचना पत्र की सामग्री दिनांक..... (संस्करण) जो प्रदान की गई थी, उसे मेरे द्वारा ध्यान से पढ़ा गया / मुझे विस्तार से समझाया गया, उस भाषा में जिसे मैं समझता हूं, और मैं पूरी तरह से विषय सूची समझ गया हूं। मैं पुष्टि करता हूं कि मुझे प्रश्न पूछने का अवसर मिला है।

अध्ययन की प्रकृति और उद्देश्य और इसके संभावित जोखिम / लाभ और अध्ययन की अपेक्षित अवधि, और अध्ययन के अन्य प्रासंगिक विवरण मुझे विस्तार से बताए गए हैं। मैं समझता हूं कि मेरी भागीदारी स्वैच्छिक है और मैं बिना किसी कारण के किसी भी समय वापस लेने के लिए स्वतंत्र हूं, बिना मेरी चिकित्सा देखभाल या कानूनी अधिकार प्रभावित हुए बिना।

मैं समझता हूं कि इस शोध में मेरी भागीदारी से मेरे बारे में एकत्र की गई जानकारी और मेरे किसी भी मेडिकल नोट के वर्गों को जिम्मेदार व्यक्तियों द्वारा देखा जा सकता है। मैं इन व्यक्तियों को अपने रिकॉर्ड तक पहुंचने की अनुमति देता हूं।

मैं उपरोक्त अध्ययन में भाग लेने के लिए सहमत हूं।

..... दिनांक:

)हस्ताक्षर / बाएं अंगूठे का निशान(स्थान:

प्रतिभागी का नाम: _____

पुत्र / पुत्री / पति / पत्नी: _____

पूरा डाक पता: _____

यह प्रमाणित करता हूं कि मेरी उपस्थिति में उपरोक्त सहमति प्राप्त की गई है।

..... दिनांक:

प्रधान अन्वेषक के हस्ताक्षर स्थान:

रुग्ण संमती फॉर्म

या चाचणीसाठी रुग्ण ओळख क्रमांक: _____

प्रकल्पांचे शीर्षक: **Randomised Comparative Clinical Study To Evaluate The Effect Of Bharangyadi taila Nasya and Anutaila Nasya In The Management Of Pratishyaya With Special Reference To 'Allergic Rhinitis'.**

प्रधान अन्वेषकांचे नाव:

दूरध्वनी. क्रमांक

देलेली माहिती पत्रकाची माहिती दिनांकित..... (आवृत्ती) जी माझ्याद्वारे समजल्या जाणाऱ्या भाषेत माझ्याद्वारे काळजीपूर्वक वाचली गेली / माझ्याबद्दल तपशीलवार सांगितली, आणि मला सामग्री पूर्णपणे समजले. मी पुष्टी करतो की मला प्रश्न विचारण्याची संधी मिळाली आहे.

अभ्यासाचे स्वरूप आणि हेतू आणि त्यातील संभाव्य जोखीम / फायदे आणि अभ्यासाचा अपेक्षित कालावधी आणि अभ्यासाचे इतर संबंधित तपशील तपशीलवार मला स्पष्ट केले आहेत. मला समजले की माझा सहभाग ऐच्छिक आहे आणि माझे वैद्यकीय सेवा किंवा कायदेशीर हक्काचा कोणताही परिणाम न होता मी कोणतेही कारण न सांगता कधीही माघार घेण्यास मोकळे आहे.

मला समजते की या संशोधनात माझ्या सहभागापासून माझ्याबद्दल गोळा केलेली माहिती आणि माझ्या कोणत्याही वैद्यकीय तपशीलच्या काही भागांकडे जबाबदार व्यक्तीं द्वारे पाहिले जाऊ शकते. मी या व्यक्तींना माझ्या नोंदींमध्ये माहिती घेण्यास परवानगी देत आहे.

मी वरील अभ्यासामध्ये भाग घेण्यास सहमत आहे.

..... तारीख:

(स्वाक्षरी / डावा अंगठा प्रभाव) ठिकाण:

सहभागीचे नाव: _____

मुलगा / मुलगी / पती / पत्नी: _____

पूर्ण पोस्टल पत्ता: _____

मी हे प्रमाणित करतो आहे की वरील उपरोक्त संमती माझ्या उपस्थितीत प्राप्त झाली आहे.

..... ..

प्रधान अन्वेषकांच्या स्वाक्षरी

तारीख:

ठिकाण:

TILAK MAHARASHTRA VIDYAPEETH, PUNE

DEPARTMENT OF AYURVEDA

Case Report Proforma for PhD Shalakya Tantra

**Randomised Comparative Clinical Study To Evaluate The Effect Of Bharangyadi taila
Nasya and Anutaila Nasya In The Management Of Pratishyaya With Special Reference
To ‘Allergic Rhinitis’.**

PhD Scholar –

Patient Name :

OPD No.:

Age/Sex :

IPD No.:

Group : A / B

Ward/Bed No. :

Occupation :

Religion : H / M / Si / Ch / O

Education : UE / P / M / HS / G / PG

Marital Status : M / UM / D / W

Socio economic status: VP / P / L / UM / R / VR

Address:

Desha : Janma desha :

: Rogotpatti desha :

Residence : Urban / Rural / Island / Mountains / Sea-coast

Surroundings : Normal / Polluted / Dusty / Smok

Chief Complaints :

History of present illness (chronicity) –

History of past illness:(recurrence,exanthemata,trauma,allergy)

Family history:

PERSONAL HISTORY:

- 1) Sleep - Sound / Disturbed / Good / Nightmares
- 2) Exercise - No / Less/ Proper/ Excess/ Irregular
- 3) Hobbies -
- 4) Bowel action - Regular /Irregular / Constipated
.....times per day
- 5) Koshtha - Kruna / Madhya/ Mruda
- 6) Micturition - times per day
- 7) Bathing Habi - Cold Water / Hot Water
- 8) Appetite - Poor / Good / Moderate
- 9) Diet - Veg / Mixed
- 10) Dominant rasa in diet - M/ A/ L/ K/ T/ Ks/ NP
- 11) Dominant guna in diet - Ruksha / Snigdha / Ushna / Sheeta / Guru / Laghu
- 12) Supplementary diet - Tea / Coffee / Cold drinks
- 13) Dietetic habit - Samashana / Vishmashana /
Adhyashana / Viruddhasaa
- 14) Addiction - Smoking / Tobacco / Snuffing / Alcohol
Narcotics / Sleeping Pills / other
- 15) Emotional Make-up – Anxiety / Tension / Depression / Normal

OCCUPATIONAL HISTORY:

1. Occupation - Lab / Serv. / Busi / H.W. / Student/ Other
2. Hours of working – Day Hrs: Night hrs.
3. Nature of work – Sedentary / Moderate / heavy

ROGA PARIKSHA:

Aharaja	Viharaja	Manasa
- Shitambu Sevana	- Ati nari prasanga	-Ati krodha
- Ati Guru Ahara	- Raja Sevana	
- Ati Madura Ahara	- Dhuma Sevana	
- Ati drava Sevana	- Dugdhapanotar nidra	
- Adhyashana	- Shita Prashwa shayana	
- Vishmashan	- Ati prashwa shayana	
- Ati Jagarana		
- Ati atapa sevana		
- Shirobhitapa		
- Shitamatiprapata		
- Vega Sandharana		
- Ati sambhashana		

ASHTAVIDH PARIKSHA:

1. Nadi - Sama / Visham / uttamabala / madhyamabala / alpabala
2. Mala - Shushka / Snigdha / Drava / Sarakta / Sama / Nirama
3. Mutra –Shwet / Peet / Sadaah / Sashool/ Avila /Sarakta /Sagandh
4. Jihva – Sama / Nirama / Shwetabh / Sphutita / Ruksh
5. Shabd – Snigdha / Ruksh / Spashta
6. Sparsh – Snigdha / Ruksh / Shlakshan / Sheet / Ushna
7. Drik – Avila / Sashru / Sakandu
8. Aakriti- Upachita / Anupachita / Sthool / Madhyam / Krish

SAMANYA PARIKSHANA:

B.P. = mm/Hg

UAR = SHWASAN /min

UDAR = YAKRUT

PLEEHA

STHANIK PARIKSHANA:

NASA PARIKSHAN (STANIKA PARIKSHAN):

BAHIRNASIKA:

NASAGUHA:

DAKSHIN

VAMA

SHUKTIKA -SURANGA

URDHVA

MADHYA

ADHAHA

SHLAISHMIKA KALA: -

NASA RANDHRA: -

PURVA:

PASCHIM:

NASA SRAV, GANDHA, VARNA:

MUKHA PARIKSHANA:

OSHTHA: URDHVA:

ADHAHA:

DANTAVESHTA:

DANT:

JIVHA:

TALU (KATHIN)

TALU (MRUDU)

GALA GILAYU GRANTHI

GALA SHUNDIKA

UPJIVHA

KANTHA

ANYA VISHESHA PARIKSHA

KARNA PARIKSHAN

DAKSHINA

VAMA

BAHYA KARNA

KARNASHASHKULI

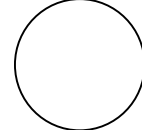
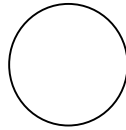
KARNA PUTRAK

KARNAPALI

KARNA PARSHVA

KARNA KUHARA

KARNA PATAL



MADHYA KARNA

SHRUTI SURANGA NADI

SHRAVANENDRIYA

VAYAVIYA VAHAKATA

PARTHIVA VAHAKATA

SRAVA- GANDHA, VARNA

SHIRO PARIKSHA

AAKAR

TVACHA

PARIGHA

KAPALASTHI

MANYAGATA GRANTHI

ANYA VISHESH PARIKSHAN

VISHESH PARIKSHANA:

ATURA BALA PRAMANA PARIKSHA:

1. Prakritii
 - a) Sharira - V / P / K / VP / VK / PK / VPK
 - b) Manasa - Sattvika / Rajasa / Tamasa
2. Sarata - P / M / A
3. Samhananata - P / M / A
4. Pramanata -
 - a) Height
 - b) Weight
5. Satmyata - P / M / A
6. Satvata - P / M / A
7. Aharashakti -
 - a) Abhyavaharana shakti - P / M / A
 - b) Jaranashakti - P / M / A
 - c) Agni – Sama / Vishama / Manda / Tikshana
8. Vyayamashakti - P / M / A
9. Vayatah - Bala / Yuva / Vriddha

STROTO PARIKSHA:

1. Pranavaha –
Atisrushta shwasanam /Atibadham shwasanam/Kupitam shwasanam/Alpalpam
shwasanam /Sashabdam shwasanam /Sashulam shwasanam
2. Udakavaha –Jivhashosha/Talushosha/Oshthashosha/Kanthashosha/Kloma- shosha/pipasa
3. Annavaha –Anannabhilasha / Arochaka / Avipaka / Chhardi
4. Rasavaha
Ashraddha/Aruchi/Aasyavairasya/Arasadnyata/Hrullas/Angagaurav/Tandra/Angamarada/
Jwara/Tamahadarshana/Pandutwa/Strotasavarodha/Klaibya/Angasaad/Krushangata/Valay
a Palitani
5. Raktavaha-
Kushtha/Visarpa/Pidika/Raktpittam/Raktapradara/Gudapaka/Medhrapaaka/Pleehavruddhi
/Gulma/Vidradhi/Kamala/Vyanga/PipluTilakalaka/Dadru/Charmadala/Shvitra/Pama/Kot
ha/Raktamandala
6. Mansavaha – Adhimamsa/Arbuda/Mamsakilaka/Galashaluka/Galashundi Putimamsa/
Gandamala/Upajivhika
7. Medovaha – Dantadinamaladhyatva/Padasantap/Angadaha/Anga- chikkanatva
8. Asthivaha-
Adhyasthi/Adhidanta/Dantabheda/Dantashula/Nakhabheda/Keshabheda/Keshavaivarnya/
Lomavaivarnya/Nakha-vaivarnya/Shamshruvaivarnya
9. Majjavaha –Parvanam Ruk/Bhrama/Moorchha/Tamahadarshan/Parvadarshana
10. Shukravaha -
Klaibya/Aharshanam/Alpayu/Garbhapatan/Garbhaprishrava/Anuvanshikataha
11. Mutravaha –
Atisushtram mutrapravrutti/Atibaddham mutrapravrutti/lpalpam /Mutrapravrutti/
Abhikshnam mutrapravrutti/Bahala mutrapravrutti/Sashula mutrapravrutti
12. Purishvaha-
Kruchhren malappravrutti/Alpalpam malappravrutti/Sashabdam malappravrutti / Sashulam
malappravrutti/Atidravam malappravrutti/Atigrathitam malappravrutti

13. Swedawaha-

Swedanam/Parushyam/Ashlakshnatvam/AngasyaParidaha/Paridaha/Lomaharsham

NIDAN-PANCHAK:

Hetu :-

Dravyataha :-

Gunataha :-

Purvarupam :-

Roopam / Lakshanam :

Upashaya :-

Anupashaya :-

Samprapti :-

CHIKITSA:

1) Group A – *Nasya with Bharangyadi Taila* – QS (6 drops in each nostril)

2) Group B – *Nasya with Anu Taila* –QS(6 drops in each nostril)

PATHYAPATYA:

FOLLOW UP CHART:

			After Treatment		
S.N.	Symptoms	Before Treatment	7 th Day	14 th Day	21 th Day
1	Nasa-Strav				
2	Nasa-Avarodh				
3	Kshavatu				
4	Shiro-Gurutva				

			After Treatment		
S.N.	Sign	Before Treatment	7 th Day	14 th Day	21 th Day
1	Inferior Turbinate Size				

PARINAM:

Completely relieved- 100 % relief	Mild symptoms present More than 75% relief	Moderate symptoms present. 50 to 75 % relief	Moderately Severe symptoms present. 25-49 % relief	Severe symptoms present Below 25 % relief

GUIDE**PhD SCHOLAR**



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Banking Complex II, Plot No 9 & 10, Sector 19-A,
Nr. APMC Market 2, Vashi, Navi Mumbai 400 703, India.

Tel : +91 22 41239185 / 27831910
Fax : +91 22 27831911
Mob. +91 98677 91055 / 81690 66785

Email: enquiry@bombaytesthouse.com
bombaytesthouse@gmail.com
CIN : U74900T22011PTC017261

Date : 16 Jan 2020

TEST REPORT

No. BTH/TR/004061/23988/19-20

Dr. Gangaprasad A Waghmare
Anmol Apartment, Sector-7,
Koperkhairane Navi Mumbai 400 709
Maharashtra
E.mail: drgw007@gmail.com

Sample submitted by : Party

Sample Name: Bharangyadi Talia

Received by us On : 11 Jan 2020

Description: Liquid
Qty: 250 ml
Packing Details: Plastic Bottle

Analysis Started On : 11 Jan 2020

Completed On : 14 Jan 2020

Sr.No	Parameter	Test Method	Unit	Results
Chemical & Physical				
1	Acid Value	IS : 548 (Part 1) -1964 RA 2010	--	1.24
2	Iodine Value	IS : 548 (Part 1) -1964 RA 2010	--	106.59
3	pH	pH meter	--	6.89
4	Saponification Value	IS : 548 (Part 1) -1964 RA 2010	mg of KOH / gm of oil	162.8
5	Viscosity	By Viscometer	cSt	73.86
Instrumental				
6	Refraction Index	IS : 548 (Part 1) -1964 RA 2010	--	1.4740

End of the test report



Ms. Manisha Gawand
Ms. Manisha Gawand
Technical Manager
Authorized Signatory



Central Laboratory: 1st Floor, Unit No. 1,
Linking Complex II, Plot No. 9 & 10, Sector 19 A,
APMC Market 2, Vashi, Navi Mumbai 400 703, India

Tel: +91 22 41239185 / 27831919
Fax: +91 22 27831911
Mob: +91 98677 91055 / 81696 66785

E-mail: info@bth.co.in
Website: www.bth.co.in
CIN: U14300, 2001P1001724

Date: 16 Jan 2020

TEST REPORT

No. BTH/TR/004061/23889/19-20

Dr. Gangaprasad A Waghmare
Anmol Apartment, Sector-7,
Koperkhairane Navi Mumbai 400 709
Maharashtra
E-mail: drgw007@gmail.com

Sample submitted by: Party

Sample Name: Anu Taila

Description: Liquid
Qty: 250 ml
Packing Details: Plastic Bottle

Received by us On: 11 Jan 2020

Analysis Started On: 11 Jan 2020

Completed On: 14 Jan 2020

Sr.No	Parameter	Test Method	Unit	Results
Chemical & Physical				
1	Acid Value	IS : 548 (Part 1) -1964 RA 2010	mg of KOH/g	6.61
2	Iodine Value	IS : 548 (Part 1) -1964 RA 2010	--	106.35
3	pH	pH meter	--	6.92
4	Saponification Value	IS : 548 (Part 1) -1964 RA 2010	mg of KOH / gm of oil	193.4
5	Viscosity	By Viscometer	cSt	75.20
Instrumental				
6	Refraction Index	IS : 548 (Part 1) -1964 RA 2010	--	1.4727

End of the test report



Manisha Gawand
Ms. Manisha Gawand
Technical Manager
Authorized Signatory



Clinical Trial Details (PDF Generation Date :- Fri, 18 Mar 2022 06:27:16 GMT)

CTRI Number	CTRI/2020/12/029665 [Registered on: 09/12/2020] - Trial Registered Prospectively																	
Last Modified On	15/01/2022																	
Post Graduate Thesis	Yes																	
Type of Trial	Interventional																	
Type of Study	Ayurveda																	
Study Design	Randomized, Parallel Group, Active Controlled Trial																	
Public Title of Study	A clinical trial to study the effects of two Ayurveda Drugs, Bharangyadi Taila Nasya and Anu Taila Nasya in Patients of Pratishyaya with special reference to Allergic Rhinitis.																	
Scientific Title of Study	Randomised Comparative Clinical Study to Evaluate the Effect of Bharangyadi Taila Nasya and Anu Taila Nasya in the Management of Pratishyaya with special reference to Allergic Rhinitis.																	
Secondary IDs if Any	Secondary ID	Identifier																
	NIL	NIL																
Details of Principal Investigator or overall Trial Coordinator (multi-center study)	<table border="1"> <thead> <tr> <th colspan="2">Details of Principal Investigator</th> </tr> </thead> <tbody> <tr> <td>Name</td> <td>Gangaprasad A Waghmare</td> </tr> <tr> <td>Designation</td> <td>PhD Scholar</td> </tr> <tr> <td>Affiliation</td> <td>Tilak Maharashtra Vidyapeeth, Pune</td> </tr> <tr> <td>Address</td> <td>Tilak Maharashtra Vidyapeeth Department Of Ayurveda, TMV Colony, Gultekadi, Pune. Tilak Maharashtra Vidyapeeth Department Of Ayurveda, TMV Colony, Gultekadi, Pune. Pune MAHARASHTRA 411037 India</td> </tr> <tr> <td>Phone</td> <td>9096566633</td> </tr> <tr> <td>Fax</td> <td></td> </tr> <tr> <td>Email</td> <td>drgw007@gmail.com</td> </tr> </tbody> </table>		Details of Principal Investigator		Name	Gangaprasad A Waghmare	Designation	PhD Scholar	Affiliation	Tilak Maharashtra Vidyapeeth, Pune	Address	Tilak Maharashtra Vidyapeeth Department Of Ayurveda, TMV Colony, Gultekadi, Pune. Tilak Maharashtra Vidyapeeth Department Of Ayurveda, TMV Colony, Gultekadi, Pune. Pune MAHARASHTRA 411037 India	Phone	9096566633	Fax		Email	drgw007@gmail.com
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Source of Monetary or Material Support

Phone	411037 India
Fax	9096566633
Email	drgw007@gmail.com

Primary Sponsor

Source of Monetary or Material Support
> Department Of Ayurveda Tilak Maharashtra Vidyapeeth, Pune

Details of Secondary Sponsor

Primary Sponsor Details	
Name	Gangaprasad A Waghmare
Address	Tilak Maharashtra Vidyapeeth Department Of Ayurveda, TMV Colony, Gultekadi, Pune.
Type of Sponsor	Other [SELF]

Countries of Recruitment

Name	Address
NIL	NIL

Sites of Study

List of Countries
India

Name of Principal Investigator	Name of Site	Site Address	Phone/Fax/Email
Dr Gangaprasad A Waghmare	Mittal Hospital	Netaji Subhash Road, Department of Shalakya Tantra, First floor, OPD No. 10, Mumbai. MAHARASHTRA	9096566633 drgw007@gmail.com

Details of Ethics Committee

Name of Committee	Approval Status	Date of Approval	Is Independent Ethics Committee?
Institutional Ethics Committee	Approved	03/01/2020	No

Regulatory Clearance Status from DCGI

Status	Date
Not Applicable	No Date Specified

Health Condition / Problems Studied

Health Type	Condition
Patients	Acute nasopharyngitis [common cold]

Intervention / Comparator Agent

Type	Name	Details
Intervention	Bharangyadi Taila	DOSE: 6 Drops in Each Nostril Only Once in the Morning. ROUTE: Nasal Route DURATION : 21 Days. REF: Charak Samhita. Chikitsa. Chapter : 26/153
Comparator Agent	Anu Taila	DOSE: 6 Drops in Each Nostril Only Once in the Morning. ROUTE: Nasal Route DURATION : 21 Days. REF: Charak Samhita Chikitsa Chapter: 26/139-141

Inclusion Criteria

Inclusion Criteria	
Age From	20.00 Year(s)
Age To	60.00 Year(s)
Gender	Both



Exclusion Criteria

Details	
	1. Patients who fulfill diagnostic criteria of Pratishyay (Allergic Rhinitis). 2. Patients suffering from Vataj, Pittaj , Kaphaj & Sannipataj Pratishyaya. 3. Patients having allergic history 4. Rhinoscopic Examination Suggesting Allergic Rhinitis.

Details	Exclusion Criteria
	1. Pregnant & lactating mothers. 2. Patient who are not willing to participate. 3. Patient suffering from nasal polyp, epistaxis, Benign & Malignant tumors. 4. Patient having major nasal Structural Deformity. 5. Patient having Immunosuppression.

Method of Generating Random Sequence

Coin toss, Lottery, toss of dice, shuffling cards etc

Method of Concealment

Not Applicable

Blinding/Masking

Participant Blinded

Primary Outcome

Outcome	Timepoints
ANTIALLERGIC EFFECT OF NASYA	21 DAYS

Secondary Outcome

Outcome	Timepoints
ANTIALLERGIC EFFECT OF NASYA	15 DAYS

Target Sample Size

Total Sample Size=330 Sample Size from India=330 Final Enrollment numbers achieved (Total)=330 Final Enrollment numbers achieved (India)=335

Phase of Trial

N/A

Date of First Enrollment (India)

24/12/2020

Date of First Enrollment (Global)

No Date Specified

Estimated Duration of Trial

Years=2 Months=0 Days=0

Recruitment Status of Trial (Global)

Completed

Recruitment Status of Trial (India)

Completed

Publication Details

Nil

Brief Summary

This Study entitled Randomised Comparative Clinical study to evaluate the effect of Bharangyadi Taila Nasya and Anu Taila Nasya in the Management of Pratishyaya with special reference to 'Allergic Rhinitis'.

330 patients who fulfilled the inclusive criteria were being selected irrespective of sex, religion, economic status and marital status. The methods of diagnosis was done on Ayurvedic lines which includes chief complaints of patient and its duration, sign, symptoms, detail personal and family history was taken Sarvadehik parikshan was done on the basis of Prakriti pariksha as well as Ashtavidh pariksha. Nasa parikshan was done in detail subsequently with the help of modern viewing



technique like Rhinoscopy.

Subject were grouped into 2 groups. Group A Subject were treated with Bharangyadi Taila Nasya 6 drops in each nostril while Group A Subject were treated with Anu Taila Nasya 6 drops in each nostril for 21 days in 3Sittings having 3 day interval .

Assessment were done on the basis of Improvement in the signs and symptoms of the disease on the basis of the score decided and Results obtained in the biochemical parameters & Assessment of Turbinate. During the course of treatment, No any serious condition or any serious adverse events was obserevred. The overall effect of the clinical trial was assessed by considering all the parameters of assessment before and after treatment as follows;

MASTER CHART (EXPERIMENTAL GROUP)																																												
Group A																			PARIKSHANA												VIHESH PARIKSHA													
								PERSONAL HISTORY											ASHTAVIDHA PARIKSHA												SAMANYA PARIKSHA						SUBJECTIVE						OBJECTIVE	
										AHAR					VIHAR																						RHINOR HEA	BLOCKI NG OF NOSE		SNEEZI NG	HEAVINESS OF HEAD		TURBINATE SIZE	
Sr. No	OPD No	Age	Sex	Reli gion	Edu. Status	Eco. Status	Marital Status	Family History	Past History	Praman	Domina nt Rasa	Dominant Guna	Veg	Non- Veg	Resid ence	Nature of work	Vyasan	Nidra	Nadi	Mala	Mutra	Jivha	Shabda	Sparsha	Drik	Akriti	Height	Weight	Prakruti	Agni	Dosh Dushti	Dushya Dushti	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	48	49		
1	4662	26	M	M	G	M	U	FS	B	AD	K	R+S	✓	✓	P	E	-	RJ	R	S	S	N	S	AS	S	M	5'7"	65	KV	S	V+K	R+RT+M+A	2	0	3	2	3	1	2	1	3	2		
2	4768	46	M	H	G	M	M	BS	C	S	K	Sn+U	✓	-	P	O	A	S	R	S	S	S	S	AS	S	M	5,6"	78	KV	S	V+K	R+RT+M	4	1	2	1	2	1	3	1	2	1		
3	4798	38	M	H	G	M	M	-	B	V	K	R+S	✓	✓	U	O	A	S	R	S	S	N	S	AS	S	M	5'7"	69	KV	V	V+K	R+RT+M+A	2	0	3	2	4	2	3	2	3	2		
4	4807	41	F	H	G	M	M	-	C	S	K	R+S	✓	-	U	O	-	S	R	S	S	N	S	AS	S	S	5'4"	55	KV	S	V+K	R+RT+M	3	1	2	1	3	1	2	0	2	1		
5	4852	48	F	H	M	L	M	-	B	S	M	R+S	✓	-	U	L	-	S	R	MB	S	N	S	V+	AS	S	M	5'6"	54	KV	S	V+K	R+RT+M+A	3	1	3	1	3	1	3	1	3	1	
6	4877	49	F	H	M	L	M	-	C	S	M	R+S	✓	-	U	L	-	S	R	S	S	N	S	AS	S	M	5'2"	56	KV	S	V+K	R+RT+M	2	0	2	1	2	0	3	2	2	1		
7	4925	43	M	M	M	L	M	BS	C	S	K	R+S	✓	✓	P	L	T	S	R	S	S	N	S	AS	S	M	5'6"	77	KP	S	V+P	R+RT	3	1	2	1	1	0	2	1	2	1		
8	4950	60	F	H	P	M	M	-	C	A	M	R+S	✓	-	P	H	-	DW	R	MB	S	S	R	S	A	S	5'3"	54	KV	M	V+K	R+RT	2	1	1	0	2	0	3	1	1	1		
9	4994	40	M	H	G	M	M	-	C	S	K	R+S	✓	-	U	O	S	S	R	S	S	N	S	AS	S	M	5'7"	68	KV	S	V+K	R+M+A	2	0	2	1	2	0	2	0	2	1		
10	5065	38	F	B	HS	M	M	-	C	AD	M	Sn+U	✓	✓	P	H	-	S	R	S	S	N	S	AS	S	S	5'1"	52	VP	V	V+P	R+RT+M+A	3	0	3	2	4	2	3	1	3	2		
11	2087	46	M	H	G	M	M	-	C	S	K	Sn+U	✓	-	U	O	A	S	R	S	S	S	S	AS	S	M	5'8"	72	VP	S	V+P	R+M	4	1	2	1	3	1	2	1	2	1		
12	5165	20	M	H	HS	H	U	FS	A	AD	M	R+S	✓	-	U	E	-	DW	R	S	S	N	A	AS	S	M	5'4"	55	KP	S	V+P	R+RT+M	3	1	2	1	2	0	3	1	2	1		
13	5204	60	F	H	P	M	M	-	C	A	M	R+S	✓	-	P	H	-	S	R	MB	S	S	R	S	A	S	5'2"	58	KV	M	V+K	R+RT+M	4	2	2	1	3	1	3	1	2	1		
14	5215	46	M	H	G	M	M	BS	C	S	K	Sn+U	✓	✓	U	O	S	S	R	S	S	S	S	AS	S	M	5'8"	69	KV	S	V+K	R+RT+M	2	1	2	1	2	0	1	0	2	1		
15	5218	39	F	H	HS	L	M	-	C	V	M	R+S	✓	-	P	L	-	S	R	S	S	N	S	AS	S	K	5'4"	42	KP	V	V+P	R+M	3	1	2	0	3	1	2	1	2	1		
16	5263	22	M	H	HS	M	U	FS	A	AD	K	R+S	✓	-	U	E	-	RJ	R	S	S	N	S	AS	S	M	5'6"	66	KV	T	V+K	R+RT+M	3	1	2	0	2	0	2	0	2	1		
17	5281	32	M	H	G	M	M	SS	B	S	A	R+S	✓	-	U	O	A	S	R	S	S	N	S	AS	S	S	6'	82	KV	V	V+K	R+RT	2	0	3	1	4	2	3	2	3	1		
18	5321	35	F	H	G	M	M	-	C	V	A	Sn+U	✓	-	U	O	-	S	R	MB	S	N	S	AS	S	M	5'2"	45	KP	V	V+P	R+RT+M	4	1	2	0	3	1	2	0	2	1		
19	5424	49	M	H	G	M	M	-	C	S	K	R+S	✓	✓	U	O	-	S	R	S	S	S	S	AS	S	M	5'6"	68	KV	M	V+K	R+RT+M	3	1	2	1	3	1	3	2	2	1		
20	5503	40	M	H	G	M	M	BS	C	S	M	R+S	✓	-	U	O	A	S	R	S	S	N	S	AS	S	M	5'9"	66	KV	V	V+K	R+RT+M	4	1	2	1	2	1	3	2	2	1		
21	5506	35	M	H	G	M	M	SS	C	V	K	R+S	✓	-	U	O	-	S	R	S	S	N	S	AS	S	M	5'6"	77	KV	S	V+K	R+RT+M	2	1	2	0	2	0	2	1	2	1		
22	5733	60	M	H	HS	L	M	-	C	A	M	R+S	✓	-	P	L	T	DW	R	MB	S	S	R	S	A	M	5'5"	62	KV	M	V+K	R+M	4	1	1	0	2	0	2	0	1	1		
23	5933	20	F	H	HS	M	U	MS	A	AD	M	R+S	✓	-	P	E	-	RJ	R	S	S	N	A	AS	S	M	5'3"	48	KV	S	V+K	R+RT+M	3	1	2	1	1	0	2	0	2	1		
24	6164	37	M	H	G	M	M	SS	C	S	K	R+S	✓	✓	U	O	A	S	R	S	S	N	S	AS	S	M	5'6"	69	KV	S	V+K	R+M+A	2	0	2	1	3	1	2	1	2	1		
25	6432	29	F	H	G	M	U	MS	B	AD	A	Sn+U	✓	-	U	O	-	RJ	R	S	S	N	S	AS	S	M	5'4"	48	KP	S	V+P	R+RT+M	3	0	1	0	4	2	3	2	1	1		
26	6467	32	F	H	G	M	M	SS	B	S	A	R+S	✓	-	U	O	-	S	R	S	S	N	S	AS	S	S	5'3"	55	KV	S	V+K	R+M+A	4	1	2	1	3	1	3	1	2	1		
27	6474	29	M	H	G	M	U	BS	B	AD	K	Sn+U	✓	✓	U	O	A	S	R	S	S	N	S	AS	S	M	5'6"	71	KP	S	V+P	R+RT+M	4	1	2	1	2	0	2	0	2	1		
28	6560	34	F	H	G	M	M	SS	B	S	M	R+S	✓	-	U	O	-	S	R	S	S	N	S	AS	S	S	5'2"	53	KV	S	V+K	R+RT+M+A	2	0	3	2	2	1	3	1	3	2		
29	6583	59	F	H	M	L	M	-	C	A	A	R+S	✓	-	P	L	-	DW	R	MB	S	S	R	S	A	S	5'1"	52	KV	M	V+K	R+M+A	3	0	3	1	2	0	3	2	3	1		
30	6627	46	M	H	HS	L	M	BS	C	S	M	R+S	✓	✓	U	L	T	S	R	S	S	S	S	AS	S	M	5'8"	78	VP	V	V+P	R+RT+M	3	1	2	1	1	0	2	0	2	1		
31	6658	60	M	H	HS	L	M	-	C	A	M	R+S	✓	-	U	L	T	DW	R	MB	S	S	R	AS	A	M	6'	79	KV>															

72	2649	29	M	H	G	M	U	MS	B	S	K	R+S	√	-	U	O	S	S	R	S	S	N	S	AS	S	M	6'	69	KP	S	V+P	R+RT+M	2	1	2	1	2	0	3	1	2	1
73	2859	60	M	H	M	L	M	-	C	A	M	R+S	√	-	P	L	T	DW	R	MB	S	S	R	AS	A	M	5'8"	68	KV	M	V+K	R+RT+M	3	1	2	1	3	1	3	1	2	1
74	2905	30	F	M	HS	M	U	BS	B	S	M	Sn+U	√	√	P	O	-	S	R	S	S	N	S	AS	S	S	5'4"	54	KV	S	V+K	R+RT+M	3	1	2	1	2	0	1	0	2	1
75	2938	26	F	H	G	M	U	SS	B	AD	A	R+S	√	-	U	E	-	RJ	R	S	S	N	S	AS	S	M	5'7"	49	KP	S	V+P	R+M	2	0	2	0	3	1	2	1	2	1
76	2952	54	M	H	HS	M	M	-	C	S	M	R+S	√	-	U	O	S	S	R	MB	S	S	S	AS	A	M	5'6"	78	KV	M	V+K	R+RT+M	4	1	2	0	2	0	2	0	2	1
77	3194	45	F	M	P	L	M	-	C	S	M	R+S	√	√	P	L	-	S	R	MB	S	S	S	AS	S	S	5'1"	54	KV	V	V+K	R+RT	3	1	3	1	4	2	3	1	3	1
78	3282	38	F	M	M	L	M	-	B	V	M	Sn+U	√	√	P	L	-	S	R	S	S	N	S	AS	S	M	5'3"	49	KP	S	V+P	R+RT+M	4	1	2	0	3	1	2	0	2	1
79	3297	55	M	M	P	L	M	-	C	A	K	R+S	√	√	P	L	T	S	R	S	S	S	R	S	A	M	5'8"	68	KV	S	V+K	R+RT+M	2	1	2	1	3	1	3	2	2	1
80	3359	23	F	H	HS	M	U	MS	B	V	M	R+S	√	-	U	E	-	RJ	R	S	S	N	S	AS	S	K	5'2"	42	KV	S	V+K	R+RT+M	4	1	2	1	2	1	3	1	2	1
81	3373	38	F	M	HS	M	M	-	B	S	M	R+S	√	√	P	O	-	S	R	MB	S	N	S	AS	S	M	5'4"	45	KV	V	V+K	R+RT+M	3	1	2	0	2	0	2	1	2	1
82	3403	27	M	M	G	M	U	SS	B	AD	K	R+S	√	√	P	O	-	RJ	R	S	S	N	S	AS	S	M	5'7"	65	KV	S	V+K	R+M	2	0	1	0	2	0	2	0	1	1
83	3531	20	M	M	HS	M	U	FS	A	S	K	R+S	√	√	P	E	-	RJ	R	S	S	N	A	AS	S	M	5'6"	60	KV	T	V+K	R+RT+M	3	0	2	1	1	0	2	0	2	1
84	3562	38	F	H	G	M	M	-	B	S	M	R+S	√	-	U	O	-	S	R	S	S	N	S	AS	S	S	5'3"	50	KV	S	V+K	R+M+A	4	1	2	1	3	1	2	1	2	1
85	3576	27	F	H	G	M	U	FS	B	AD	M	Sn+U	√	-	U	E	-	S	R	S	S	N	S	AS	S	S	5'4"	51	KP	S	V+P	R+RT+M	4	1	1	0	4	2	3	1	1	1
86	3811	43	F	H	HS	M	M	-	B	S	M	R+S	√	√	U	O	-	S	R	S	S	S	S	AS	S	M	5'4"	52	KV	M	V+K	R+M+A	2	0	2	1	3	1	3	1	2	1
87	3958	22	F	H	HS	M	U	MS	A	AD	A	Sn+U	√	-	U	E	-	RJ	R	S	S	N	S	AS	S	M	5'2"	45	KP	S	V+P	R+RT+M	3	0	2	1	2	0	2	0	2	1
88	4031	37	F	H	HS	M	M	-	B	S	K	R+S	√	-	U	H	-	S	R	S	S	N	S	AS	S	M	5'3"	52	KV	S	V+K	R+RT+M+A	3	1	3	2	2	0	3	1	3	2
89	4097	36	M	M	G	M	M	BS	B	S	K	R+S	√	√	P	O	A	S	R	MB	S	N	S	AS	S	M	5'7"	66	KV	S	V+K	R+M+A	4	1	3	1	2	0	3	2	3	1
90	4195	25	F	H	G	M	U	MS	B	AD	K	R+S	√	-	U	E	-	RJ	R	S	S	N	S	AS	S	S	5'3"	52	VP	S	V+P	R+RT+M	2	0	2	1	1	0	2	0	2	1
91	4244	30	F	M	G	M	M	SS	B	S	M	R+S	√	√	P	O	-	S	R	S	S	N	S	AS	S	M	5'4"	55	KV	S	V+K	R+RT+M+A	3	1	3	2	3	1	2	1	3	2
92	4343	47	F	H	HS	M	M	-	C	S	M	Sn+U	√	-	P	H	-	S	R	S	S	S	S	AS	S	S	5'3"	60	KV	M	V+K	R+RT+M	3	1	2	1	2	1	3	1	2	1
93	4425	41	M	H	G	M	M	BS	B	S	K	R+S	√	-	U	O	A	S	R	S	S	N	S	AS	S	M	5'8"	72	KV	V	V+K	R+RT+M+A	2	0	3	2	4	2	3	2	3	2
94	4483	46	M	H	G	M	M	-	C	V	K	R+S	√	√	U	O	A	S	R	S	S	N	S	AS	S	M	5'7"	78	KV	S	V+K	R+RT+M	3	1	2	1	3	1	2	0	2	1
95	4602	49	M	H	G	M	M	-	C	S	K	R+S	√	-	U	O	S	S	R	S	S	S	R	AS	S	M	6'	82	KV	V	V+K	R+RT+M+A	2	1	3	1	3	1	3	1	3	1
96	4791	50	F	H	P	L	M	-	C	A	M	R+S	√	-	P	L	-	S	R	MB	S	S	S	AS	A	M	5'2"	50	KV	M	V+K	R+RT+M	2	0	2	1	2	0	3	1	2	1
97	4924	20	M	M	HS	M	U	MS	A	AD	M	R+S	√	√	P	E	-	RJ	R	S	S	N	A	AS	S	M	5'4"	65	KP	T	V+P	R+RT	3	0	2	1	1	0	2	0	2	1
98	5017	52	F	H	P	M	M	-	C	S	M	R+S	√	-	P	H	-	DW	R	MB	S	S	S	AS	A	S	5'1"	55	KV	M	V+K	R+RT	4	1	1	0	2	0	3	1	1	1
99	5148	42	M	H	M	L	M	BS	B	S	M	R+S	√	-	P	L	T	S	R	S	S	N	S	AS	S	M	5'8"	69	KV	S	V+K	R+M+A	3	1	2	1	2	0	2	0	2	1
100	5152	29	M	H	G	M	U	FS	B	V	K	Sn+U	√	-	U	O	-	S	R	S	S	N	S	AS	S	K	5'9"	64	VP	S	V+P	R+RT+M+A	4	2	3	2	4	2	3	1	3	2
101	5207	44	M	M	HS	M	M	-	C	S	K	Sn+U	√	√	P	O	A	S	R	S	S	S	S	AS	S	M	5'7"	74	VP	V	V+P	R+M	2	1	2	1	3	1	2	0	2	1
102	5297	22	M	H	HS	M	U	FS	A	AD	K	R+S	√	√	P	E	-	RJ	R	S	S	N	S	AS	S	M	5'8"	65	KP	S	V+P	R+RT+M	3	1	2	1	2	0	3	1	2	1
103	5589	59	F	H	M	M	M	-	C	A	M	R+S	√	-	U	H	-	S	R	MB	S	S	S	AS	A	M	5'4"	52	KV	M	V+K	R+RT+M	3	1	2	1	3	1	3	1	2	1
104	5687	60	F	H	P	L	M	-	C	A	M	Sn+U	√	-	U	H	-	DW	R	MB	S	S	R	S	A	M	5'2"	49	KV	M	V+K	R+RT+M	2	0	2	1	2	0	1	0	2	1
105	5945	27	M	H	G	M	U	MS	B	AD	K	R+S	√	√	P	E	-	RJ	R	S	S	N	S	AS	S	M	6'	78	KP	S	V+P	R+M	4	1	2	0	3	1	2	1	2	1
106	6067	43	M	H	G	M	M	-	C	S	K	R+S	√	-	P	O	S	S	R	MB	S	S	S	AS	S	M	5'7"	77	KV	S	V+K	R+RT+M	3	1	2	0	2	0	2	0	2	1
107	6502	33	F	H	G	M	M	SS	B	V	M	R+S	√	-	U	O	-	S	R	S	S	N	S	AS	S	S	5'3"	51	KV	S	V+K	R+RT	4	1	3	1	4	2	3	1	3	1
108	6633	43	M	H	G	M	M	-	C	S	K	Sn+U	√	√	P	O	-	S	R	S	S	N	S	AS	S	M	5'8"	69	KP	V	V+P	R+RT+M	2	1	2	0	3	1	2	0	2	1
109	6703	60	M	H	G	M	M	-	C	A	M	R+S	√	-	P	O	-	DW	R	MB	S	S	R	S	A	M	5'9"	71	KV	M	V+K	R+RT+M	4	1	2	1	3	1	3	2	2	1
110	6813	52	F	H	HS	M	M	-	C	S	M	R+S	√	-	U	H	-	DW	R	MB	S	S	S	AS	A	S	5'1"	52	KV	M	V+K	R+RT+M	3	1	2	1	2	1	3	1	2	1
111	6874	20	M	H	HS	M	U	MS	A	AD	M	R+S	√	√	P	E	-	RJ	R	S	S	N	S	AS	S	M	5'4"	68	KV	T	V+K	R+RT+M	2	0	2	0	2	0	2	1	2	1
112	6949	26	M	H	G	M	U	SS	B	AD	M	R+S	√	√	P	O	A	S	R	S	S	N	S	AS	S	M	5'8"	69	KV	S	V+K	R+M	3	0	1	0	2	0	2	0	1	1
113	7293	24	M	H	G	M	U	FS	A	V	K	R+S	√	-	P	E	-	RJ	R	S	S	N	S	AS	S	K	5'7"	64	KV	S	V+K	R+RT+M	4	1	2	1	1	0	2	0	2	1
114	7395	45	M	H	G	M	M	-	C	S	K	R+S	√	-	P	O	A	S	R	S	S	S	S	AS	S	M	5'8"	78	KV	V	V+K	R+M+A	4	1	2	1	3	1	2	1	2	1
115	7426	40	F	M	M	L	M	-	C	S	M	Sn+U	√	√	U	L	-	S	R	S	S	N	S	AS	S	S	5'3"	52	KP	S	V+P	R+RT+M	2	0	1	0	4	2	3	1	1	1
116	7448	52	F	H	HS	M	M	-	C	A	M	R+S	√	-	U	H	-	S	R	MB	S	S	S	AS	A	M	5'4"	49	KV	V	V+K	R+M+A	3	0	2	1	3	1	3	1	2	1
117	7602	54	M	M	P	L	M	-	C	A	M	Sn+U	√	√	P	L	T	S	R	MB	S	S	R	AS	A	M	6'	78	KP	M	V+P	R+RT+M	3	1	2	1	2	0	2	0	2	1
118	7716	49	M	H	G	M	M	-	C	S	K	R+S	√	-	U	O	S	S	R	MB	S	S	S	AS	S	M	5'7"	81	KV	S	V+K	R+RT+M+A	4	1	3	2	2	0	3	1	3	2
119	7754	26	F	M	G	M	U	SS	B	V	M	R+S	√	√	P	O	-	S	R	S	S	N	S	AS	S	M	5'4"	45	KV	S	V+K	R+M+A	2	0	3	1	2	0	3	2	3	1
120	7816	22	F	H	HS	M	U	MS	A	AD	M	R+S	√	-	U	E	-	RJ																								

136	9376	40	F	H	G	M	M	-	C	S	M	R+S	√	-	U	O	-	S	R	S	S	N	S	AS	S	M	5'7"	51	KV	S	V+K	R+RT+M	4	1	2	0	2	0	2	0	2	1
137	9402	51	M	B	G	M	M	-	C	S	M	R+S	√	√	P	O	S	S	R	S	S	S	R	AS	A	M	5'8"	76	KV	V	V+K	R+RT	2	1	3	1	4	2	3	1	3	1
138	9411	25	F	H	G	M	U	SS	B	V	M	Sn+U	√	√	U	E	-	S	R	S	S	N	S	AS	S	M	5'4"	49	KP	S	V+P	R+RT+M	4	1	2	0	3	1	2	0	2	1
139	9503	50	F	H	HS	H	M	-	C	S	M	R+S	√	-	U	H	-	S	R	MB	S	S	S	AS	A	S	5'1"	56	KV	V	V+K	R+RT+M	3	1	2	1	3	1	3	2	2	1
140	15	22	F	H	HS	M	U	FS	A	AD	M	R+S	√	-	U	E	-	RJ	R	S	S	N	A	AS	S	M	5'3"	48	KV	T	V+K	R+RT+M	2	0	2	1	2	1	3	1	2	1
141	99	29	M	H	G	M	U	-	B	S	K	R+S	√	√	U	O	A	S	R	S	S	N	S	AS	S	M	5'7"	65	KV	S	V+K	R+RT+M	3	0	2	0	2	0	2	1	2	1
142	173	56	F	H	M	L	M	-	C	A	M	R+S	√	-	U	L	-	DW	R	MB	S	S	R	S	A	M	5'2"	52	KV	M	V+K	R+M	4	1	1	0	2	0	2	0	1	1
143	261	42	F	M	HS	M	M	-	C	S	M	R+S	√	√	P	O	-	S	R	S	S	N	S	AS	S	S	5'3"	58	KV	V	V+K	R+RT+M	4	1	2	1	1	0	2	0	2	1
144	286	26	F	H	G	M	U	MS	B	V	M	R+S	√	-	U	E	-	S	R	S	S	N	S	AS	S	M	5'3"	54	KV	S	V+K	R+M+A	2	0	2	1	3	1	2	1	2	1
145	321	30	M	H	G	M	U	SS	B	S	K	Sn+U	√	√	P	O	A	S	R	S	S	N	S	AS	S	M	5'8"	74	KP	S	V+P	R+RT+M	3	0	1	0	4	2	3	1	1	1
146	340	50	M	H	G	M	M	-	C	A	M	R+S	√	-	U	O	-	S	R	MB	S	S	R	AS	A	M	5'7"	76	KV	V	V+K	R+M+A	3	1	2	1	3	1	3	1	2	1
147	385	43	F	H	G	M	M	-	C	S	M	Sn+U	√	√	U	O	-	S	R	S	S	S	S	AS	S	S	5'4"	54	KP	S	V+P	R+RT+M	3	1	2	1	2	0	2	0	2	1
148	454	21	F	H	HS	L	U	SS	A	AD	M	R+S	√	-	U	E	-	RJ	R	S	S	N	S	AS	S	M	5'3"	49	KV	S	V+K	R+RT+M+A	2	0	3	2	2	0	3	1	3	2
149	480	33	M	H	G	M	M	SS	B	V	K	R+S	√	√	U	O	A	S	R	S	S	N	S	AS	S	M	6'	69	KV	S	V+K	R+M+A	4	1	3	1	2	0	3	1	3	1
150	571	35	M	H	G	M	M	-	B	S	K	R+S	√	√	U	O	S	S	R	S	S	N	S	AS	S	M	5'7"	78	VP	S	V+P	R+RT+M	3	1	2	1	1	0	2	0	2	1
151	593	48	F	H	HS	M	M	-	B	S	M	R+S	√	-	U	H	-	S	R	MB	S	S	S	AS	S	S	5'2"	54	KV	V	V+K	R+RT+M	4	1	2	0	2	0	2	0	2	1
152	618	32	F	H	G	M	M	-	B	S	M	R+S	√	-	U	O	-	S	R	S	S	N	S	AS	S	M	5'4"	52	KV	S	V+K	R+RT	2	1	3	1	4	2	3	2	3	1
153	620	30	M	M	G	M	U	-	B	V	K	Sn+U	√	√	P	O	A	RJ	R	S	S	N	S	AS	S	M	5'8"	81	KP	S	V+P	R+RT+M	4	1	2	0	3	1	2	0	2	1
154	673	60	F	M	P	M	M	-	C	A	M	R+S	√	√	P	H	-	DW	R	MB	S	S	R	S	A	M	5'2"	54	KV	M	V+K	R+RT+M	3	1	2	1	3	1	3	2	2	1
155	792	40	F	M	M	L	M	-	B	S	M	R+S	√	√	P	L	-	S	R	S	S	N	S	AS	S	M	5'3"	52	KV	V	V+K	R+RT+M	2	0	2	1	2	1	3	1	2	1
156	81	37	M	H	G	M	M	-	B	S	K	R+S	√	-	U	O	A	S	R	S	S	N	S	AS	S	M	5'7"	65	KV	S	V+K	R+RT+M	3	0	2	0	2	0	2	1	2	1
157	845	52	F	H	HS	M	M	-	C	S	M	R+S	√	-	U	H	-	S	R	S	S	S	S	AS	A	M	5'4"	49	KV	M	V+K	R+M	4	1	1	0	2	0	2	0	1	1
158	873	20	F	H	HS	M	U	SS	A	AD	M	R+S	√	√	U	E	-	RJ	R	S	S	N	S	AS	S	M	5'2"	48	KV	S	V+K	R+RT+M	4	1	2	1	1	0	2	0	2	1
159	925	60	F	B	M	M	M	-	C	A	M	R+S	√	√	P	H	-	DW	R	MB	S	S	S	S	A	S	5'1"	51	KV	M	V+K	R+M+A	2	0	2	1	3	1	2	1	2	1
160	948	20	F	H	HS	M	U	BS	A	S	M	Sn+U	√	-	U	E	-	RJ	R	S	S	N	S	AS	S	M	5'4"	47	KP	S	V+P	R+RT+M	3	0	1	0	4	2	3	1	1	1
161	961	30	M	H	G	M	U	BS	B	V	K	R+S	√	√	U	O	S	S	R	S	S	N	S	AS	S	M	5'5"	69	KV	S	V+K	R+M+A	3	1	2	1	3	1	3	1	2	1
162	977	44	F	H	G	M	M	-	B	S	M	Sn+U	√	-	U	O	-	S	R	S	S	N	S	AS	S	M	5'3"	51	KP	V	V+P	R+RT+M	4	1	2	1	2	0	2	0	2	1
163	1125	20	F	H	HS	L	U	SS	A	V	K	R+S	√	√	U	E	-	RJ	R	S	S	N	S	AS	S	M	5'4"	46	KV	T	V+K	R+RT+M+A	2	0	3	2	2	0	3	1	3	2
164	1172	42	F	H	G	M	M	-	B	S	M	R+S	√	-	U	O	-	S	R	S	S	N	S	AS	S	M	5'4"	55	KV	V	V+K	R+M+A	3	0	3	1	2	0	3	1	3	1
165	1299	58	M	H	G	M	M	-	C	A	M	R+S	√	-	U	O	-	S	R	MB	S	S	R	S	A	M	5'7"	65	VP	M	V+P	R+RT+M	3	1	2	1	1	0	2	0	2	1

ABBREVIATION

Personal History										Score for Symptoms
Sex	Religion	Educational Status	Marital Status	Family History	Past History	Ahar				
M-Male	H- Hindu	U-Uneducated	M-Married	FS-Father Suffering from same disease	A- 1to2 Years	Praman	Dominant Rasa	Dominant Guna		
F-Female	B-Bouddha	P-Primary	U-Unmarried	SS-Sister Suffering from same disease	B-2to5 Years	A-Alpa	M-Madhur	U-Ushna		
	M-Muslim	M-Middle	Eco. Status	MS- Mother suffering from same disease	C->5 Years	S-Sama	A-Amla	R-Ruksha		
	C-Christan	HS- Higher secondary	L- Lower	BS-Brother suffering from same disease		Ad-Adhyashan	L-Lawan	S-Sheet		
		G- Graduation	M-Middle			V-Visham	K-Katu	Sn-Snigdha		
			H-Higher						BT- Before Treatment AT- After Treatment	

Ashtavidh Pariksha

VIHAR Residence	Nature Of Work	Nidra	Vyasan	Nadi	Sparsh	Jivha	Shabda	Prakruti	Agni	DOSH dushti	Dushya Dushty
	O-Official work		T- Tobacco	R- Regular	As- Anushnasheet		R- Ruksha	KV- Kaphavataj	S- Sama	V- Vata	R- Rasa
	L- Labour work		S- Smoking	I-Irregular	U- Ushna		S- Snigdha	KP- Kaphapittaj	M- Manda	P-Pitta	Rt- Rakta
	H-House Holdwork		A- Alcohol	Drik	S- Sheet		A- Anunasik	VP- Vatapittaj	T- Tikshna	K- Kapha	M- Mansa
	E- Education		Mala-Mutra		Akriti				V-Vishama		A- Asthi
			S-Samyak	S-Spashta	S-Sthula						Mj- Majja
			MB- Malabaddhata	A-Aspashta	M-Madhyam						
					K-Krusha						

MASTER CHART (STANDARD GROUP)	
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Group		B	PERSONAL HISTORY																PARTIKSRAMA												VIHESH PARIKSHA																		
																															SUBJECTIVE								OBJECTIVE										
Sr. No		OPD No		Age		Sex		Religion		Edu. Status		Eco. Status		Marital Status		Family History		Past History		AHAR				VIHAR				ASHTAVIDHA PARIKSHA						SAMANYA PARIKSHA						RHINORRHEA		BLOCKING OF NOSE		SNEEZING		HEAVINESS OF HEAD		TURBINATE SIZE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44						
1	4765	28	F	H	G	M	U	MS	A	V	M	R+S	✓	-	U	E	-	RJ	R	S	S	S	R	S	AS	S	M	54"	48	KV	M	V+K	R+RT+M+A	3	2	2	2	3	1	2	1	2	2						
2	4770	40	F	H	P	L	M	FS	C	AD	K	R+S	✓	-	P	H	-	S	R	S	S	S	N	S	AS	S	M	52"	52	VP	M	V+K	R+RT+M	2	1	1	0	2	1	3	1	1	1						
3	4805	32	M	H	G	M	M	SS	C	V	K	R+S	✓	✓	U	O	T	S	R	S	S	S	N	S	AS	S	M	58"	68	KP	V	V+K	R+RT+M+A	3	2	2	2	4	2	3	2	2	2						
4	4812	22	F	H	HS	L	U	MS	A	V	M	R+S	✓	-	P	E	-	RJ	R	S	S	S	N	S	AS	S	M	52"	46	KV	S	V+K	R+RT+M	3	1	2	2	3	1	2	0	2	2						
5	4876	49	F	H	P	L	M	-	A	AD	K	R+S	✓	-	P	H	S	-	S	R	S	S	S	S	AS	A	S	5'	55	VP	M	V+K	R+RT+M+A	3	1	2	2	3	2	3	1	2	2						
6	4919	50	F	M	M	L	M	-	C	AD	K	R+S	✓	✓	P	H	-	S	R	S	S	S	R	S	A	M	53"	58	KP	M	V+K	R+RT+M	3	2	3	3	2	0	3	1	3	3							
7	4947	60	M	H	G	M	M	-	C	A	M	R+S	✓	-	U	O	S	DW	R	MB	S	S	S	R	S	A	M	59"	76	KP	M	V+P	R+RT+M	3	2	3	2	1	0	2	0	3	2						
8	4953	20	M	M	HS	L	U	MS	A	V	M	R+S	✓	✓	P	E	T	RJ	R	S	S	S	N	S	AS	S	M	54"	64	KV	T	V+K	R+RT	1	0	2	2	2	0	3	1	2	2						
9	5006	33	M	H	G	M	M	SS	A	AD	K	R+S	✓	-	U	O	T	S	R	S	S	S	N	S	AS	S	S	59"	75	KV	S	V+K	R+M	2	2	3	3	2	1	2	0	3	3						
10	5089	33	F	C	G	M	M	SS	C	AD	M	Sn+U	✓	✓	U	O	-	S	R	S	S	S	N	S	AS	S	M	57"	53	KV	S	V+P	R+RT+M+A	3	2	2	2	4	2	3	1	2	2						
11	5139	60	F	H	M	L	M	-	C	A	M	Sn+U	✓	-	P	H	-	DW	R	MB	S	S	S	S	A	M	5'	52	KP	M	K+P	R+M	3	2	2	2	2	3	1	2	0	2							
12	5202	52	M	H	G	M	M	BS	C	A	M	R+S	✓	✓	U	O	A	S	R	S	S	S	S	R	AS	A	S	57"	76	VP	M	V+P	R+RT+M+A	3	2	1	1	2	0	3	1	1	1						
13	5205	25	F	B	G	M	U	BS	A	V	M	R+S	✓	-	U	E	-	RJ	R	S	S	S	N	S	AS	S	M	52"	46	KV	S	V+K	R+RT+M	1	0	3	3	3	1	3	1	3	3						
14	5212	60	M	H	P	L	M	-	C	A	M	Sn+U	✓	✓	P	H	T	DW	R	MB	S	S	S	R	S	A	S	59"	80	KP	M	V+K	R+RT+M	3	2	1	1	2	0	1	0	1	1						
15	5216	60	F	M	M	L	M	-	C	A	K	R+S	✓	✓	P	H	-	DW	R	MB	S	S	S	R	S	A	M	52"	58	KP	M	V+P	R+M	2	0	2	2	3	1	2	1	2	2						
16	5268	60	F	M	HS	M	M	SS	C	A	M	R+S	✓	✓	U	H	-	DW	R	MB	S	S	S	R	S	A	S	51"	56	KP	M	K+P	R+RT+M	2	1	0	0	2	0	2	0	1	1						
17	5309	60	F	H	HS	M	M	-	C	A	K	R+S	✓	-	U	H	-	DW	R	MB	S	S	S	R	S	A	S	52"	67	KV	M	V+K	R+RT	3	2	1	1	4	2	3	1	1	1						
18	5339	22	M	H	HS	L	U	SS	C	A	V	M	Sn+U	✓	-	P	E	-	RJ	R	S	S	N	S	AS	S	S	54"	59	KV	T	V+P	R+RT+M	2	0	0	0	3	1	2	0	1	1						
19	5969	57	F	M	M	L	M	-	C	A	K	R+S	✓	✓	P	H	-	DW	R	MB	S	S	S	N	S	AS	S	5'	56	VP	T	V+K	R+RT+M	1	0	2	2	2	3	1	2	0	2						
20	5507	48	M	H	HS	L	M	SS	B	AD	M	R+S	✓	-	P	O	S	S	R	S	S	S	N	R	AS	S	S	6'	78	KP	V	V+K	R+RT+M	3	2	2	2	2	1	3	1	2	2						
21	5509	60	M	H	HS	L	M	-	C	A	K	R+S	✓	-	P	O	A	DW	R	MB	S	S	S	R	S	A	S	57"	81	KV	M	V+K	R+RT+M	3	2	2	1	2	1	2	1	2	1						
22	5788	40	M	H	HS	L	M	-	B	AD	K	R+S	✓	✓	P	L	S	S	R	S	S	S	N	R	AS	S	S	58"	79	VP	V	V+K	R+M	1	0	2	2	2	0	2	0	2	2						
23	6007	27	F	H	G	M	U	BS	A	V	M	R+S	✓	-	U	O	-	RJ	K	S	S	S	N	S	AS	S	M	52"	48	KV	S	V+K	R+RT+M	3	1	1	1	1	0	2	0	1	1						
24	6372	35	M	H	G	M	U	MS	B	AD	A	R+S	✓	-	U	O	S	S	K	S	S	S	N	S	AS	S	M	59"	79	VP	V	V+K	R+M+A	1	0	3	3	3	1	2	1	3	2						
25	6457	60	M	H	HS	L	M	-	C	A	M	Sn+U	✓	-	P	O	A	DW	R	MB	S	S	S	R	S	A	S	58"	76	KP	M	V+P	R+RT+M	3	2	2	2	4	2	3	1	2	2						
26	6466	55	F	H	M	L	M	FS	C	V	M	R+S	✓	✓	P	H	-	DW	R	MB	S	S	S	S	A	M	5'	58	KP	M	V+K	R+M+A	1	0	3	3	3	1	3	1	3	3							
27	6533	60	M	H	HS	L	M	FS	C	A	K	Sn+U	✓	-	P	O	A	DW	R	MB	S	S	S	R	S	A	M	6'	82	KP	M	V+P	R+RT+M	2	1	0	0	2	0	2	0	2	1						
28	6566	41	M	H	G	M	M	BS	B	AD	K	R+S	✓	✓	U	O	S	S	R	S	S	S	N	R	AS	S	K	62"	79	KV	V	V+K	R+RT+M	2	1	3	3	2	1	3	1	3	3						
29	6593	25	F	H	G	M	U	SS	A	V	M	R+S	✓	-	U	E	-	RJ	R	S	S	S	N	S	AS	S	M	53"	49	KV	S	V+K	R+M+A	3	1	2	2	2	0	3	1	2	2						
30	6634	43	F	H	M	L	M	-	B	AD	A	R+S	✓	-	P	L	-	S	R	S	S	S	N	S	AS	S	M	52"	54	VP	V	V+P	R+RT+M	1	0	1	1	1	0	2	0	1	1						
31	6668	48	M	H	G	M	M	MS	B	AD	K	R+S	✓	✓	U	O	A	S	R	S	S	S	N	R	AS	S	M	59"	79	VP	V	V+K	R+RT+M+A	3	2	2	2	3	1	2	1	2	2						
32	6697	44	F	H	M	L	M	-	B	S	K	Sn+U	✓	-	P	L	-	S	R	S	S	S	N	S	AS	S	S	51"	56	VP	V	V+K	R+RT+M	2	1	1	0	2	1	3	1	1	1						
33	6805	20	F	M	M	HS	L	U	FS	A	V	M	R+S	✓	✓	P	E	T	RJ	R	S	S	S	N	S	AS	S	M	53"	54	KV	T	V+K	R+RT+M+A	3	2	2	2	4	2	3	2	2	2					
34	6825	27	F	H	G	M	U	BS	A	V	M	R+S	✓	-	U	E	-	RJ	R	S	S	S	N	S	AS	S	M	53"	49	KV	S	V+K	R+RT+M	3	1	2	2	3	1	2	0	2	2						
35	6876	37	F	H	G	M	M	-	B	AD	K	R+S	✓	-	U	O	-	S	R	S	S	S	N	S	AS	S	S	5'	53	KV	S	V+K	R+RT+M+A	2	0	2	2	3	2	3	1	2	2						
36	6903	44	M	H	G	M	M	MS	B	AD	K	R+S	✓	✓	P	O	S	S	R	S	S	S	S	R	AS	S	M	6'	76	VP	V	V+K	R+RT+M	3	2	3	3	2	0	3	1	3	3						
37	6911	37	F	H	G	M	U	-	B	S	M	R+S	✓	-	P	O	-	S	R	S	S	S	S	S	AS	S	M	54"	57	KV	S	V+P	R+RT	1	0	1	1	1	0	2	0	1	1						
38	6937	22	M	H	HS	L	U	SS	B	V	M	R+S	✓	✓	P	E	-	DW	R	S	S	S	S	N	S	AS	S	M	53"	52	KV	T	V+K	R+RT	1	0	2	2	2	1	3	1	2	2					
39	7030	20	F	H	HS	L	U	-	B	V	K	R+S	✓	-	P	E	-	RJ	R	S	S	S	N	S	AS	S	M	52"	50	KV	T	V+K	R+M	2	2	3	3	2	0	2	0	3	3						
40	7097	43	M	H	G	M	M	-	C	AD	K	Sn+U	✓	-	U	O	A	S	R	S	S	S	N	A	AS	S	M	57"	59	VP	V	V+P	R+RT+M+A	3	2	2	2	4	2	3	1	2	2						
41	7195	20	M	H	HS	M	U	FS	B	V	K	Sn+U	✓	✓	U	E	-	RJ	R	S	S	S	N	S	AS	S	M	52"	53	KV	T	V+P	R+M	3	2	2	2	3	1	2	0	2	2						
42	7215	60	M	H	M	L	M	-	C	A	M	R+S	✓	-	P	L	-	DW	K	MB	S	S	S	R	S	A	K	59"	58	KV	M	K+P	R+RT+M+A	3	2	2	1	2	0	3	2	2	1						
43	7296	27	M	H	G	M	U	MS	B	V	M	R+S	✓	✓	U	E	-	RJ	K	S	S	S	N	S	AS	S	K	6'	64	KV	S	V+K	R+RT+M+A	1	0	3	3	3	1	3	1	3	3						
44	7397	50	F	H	M	L	M	-	C	S	K	Sn+U	✓	✓	P	H	-	S	R	MB	S	S	S	R	S	A	S	5'	60	KV	M	V+K	R+RT+M	3	2	1	1	2	0	1	0	1	1						
45	7437	21	F	H	HS	L	U	MS	A	V	M	R+S	✓	-	P	E	-	RJ	R	S	S	S	N	S	AS	S	K	52"	43	KV	T	V+P	R+M	2	0</														

106	6405	23	F	M	HS	H	U	MS	A	V	M	R+S	✓	-	P	E	-	RJ	R	S	S	N	S	AS	S	M	5'3"	45	KV	S	V+K	R+RT+M	2	1	0	0	2	0	2	0	1	1	
107	6513	59	M	M	HS	L	M	-	C	A	M	R+S	✓	✓	P	O	S	DW	R	MB	S	S	R	AS	A	S	5'9"	78	KP	M	V+K	R+RT	3	2	1	1	4	2	3	2	1	1	
108	6671	20	M	H	HS	M	U	FS	A	AD	K	Sn+U	✓	-	U	E	-	DW	R	S	S	N	S	AS	S	K	5'4"	55	KV	S	V+P	R+RT+M	2	0	0	0	3	1	2	0	1	1	
109	6795	52	M	H	HS	L	M	-	C	S	M	R+S	✓	-	P	O	-	S	R	MB	S	S	R	AS	A	M	5'10"	75	KP	M	V+K	R+RT+M	1	0	2	2	3	1	3	2	2	2	
110	6864	25	M	H	G	H	U	MS	B	V	M	R+S	✓	-	U	E	-	DW	R	S	S	N	S	AS	S	M	5'6"	68	KV	S	V+K	R+RT+M	3	2	2	2	2	1	3	1	2	2	
111	6889	22	M	H	HS	M	U	MS	A	V	M	R+S	✓	✓	U	E	-	RJ	R	S	S	N	S	AS	S	M	5'4"	66	KV	T	V+K	R+RT+M	2	1	1	1	2	0	2	1	1	1	
112	7268	27	F	H	G	H	U	SS	B	V	M	R+S	✓	✓	U	E	-	DW	R	S	S	N	S	AS	S	M	5'2"	46	KV	S	V+K	R+M	1	0	2	2	2	1	2	0	2	2	
113	7348	43	M	H	G	M	M	-	C	AD	A	R+S	✓	-	P	O	S	S	R	S	S	S	R	AS	S	M	6'	81	VP	V	V+K	R+RT+M	3	1	1	1	1	0	2	0	1	1	
114	7423	26	M	H	G	M	U	SS	B	V	M	R+S	✓	-	P	E	-	RJ	R	S	S	N	S	AS	S	M	5'8"	68	KV	S	V+K	R+M+A	1	0	3	3	3	1	2	1	3	2	
115	7429	31	M	H	G	M	M	MS	B	AD	K	Sn+U	✓	✓	P	O	A	S	R	S	S	N	R	AS	S	S	5'7"	82	KV	S	V+P	R+RT+M	2	1	0	0	4	2	3	1	1	1	
116	7474	23	M	H	HS	M	U	SS	B	V	M	R+S	✓	✓	U	E	-	S	R	S	S	N	S	AS	S	M	5'6"	54	KV	S	V+K	R+M+A	1	0	3	3	3	1	3	1	3	3	
117	7643	30	M	H	G	M	U	SS	B	V	K	Sn+U	✓	-	U	O	S	RJ	R	S	S	N	S	AS	S	M	5'11"	69	KV	S	V+P	R+RT+M	2	1	0	0	2	0	2	0	1	1	
118	7742	40	F	M	HS	L	M	-	C	AD	M	R+S	✓	✓	P	H	-	S	R	S	S	N	S	AS	S	M	5'3"	55	VP	V	V+K	R+RT+M+A	2	1	3	3	2	1	3	1	3	3	
119	7787	24	M	M	G	M	U	SS	A	V	M	R+S	✓	✓	U	E	T	RJ	R	S	S	N	S	AS	S	S	5'9"	76	KV	S	V+K	R+M+A	3	1	2	2	2	0	3	1	2	2	
120	7846	35	F	H	HS	L	M	MS	B	V	K	R+S	✓	✓	P	H	-	S	R	S	S	N	S	AS	S	S	5'	56	VP	S	V+P	R+RT+M	1	0	1	1	1	0	2	0	1	1	
121	7947	60	M	H	M	L	M	-	C	A	M	R+S	✓	-	P	L	-	DW	R	MB	S	S	R	S	A	M	5'11"	77	KP	M	V+K	R+RT+M+A	3	2	2	2	3	1	2	1	2	2	
122	8128	33	M	H	G	M	U	MS	B	V	K	Sn+U	✓	-	U	O	S	S	R	S	S	N	R	AS	S	S	5'8"	76	VP	S	V+K	R+RT+M	2	1	1	0	2	1	3	1	1	0	
123	8169	24	F	H	G	M	M	-	B	V	K	R+S	✓	-	U	E	-	RJ	R	S	S	N	S	AS	S	M	5'2"	45	KV	S	V+K	R+RT+M+A	3	2	2	2	4	2	3	2	2	2	
124	8262	31	M	H	G	M	M	SS	B	AD	K	R+S	✓	✓	U	O	A	S	R	S	S	N	R	AS	S	S	5'7"	75	KV	S	V+K	R+RT+M	3	1	2	2	3	1	2	0	2	2	
125	8362	37	F	H	G	M	M	-	C	AD	K	R+S	✓	-	U	O	-	S	R	S	S	N	S	AS	S	M	5'6"	54	KV	S	V+K	R+RT+M+A	2	0	2	2	3	1	3	1	2	2	
126	8431	23	F	H	HS	M	U	FS	A	V	A	R+S	✓	-	P	E	-	RJ	R	S	S	N	S	AS	S	M	5'3"	48	KV	S	V+K	R+RT+M	3	2	3	3	2	1	3	1	3	2	
127	8436	54	M	H	HS	L	M	-	C	S	M	R+S	✓	✓	P	O	A	S	R	MB	S	S	R	AS	A	M	6'	76	KP	M	K+P	R+RT	2	1	2	1	1	0	2	0	2	1	
128	8471	47	F	H	M	L	M	-	C	AD	K	R+S	✓	-	P	L	-	S	R	S	S	N	S	AS	S	M	5'5"	52	VP	V	V+K	R+RT	1	0	2	2	2	0	3	1	2	2	
129	8642	45	F	H	M	L	M	BS	B	AD	M	R+S	✓	-	P	H	-	S	R	S	S	N	S	AS	S	M	5'3"	54	KV	V	V+K	R+M	2	2	3	3	2	1	2	0	3	2	
130	9007	44	M	H	G	M	M	-	B	AD	K	Sn+U	✓	✓	U	O	S	S	R	S	S	N	R	AS	S	M	6'2"	84	VP	M	V+P	R+RT+M+A	3	2	2	2	2	4	2	3	1	2	2
131	9147	40	M	M	G	M	M	BS	B	AD	K	Sn+U	✓	✓	U	O	T	S	R	S	S	N	R	AS	S	S	5'7"	77	VP	V	V+P	R+M	3	2	2	2	2	3	1	2	0	2	2
132	9212	45	F	M	HS	M	M	-	B	V	A	R+S	✓	✓	P	H	-	S	R	S	S	N	S	AS	S	M	5'3"	45	KP	M	V+P	R+RT+M	3	1	1	1	1	2	0	3	1	1	1
133	9303	20	M	H	HS	H	U	MS	A	V	K	R+S	✓	-	P	E	-	DW	R	S	S	N	S	AS	S	S	5'2"	56	KV	T	V+K	R+RT+M+A	1	0	3	3	3	1	3	1	3	2	
134	9351	45	F	H	G	M	M	-	C	AD	M	Sn+U	✓	-	U	O	-	S	R	S	S	N	S	AS	S	S	5'	54	VP	V	V+K	R+RT+M	3	2	1	1	1	2	0	1	0	1	1
135	9365	40	M	H	G	M	M	-	B	AD	K	R+S	✓	✓	U	O	S	S	R	S	S	N	R	AS	S	K	6'	53	VP	V	V+P	R+M	2	0	1	0	3	1	2	1	1	1	
136	9397	50	F	H	HS	L	M	-	C	S	K	R+S	✓	-	P	H	-	DW	R	MB	S	S	S	AS	A	M	5'6"	58	KP	M	V+K	R+RT+M	2	1	1	0	2	1	2	0	1	1	
137	9412	40	F	B	G	M	M	-	C	AD	M	R+S	✓	-	U	O	-	S	R	S	S	N	S	AS	S	M	5'8"	55	VP	V	V+K	R+RT	3	2	1	1	1	4	2	3	1	1	1
138	9491	59	M	H	HS	L	M	-	C	S	K	Sn+U	✓	✓	P	O	S	DW	R	MB	S	S	R	S	A	M	5'10"	76	KP	M	V+P	R+RT+M	2	1	2	1	3	1	2	0	2	1	
139	8362	37	F	H	G	M	M	MS	B	AD	M	R+S	✓	-	U	O	-	S	R	S	S	N	S	AS	S	M	5'6"	63	KV	S	V+K	R+RT+M	1	0	2	2	3	1	3	2	2	2	
140	55	46	F	H	HS	L	M	-	C	S	K	R+S	✓	-	P	H	-	S	R	MB	S	S	S	AS	S	S	5'3"	63	VP	M	V+K	R+RT+M	3	2	2	2	2	2	1	3	1	2	2
141	126	28	F	M	G	M	U	SS	B	V	M	R+S	✓	✓	U	O	-	RJ	R	S	S	N	S	AS	S	S	5'2"	74	KV	S	V+K	R+RT+M	2	1	1	1	1	2	0	2	1	1	1
142	188	39	M	H	G	M	M	-	C	AD	K	R+S	✓	✓	P	O	S	S	R	S	S	N	R	AS	S	S	5'6"	73	VP	V	V+K	R+M	1	0	2	2	2	0	2	0	2	2	
143	278	23	F	H	HS	M	U	BS	B	V	K	R+S	✓	-	U	E	-	RJ	R	S	S	N	S	AS	S	M	5'	43	KV	S	V+K	R+RT+M	3	1	1	1	1	1	0	2	0	1	1
144	285	26	F	M	G	H	U	BS	B	V	M	R+S	✓	✓	P	E	-	RJ	R	S	S	N	S	AS	S	M	5'4"	48	KV	S	V+K	R+M+A	1	0	3	3	3	1	2	1	3	2	
145	326	36	F	H	G	M	M	-	C	AD	M	Sn+U	✓	-	U	O	-	S	R	S	S	N	S	AS	S	M	5'2"	53	KV	S	V+P	R+RT+M	2	1	0	0	4	2	3	1	1	1	
146	356	47	M	H	G	M	M	-	C	AD	K	R+S	✓	-	U	O	S	S	R	S	S	N	R	AS	S	M	6'	77	VP	V	V+K	R+M+A	1	0	3	3	3	1	3	1	3	3	
147	390	30	M	M	G	M	M	SS	B	V	K	Sn+U	✓	✓	U	O	T	RJ	R	S	S	N	S	AS	S	M	5'5"	70	KV	S	V+P	R+RT+M	2	1	0	0	2	0	2	0	1	1	
148	465	38	F	B	HS	L	M	-	B	AD	M	R+S	✓	-	P	H	-	S	R	S	S	N	S	AS	S	S	5'3"	56	KV	V	V+K	R+RT+M+A	2	1	3	3	2	1	3	1	3	3	
149	573	60	F	H	HS	M	M	-	C	A	M	R+S	✓	-	U	H	-	DW	R	MB	S	S	R	S	A	M	5'6"	54	KP	M	K+P	R+M+A	3	2	2	2	2	0	3	1	2	2	
150	581	48	F	H	HS	M	M	-	C	S	M	R+S	✓	-	U	H	-	S	R	MB	S	S	S	AS	S	M	5'4"	52	VP	V	V+P	R+RT+M	1	0	1	1	1	0	2	0	1	1	
151	613	20	F	M	HS	H	U	MS	A	V	K	Sn+U	✓	✓	U	E	-	RJ	R	S	S	N	S	AS	S	K	5'3"	44	KV	S	V+P	R+RT+M	2	0	0	0	2	0	2	0	1	1	
152	615	46	F	H	HS	M	M	-	B	S	M	R+S	✓	✓	U	H	-	S	R	S	S	N	S	AS	S	S	5'5"	60	KP	V	V+K	R+RT	2	1	1	1	4	2	3	1	1	1	
153	627	42	F	H	HS	L	M	-	C	V	K	R+S	✓	-	P	H	-	S	R	S	S	N	S	AS	S	S	5'3"	63	VP	V	V+K	R+RT+M	3	2	0	0	3	1	2	0	1	1	
154	735	60	M	H																																							