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A CLINICAL STUDY ON THE ROLE OF CHITRAK HARITAKI AND ANU TAILA NASYA WITH A COMPOUND DRUG IN ALLERGIC RHINITIS W.S.R. TO DUSHTA PRATISHYAY

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ABSTRACT

Allergic rhinitis is a recurrently occurring pathology by which patients are suffering mostly these days. This disease not only makes the patient physically ill but also it hinders his day to day activities which effects directly on the individual's performance. *Dushta pratishyay* is also similar *vyadhi* which occurs again and again on nidan sevan. *Prathishyaya* by word itself indicates that it is a recurrent attack and can precipitate even due to minute etiological factors. *Vata* is the main *Dosha* and *Kapha Pitta* and *Rakta* are associated to it. Modern counterpart has developed various salts which can give instant relief but that is temporary. Present study is an attempt is to compare both diseases and to give a long term relief to patients. For study *Chitrak haritaki avaleha*, a compound drug and *shad bindu taila nasya* were selected. Compound drug includes *sitopaladi churna, godanti bhasma, suddha tankana* and *narsar*. 30 patients from opds of *shalakya tantra* and *panchkarma* were selected and divided in 2 groups A and B of 15 patients each. Group A was given the above regime and group B was given modern medicine. The results show significant improvement in Group A as compared to Group B.

KEYWORDS: Allergic Rhinitis, *Dushta Pratishyay*, *Chitrak haritaki*, *Anu taila nasya*, Compound drug.

INTRODUCTION

Pratishyay is described in various Ayurveda texts in detail but *Sushruta Samhita* gives explanation with nidanas, symptoms and treatment which can also be well co-related with

modern system. *Dushta Pratishyaya* is well known for its recurrence & chronicity.[1] Recurrence of the disease occurs when the vitiated *Doshas* have not been evacuated completely. Such *Doshas* reside in their latent stage (predisposing stage) & give rise to the same disease when they come in contact of aggravating factors.[2] *Pratishyay* is recurring frequently & attending the *Dushta Avastha*.[3] Allergic rhinitis occurs when the immune system overreacts to allergens in the air.[4] Allergic rhinitis is typically caused by environmental allergens such as pollen, pet hair, dust, or mold. Inherited genetics and environmental exposures contribute to the development of allergies.[5]

Symptoms

Main symptoms are rhinorrhea (excess nasal secretion), itching, sneezing fits, and nasal congestion and obstruction.[6] Associated pain and itching in eyes and middle ear may also be observed. There can also be behavioural signs; in order to relieve the irritation or flow of mucus, people may wipe or rub their nose with the palm of their hand in an upward motion: an action known as the "nasal salute" or the "allergic salute".[7]

Complications

It may lead to acute and chronic sinusitis, recurrence of nasal polyps, otitis media/ otitis media with effusion, hearing impairment, abnormal craniofacial development and aggravation of underlying asthma.[8] Ayurveda also says the same complications.[9]

Pathology

The underlying mechanism involved IgE antibodies attaching to the allergen and causing the release of inflammatory chemicals such as histamine from mast cells.[10]

Prevalence

Allergic rhinitis is the type of allergy that affects the greatest number of people.[11] In Western countries, between 10–30% of people are affected in a given year.[12,13] It is most common between the ages of twenty and forty. In India, allergic rhinitis (AR) is considered to be a trivial disease, despite the fact that symptoms of rhinitis were present in 75% of children and 80% of asthmatic adults.[14]

Aims and Objectives

1. To study *Dushta pratishyay* and allergic rhinitis.
2. To observe the efficacy of selected medicines.

MATERIALS AND METHODS

- Patients attending the OPD of Department of *Shalakya Tantra*, Panchkarma, Institute Hospital, with signs and symptoms of *dushta pratishyay* (allergic rhinitis) were registered irrespective of their sex, religion, occupation, education etc. A total of 30 patients were registered and divided into two groups A and B. Group A was given ayurvedic medicine while group B was given modern medicine. An elaborative case-taking proforma was specially designed for the purpose of incorporating all aspects of the disease on Ayurvedic and modern aspect.
- Informed consent was taken from all the registered patients for the study.

Inclusion criteria

1. Uncomplicated patients with signs & symptoms of *Dushta Pratishyaya* (Allergic Rhinitis), attending O.P.D. of *Shalakya Tantra* and *Panchkarma* were selected irrespective of sex, religion & occupation, etc.
2. Age – 16 to 60 years.

Exclusion criteria: Patients suffering from any chronic debilitating disease like Diabetes mellitus, Tuberculosis, Chronic Sinusitis, Nasal polypus etc and with other nasal pathology were excluded from study.

2. Cases which required surgical intervention were excluded.

3. Patients age below 16 yrs and above 60 yrs was excluded

Investigations

- Routine hematological tests: Hb, TLC, DLC, ESR
- Biochemical tests: Blood sugar (F), Serum cholesterol
- Urine test: Routine and Microscopic.

Drug dosage

- Group A- in this group a compound drug consisting of *sitopaladi churna*[15] 3gm, *godanti bhasma* 500mg, *suddha tankana* 500 mg and *narsar* 250 mg was given with *chitraka haritaki avaleha*[16] in dose of 10 gm twice daily with milk and *anu taila nasya.*[17]

Before *nasya* mild *dipana pachana* with *trikatu churna* and mild *virechana* with *triphala churna* was given. *Abhyanga* was done with *bala taila*, *swedana* was given and then 8-10 drops of *anu taila* were instilled in each nostril. Afterwards *dhumpana* was given with

shushka arka kanda. Three sittings of *nasya* were given each of five days with a gap of 5 days. Total duration of the procedure was 28 days.

- Group B- in this group tab cetrizine 5mg, otrivin nasasal drops, with methyl prednisolone tablets in tapered dose was given for duration of 28 days.

Follow-up was done for 1 month after completion of the course of the treatment.

Assessment Criteria

The patients were subjectively assessed by adopting the following scoring pattern:

General evaluating score:

□□*Kshavathu* (Sneezing)

0 - No sneezing

1 - 1 – 10 sneezing

2 - 10 – 15 sneezing

3 - 15 – 20 sneezing

4 - > 20 sneezing

□□*Nasavarodha* (Nasal obstruction)

0 - No obstruction

1 - Partially, occasionally and unilateral or postural

2 - Partially, occasionally and bilateral

3 - Complete, frequently and unilateral

4 -Always complete and bilaterals

□□*Nasa Srava* (Rhinorrhea)

0 - No discharge

1 - Occasional nasal discharge with a feeling of running nose without visible fluid

2 - Occasional with visible fluid

3 -Discharge which needs moping but controllable

4 - Severe discharge with copious fluid needs repeated mopping

□□*Kasa* (Cough)

0 - No cough

1 - Dry or unproductive cough

2 - Productive cough with moderate sputum

3 - Productive cough with moderate sputum

4 - Productive cough with large quantity of sputum

□□*Shirah Shoola* (Headache)

0 - No headache

1 - Mild headache does not hamper routine work and need no medication

2 - Moderate headache interferes with routine work and analgesic needed

3 - Severe headache restless, patients carries routine work with difficulty

4 - Severe headache patient need to rest.

□□*Kandu* (Itching)

0 - No itching

1 - Mild itching

2 - Moderate itching

3 - Severe itching

4 - Severe itching which makes patient to rub always

□□*Bhutwa Bhutwa*

0 - No attacks

1 - Attack once every month

2 - Attack once every week

3 - Attack once every 2-3 days

4 - Attack once every day

□□*Aruchi*

0 - No anorexia

1 - Occasional loss of appetite

2 - Moderate loss of appetite

3 - Continuous loss of appetite

4 - Loss of appetite associated with nausea and vomiting

□□*SwaraBheda*

0 - No change of voice

1 - Occasional hoarseness of voice

2 - Frequent hoarseness of voice more in morning hours

3 - Frequent hoarseness of voice throughout the day

4 - Cannot speak due to hoarseness of voice

□□*Jwara*

0 - No fever

1 - Intermittent fever

2 - Continuous fever

3 - Double rise with morning and evening peaks

4 - With high peaks and relative bradycardia

□□*Gandha Hani*

0 - No loss of smell

1 - Partial and unilateral

2 - Partial and bilateral

3 - Complete and unilateral

4 - Total loss of smell

Overall criteria for assessment

Cured: 100% relief in signs and symptoms and no recurrence during follow up study were considered as cured.

Marked improvement: 76% to 99% improvement in signs and symptoms was recorded as marked improvement.

Moderate improvement: 51% to 75% improvement in signs and symptoms was considered as moderate improvement.

Mild improvement: 26% to 50% improvement in signs and symptoms was considered as mild improvement.

Unchanged: Up to 25% reduction in signs and symptoms was noted as unchanged.

Statistical Analysis

The effect of therapy is assessed by applying student t-test. The results obtained are considered highly significant for $p<0.001$, significant for $p<0.01$, and insignificant for $p<0.05$.

OBSERVATIONS

General Observations

Maximum numbers of patients i.e. 56.67% were from the age group 26-40 years. A total of 56.67% patients were females. Maximum of patients i.e. 36.67% were from the middle class. Maximum of patients i.e. 56.67% were having history of *Vishmashana*. Family history was found positive only in 26.67% patients while negative in 73.33% of patients. (Table 1).

Symptoms

Sneezing (Table 2)

Number – Maximum number of patients i.e.40% had 1-15 sneeze at a time.

Nature – Maximum number of patients i.e. 56.67% had sneezing in morning.

Season – Maximum number of patients i.e. 40% had history of sneezing in winter season.

Atmosphere – Maximum number of patients i.e. 46.67% had sneezing in dusty atmosphere while 23.52% of patients had sneezing in dry atmosphere.

Miscellaneous – Maximum number of patients i.e. 36.67% had history of sneezing after sleep, while 30.00% had after bath.

Nasal Obstruction: (Table 3)

Maximum number of patients i.e. 46.67% had unilateral Nasal obstruction & 23.33% had intermittent nasal obstruction.

Nasal Discharge (Table 4)

Nature – Maximum number of patients i.e. 63.33% had watery discharge.

Color – Maximum number of patients i.e. 70.0% had transparent nasal discharge.

Quantity – Maximum number of patients i.e. 56.67% had mild quantity of discharge.

Smell – Maximum number of patients i.e. 43.33% had no smell in discharge.

Cough: Maximum number of patients i.e. 43.33% had occasional coughing. (Table 1).

Headache (Table 5)

Nature – Maximum number of patients i.e. 43.33% had mild headache.

Site– Maximum number of patients i.e. 43.33% had Frontal headache.

Maximum number of patients i.e. 56.67% had pale nasal mucosa.

Deviated Nasal septum was present only in 46.67%. Maximum number of patients i.e. 56.67% had *Vata-Pitta Pradhana Prakriti*.(Table 1).

Nidana (Table 6)

***Aharaja* –** Maximum *Nidana* i.e. 61.76% obtained was *Ati Drava Sevana*, 50% *Vishamashana* & *Ati Madhura Ahara* was next i.e. 44.11%.

***Viharaja* –** Maximum *Viharaja Nidana* i.e. 88.23% was *Raja Sevana*, followed by *Dhuma Sevana* 61.76%. *Ritu Vaishamya* each

***Manasika* –** *Atikrodha* was obtained in 8.82% patients.

***Pradhana Vedana* wise –** 100% of patients have *Kshavathu* 93.33%, *Nasa Srava* 83.33%, *Nasavarodha.* (Table 7).

Associated Symptoms (Table 8)

Maximum number of patients i.e. 50% had *Swara Bheda, Aruchi and mukha shosha* 36.67% followed by *Jwara* in 23.33% of the patients.

Effect of therapy on Cardinal symptoms in Group A (Table 9)

Highly significant results were obtained in the symptoms i.e. $p<0.001$. *Kshavathu* was relieved by 75.0%. *Nasanaha* was relieved by 73.07%, *Kasa* was relieved by 43.75%. *Kandu* relieved by 31.25% and *Bhutwa Bhutwa* relieved by 45.65% *Nasa Srava* was relieved by 75.75%, *Shirah Shoola* was relieved by 64.28%.

Effect of therapy on associated symptoms in Group A (Table 10)

Significant results were obtained in *Swara Bheda* i.e. $p < 0.01$ and *gandhahani* $p<0.01$ with the relief of 50% in *Aruchi, shwas* and respectively.

Effect of therapy on hematological values in Group A (Table 11)

Significant in Nasal Smear i.e. $p>0.05$ with the relief of 57.14% and TLC with the relief of 12.o% was found. There is no significant result in ESR & Absolute Eosinophil count.

Effect of therapy cardinal symptoms of Group B (Table 12)

Highly significant results were obtained in *Kshavathu, Nasa Srava, Nasavarodha, kasa* i.e. $p<0.001$. Significant results were obtained in *Kandu bhutwa bhutwa* i.e. $p<0.01$. Significant results were obtained in *Kandu. Kshavathu* was relieved by 53.57%. *Shirah Shoola* was relieved by 42.85%, *Nasavarodha* with a relief of 42.30%. *Kasa* relived by 50%, *Nasasrava* with a relief of 32.36. *Bhutwa – Bhutwa* with a relief of 33.33%.

Effect of therapy on associated symptoms in Group B (Table 13)

Significant results were obtained in Mukha shosha, *Swara Bheda, Jwara, shwas* $p<0.05$. No significant result in *Pandutwa, shiro gaurav* and *GandhaHani.*

Effect of therapy on hematological values in Group B (Table 14)

No significant result on Hematological value in group B.

Overall effect of therapy (Table 15)

Marked improvement was found in 33.33% in group A and 13.33% in group B. Moderate improvement was observed in 16.67% in group A and 33.33% in group B. Mild improvement was observed in 46.67% in group A and 33.33% in group B. No change 6.66% in group A and 20% in group B. No patient had complete remission in both the groups.

Effect on Recurrence of disease (Table 16)

Recurrence within less than 1 month was found in 33.33% of patients in group A and 53.33% of patients in group B, while 66.67% of patients had no recurrence during the follow up in group A and 46.66% of patients in group B.

Effect of treatment in group A compare to group B

The effect of therapy in both the group statistically significant in cardinal symptoms, unpaired- 't' test is insignificant. But treatment given in group A gave more significant results and less recurrence.

DISCUSSION

Dushta Pratishyaya (Allergic rhinitis) is one of the most common ENT disorder and it is one of the challenging problems of all ENT surgeons, the disease look simples but it does not bring satisfactory relief to the patients after repeated visiting the ENT clinic. It is unsolved mystery of medicine and can be traced to the days of Hippocrates – the father of Modern medicine. Repeated attack and improper management of the disease leads to many complications like recurrent sinusitis, Nasal polypi, serous otitis media, orthodontic problems1 etc. In *Ayurvedic* literature, the definition of allergy can be understood from the quotation given by *Acharya Charaka* where he said "any alteration or any changed reactivity may or may not be in a position to produce disease symptomatology in the body". Concept of environmental allergy is scientifically explained under the heading of "*Ritu Sandhi*"[18] Vagbhata has mentioned that if.

Ritu Charya of *Ritu Sandhi* is not followed it gives rise to *Astamyaja Roga*, *Tridosha Prakopa* and vitiation of *Dhatus*. Following points need better consideration during the treatment fixation.

Long standing nature of the disease, puts the patient in an immuno-compromised state. Patient will be in a physical and mental challenged condition due to the symptoms like Paroxysmal sneezing, Nasal obstruction, Watery Nasal discharge, Headache etc. Allergic rhinitis must be regarded as a serious condition, because it can impact negatively on the quality of life of sufferers not only by producing severe symptoms but also by producing complications.

DISCUSSION ON DRUG REVIEW

Nasya is the chief *Shodhana* procedure selected because this is the one and only procedure, which can perform *Uttamanga shuddhi.*[19] *Snehana* and *Swedana*, which are performed during *Nasya* procdure, liquefies the *Doshas* and can be expelled by *Nasya.*

Anu Taila was selected for nasya. After *Nasya Karma Dhumapana* with *Arka kanda* was done in order to expel the remaining of *Kapha Dosha*. It is believed that by doing *Dhumapana* it clear the *Srota* in the *Urdhvagatabhaga* and help in the free movement of *Vata Dosha*. *Arka* is having *tikshna virechya*[20] property. Its *dhumapana* pulls the kapha out and also pacify the *kapha*.

In the production of the complete aetiopathogenesis of the disease *Pratishyaya* the *Agni*, the *Dhatus*, the *Doshas* and *Vyadhiksamatva Shakti* of the person is involve so the ultimate aim of the treatment is to correct at all the stages. Disturbance of *Agni* lead to the formation of *Ama* in turn which impact the process of absorption and assimilation. *Rasayana* concept in *Ayurvedic* system of medicine brought a broad spectrum in human physiology. By putting these into consideration *Chitraka Haritaki Avaleha* had been selected for the treatment protocol. *Chitraka* has the basic property of *dipana* which digests the *Ama*[21], *Haritaki* is known for *Rasayana*[22] effects are the main ingredients.

Compound drug contained *sitopaladi churna, tankana bhasma, godanti bhasma* and *narsar* which gave relief in chief complains as well as associated complains.

CONCLUSION

Most of the patients were from urban habitat which indicates exposure to polluted environment may be a leading cause. Patients having *Ajirna* and *shitambusevan* habit and those exposed to rajas were found to be most affected. This indicates that status of *agni* plays a major role in the pathogenesis. The drugs selected gave significant results in about all signs and symptoms in both the groups but results in Group A are more significant with decreased recurrence than Group B. Main complain of sneezing and other associated were remarkably reduced. By giving Ayurveda regime we can protect the patients from various side effects of modern medicine. So, we get a hope for the decrement of recurrence which is the main problem of patients.

Probable mode of action of *Chitraka Haritaki Avaleha*

The causative factors responsible for complete aetiopathogenesis of the disease, *Pratishyaya* are: *Agni, Dhatus, Doshas, Vyadhi kshamatva Shakti* etc. So the aim of the treatment should be correcting in all these involved factors.

Agni concept is of paramount interest in *Ayurveda*. Disturbances of *Agni* results in *Ama* formation which by itself may culminate in various ailments or by hindering absorption and assimilation impede with the efficacy of the drug used in treatment.

Another important concept forwarded by the *Ayurvedic* system of medicine is that of *Rasayana*. Though there are no direct references found in *Ayurvedic* classics outlining the exact mode of *Vyadhikshamatva Shakti*.

On the other hand, screening of the available *Ayurvedic* literature of *Rasayana, Jeevaniya, Balya* and *Ojovardhaka* drugs reveals that all of these drugs are of *Prithv*i, *Vayu Maha Bhuta* predominance. Going into the *Bhautika* composition of *Chitraka Haritaki Avaleha* it is seen that the said compound is of *Vayu* (35%), *Prithvi* (23%), *Agni* (18%) predominance as described in the section devoted to drug review. Thus, since the process of *Rasayana* invariably involves regeneration of the *Dhatus*.

To sketch the mode of action of a drug it is also imperative to look into the *Rasapanchaka* or the properties by which it acts, screening the *Rasa* of the ingredients of *Chitraka Haritaki Avaleha* that *Katu* (27.3%), *Tikta* (30%), *Katu Vipaka* (60%) subsides the *Nasa Kandu, Kasa, Ghana Nasa Srava, Agnimandhya, Jwara* etc. The drug on dominance of Its *Madhura Rasa* is

found (25%), 40% is *Madhura Vipaka*. It is *Snigdha, Guru* and also alleviates *Vata*. Among the functions ascribed to *Madhura Rasa* are *Brimhana, Jeevana and Balya.* These properties are very much in favour of building up tissues and may increase the *Vyadhikshamatva* and alleviates *Kshavathu, Shirah shoola* etc. by its *VatapittAhara* property.

The *Gunas* present in the ingredients of the selected drug are *Laghu* (28%), *Ruksha* (26%), *Tikshana* (15%) are elevating *Nasa Srava, Kasa* etc. symptoms. Whereas *Snigdha* (15.5%), Guru (13.4%) acts as *Balya, Tarpana* and *Brimhana. Virya* is dominated by *Ushna* which has been also mentioned to be causing *Vatakapha Shamaka, Pachana, Deepana* etc. actions.

Details of each constituent drug of *Chitraka Haritaki Avaleha*

Chitraka and *Haritaki* are the main component, as the name suggested *Chitraka Haritaki Avaleha*. *Chitraka* has the inherent basic properties to digest the *Ama* and also is the drug of choice for *Deepana Pachana*. *Chitraka* has *Katu Vipaka* and *Usna Veerya* these properties help in digesting the vicious *Kapha.*

The other drug is *Haritaki*. *Haritaki* contain five *Rasa* except *Lavana* with *Kashayan* predominance. It has inherent properties for absorption of secretion in the body. It also help in bringing the *Vayu* downward. The other combination drug helps to give resultant action in *Vataja Pratishyaya*. *Amlaki, Guduchi* are the well known drugs for rejuvenation. In the process of decoction being prepare from *Dashamoola* is known to alleviate *Kapha* and *Vata*. In almost all of the disease predominant by *Vata* in Vitiation, mainly, these drugs are capable of reducing the symptoms pertaining to *Vata* disorder in the body where the free movement of *Vata* is needed. The *Guda* (Jagery) is also having important actions like *Vataghna, Balya, Vrishya* etc.

The receipt has to get concentrated by adding *Trikatu* and *Trijata* along with *Yava Kshara* in proper dose as prescribed in text. *Tri Katu – Pippali Maricha, Shunti* are having *Vata Kapha Haraka, Deepana and Pachana* properties. *Yava Kshara* helps in the penetration of the medicine to the target site.

The mode of action of *ANU Taila* as Follows

Due to *Laghu* and *Vyavayi Guna* of *Anu Taila* possess a good spreading capacity through minute channels. *Snehan* and *shaman* may take place due to *snehan* and *balya guna* of *Anu Taila*. By the above two properties the *Nasya* drug removes the obstruction and facilitate the

drainage of discharge. *Balya, Brimhana, Rasayan*[23]*a*, etc. properties can increase general and local immunity. *Madhura Rasa, Sheeta Virya, Snigdha Guna and Tridosha Shamaka* properties promote the nourishment of *Dhatus*, which ultimately increases the general and local immunity. *Taila* is the best drug for *Vata Dosha*, here the chronicity of the disease indicates aggravation of *Vata Dosha*, so oil preparation may be the best form for conditions like *Dushta Pratishyaya* (Allergic rhinitis). Also *pratishyay* is due to *viguna gati* of *vata*.

The mode of action of Compound drug

Sitopaladi churna has *sita, tugakshiri, pippali, ela* and *twak*. All drugs are *vata shamaka, agnideepaka* and have *Balya*, anti tussive, decongestant, immunity pacifying, *vata anulomana* properties and many other properties[24], which may gives relief in cardinal symptoms. *Godanti bhasma* is having analgesic and anti inflammatory and *tridosh shamaka* properties gives relief in pain and sinusitis.[25] *Tankana bhasma* is having mucolytic, decongestant and analgesic properties by which it relieves the congestion, sneezing and rhinorrhoea.[26] *Narsar* is believed to have mucolytic and vata anulomana properties by it which spells and expulses out the *kapha* maintains the gati of *vata*.[27]

Table 1: General observations of 30 patients of group A and B.

Observation	Group A	Group B	Total	Percentage
Age (26-40)	9	8	17	56.67
Sex (Male)	8	9	17	56.67
Socio-economic (Upper middle)	6	5	11	36.67
Habitat (Urban)	9	19	19	63.33
Family History (Positive)	3	5	8	26.67
Diet (Vishamashana)	9	8	17	56.67
Pale Mucosa	9	8	17	56.67
Cough (Occassional)	6	7	13	43.33
Itching (Nose)	9	7	16	53.33
Prakriti (Vata-Pitta)	9	8	17	56.67
DNS	8	6	14	46.67

Table 2: Sneezing wise distribution of 30 patients of *Dushta Pratishyaya* (Allergic Rhinitis).

Sneezing	Group A	Group B	Total	Percentage
NUMBER				
1-10	3	4	7	23.33
10-15	5	7	12	40
15-20	4	2	6	20
>20	3	2	5	16.66
NATURE				
Morning	9	8	17	56.66
Afternoon	3	3	6	20
Evening	2	3	5	16.67
Night	1	1	2	6.67
SEASON				
Winter	6	7	12	40
Summer	3	1	4	13.33
Rainy	5	5	10	33.33
Anually	1	2	3	10
ATMOSPHERE				
Dusty	7	6	14	46.67
Cool	2	3	5	16.67
Dry	1	1	2	6.67
Moisture	2	2	4	13.33
Smoky	2	1	3	10
Warm	0	2	2	6.67
Miscllenеous				
Smell	5	3	8	26.67
Bath	5	4	9	30
After sleep	3	8	11	36.67
Food	2	0	2	6.67

Table 3: Nasal obstruction wise distribution.

Nasal Obstruction	Group A	Group B	Total	Percentage
Unilateral	8	6	14	46.67
Bilateral	1	3	4	13.33
Intermittent	3	4	7	23.33
Continuous	2	1	3	10
None	1	1	2	6.67

Table 4: Nasal Discharge wise distribution.

Nasal Discharge	Group A	Group B	Total	Percentage
NATURE				
Watery	10	9	19	63.33
Thick	2	3	5	16.67
Mucoid	2	1	3	10
Mucopurulent	1	2	3	10
COLOUR				
Transparent	10	11	21	70
White	4	2	6	20
Purulent	1	2	3	10
Blood stained	0	0	0	0
QUANTITY				
Mild	9	8	17	56.67
Profuse	6	7	13	43.33
SMELL				
No smell	7	6	13	43.33
Foul Smell	5	6	11	36.67

Table 5: Headache wise distribution.

Headache	Group A	Group B	Total	Percentage
NATURE				
Mild	6	7	13	43.33
Moderate	5	4	9	30
Severe	4	4	8	26.67
Absent	0	0	0	0
SITE				
Frontal	7	6	13	43.33
Temporal	4	4	8	26.67
Half	3	2	5	16.67
Whole	2	3	5	16.67

Table 15: Nidana sevana wise distribution.

Nidana	Group A	Group B	Total	Percentage
AHARA				
Shitambu	11	12	23	76.66
Atiguru	3	5	8	26.66
Atimadhura	6	7	13	43.33
Ati drav	4	5	9	30
Adhyashana	7	5	12	40
Mandagni	10	8	18	60
Ajirna	12	13	25	83.33
VIHARA				
Raja sevan	12	11	23	76.66
Dhum Sevan	6	7	12	40
Sleep after dugdhpan	0	0	0	0
Sleep after Shit padarth sevan	0	0	0	0

Atiagaran	1	3	4	13.33
Atiparshwayana	0	0	0	0
Tapa sevan	2	1	3	10
Shirasoabhitapa	4	6	10	33.33
Shitamatipratap	6	7	13	43.33
Vegasandharana	5	3	8	26.67
Atisambhashana	3	4	7	23.33
Rituvaishamya	8	9	16	53.33
MANASIKA				
Ati Krodha	5	6	13	43.33

Table 7: Cardinal symptom wise distribution.

Symptom	Group A	Group B	Total	Percentage
Kshavathu	15	15	30	100
Nasavarodha	13	12	25	83.33
Nasasrava	15	13	28	93.33
Kasa	7	9	16	53.33
Shira shula	8	8	16	53.33
Kandu	10	8	18	60
Bhutwa bhutwa	9	10	19	63.33

Table 8: Associated symptom wise distribution.

Associated Symptoms	Group A	Group B	Total	Percentage
Aruchi	7	6	11	36.67
Mukha shosha	5	6	11	36.67
Swarabheda	7	8	15	50
Jwara	3	4	7	23.33
Pandutwa	0	0	0	0
Shiro gaurav	0	0	0	0
Shwasa	2	3	5	16.67
Gandha hani	2	3	5	16.67

Table 9: Effect on Cardinal symptoms in Group A.

Cardinal symptoms	N	BT	AT	% Relief	SD	SE	T	P
Kshavathu	15	32	8	75	1.47	0.380	8.84	<0.001
Nasavarodha	13	26	7	73.07	2.11	0.587	19.34	<0.001
Nasasrava	15	33	8	75.75	4.82	1.245	14.98	<0.001
Kasa	7	16	9	43.75	1.77	0.67	10.23	<0.001
Shira shula	8	14	5	64.28	1.45	0.51	13.33	<0.001
Kandu	10	16	11	31.25	2.34	0.74	7.81	<0.001
Bhutwa bhutwa	9	46	25	45.65	2.4	0.34	6.10	<0.001

Table 10: Effect on associated symptoms in Group A.

Symptoms	n	BT	AT	% Relief	SD	SE	T	P
Aruchi	7	8	4	50	1.90	2.42	3.38	<0.01
Mukha shosha	5	11	7	36.36	1.14	0.51	4.70	<0.01
Swarabheda	7	21	11	47.61	2.30	0.87	10.31	<0.01
Jwara	3	16	8	50	1.0	0.57	12.12	<0.01
Pandutwa	0	-	-	-	-	-	-	-
Shiro gaurav	0	-	-	-	-	-	-	-
Shwasa	2	14	6	57.14	2.82	2.0	3.0	<0.5
Gandha hani	2	6	2	66.66	0.70	0.50	7.012	<0.1

Table 11: Effect on hematological values in Group A.

Hematological values	BT	AT	% Relief	SD	SE	T	P
TLC	90600	79600	12	1062.11	274.23	2.67	p>0.05
N	921	875	4.99	7.57	1.95	1.56	P<0.05
L	530	552	-4.15	5.87	1.51	-0.9	-
E	50	65	-30	3	0.77	-1.29	-
M	46	45	2.17	1.38	0.35	0.18	-
ESR	244	238	2.45	15.93	4.11	0.09	-
AEC	3050	3450	-13.11	174.09	44.95	-0.59	-
Nasal Smear	7	3	57.14	0.53	0.20	2.82	p>0.05

Table 12: Effect on cardinal symptoms of Group B.

Cardinal symptoms	N	BT	AT	% Relief	SD	SE	T	P
Kshavathu	15	28	13	53.57	2.35	0.60	25.42	<0.001
Nasavarodha	12	26	15	42.30	2.74	0.79	13.47	<0.001
Nasasrava	13	31	21	32.26	1.53	0.44	16.34	<0.001
Kasa	9	12	6	50	2.40	0.801	6.93	<0.001
Shira shula	8	14	8	42.85	1.05	0.35	14.54	<0.001
Kandu	8	16	10	37.50	1.76	0.625	7.01	<0.01
Bhutwa bhutwa	10	18	12	33.33	1.50	0.76	5.46	<0.01

Table 13: Effect on associated symptoms in Group B.

Symptoms	n	BT	AT	% Relief	SD	SE	T	P
Aruchi	6	7	5	28.57	0.75	0.30	6.05	<0.01
Mukha shosha	6	8	5	37.5	0.60	0.26	2.31	0.05
Swarabheda	8	8	6	25	0.45	1.23	4.21	<0.01
Jwara	4	6	4	33.33	0.81	0.40	7.32	<0.05
Pandutwa	0	-	-	-	-	-	-	-
Shiro gaurav	0	-	-	-	-	-	-	-
Shwasa	3	6	4	33.33	0.83	0.38	6.34	0.05
Gandha hani	3	8	8	0	-	-	-	-

Table 14: Effect on hematological values in Group B.

Hematological values	BT	AT	% Relief	SD	SE	T	P
TLC	93800	98000	-4.47	1187.5	306.62	-0.91	-
N	869	887	-2.07	5.40	1.39	-0.86	-
L	526	504	4.18	4.25	1.09	1.33	<0.05
E	61	51	16.39	1.91	0.49	1.34	<0.04
M	41	47	-14.63	1.12	0.28	-1.38	-
ESR	167	208	-24.55	8.61	2.30	-1.27	-
AEC	3700	3350	9.45	142.43	38.06	0.65	-
Nasal Smear	7	2	71.42	0.48	0.18	3.87	>0.01

Table 15: Overall effect of therapy.

Total Effect	Group A	%	Group B	%
Complete remission	0	0	0	0
Marked improvement	5	33.33	2	13.33
Moderate Improvement	7	46.67	5	33.33
Mild Improvement	2	13.33	5	33.33
No Change	1	6.67	3	20

Table 16: Effect on Recurrence of disease

Recurrence	Group A	%	Group B	%
Present	5	33.33	8	53.33
Absent	10	66.67	7	46.67

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