ISSN: 2322 - 0902 (P)
ISSN: 2322 - 0910 (O)

International Journal of Ayurveda and Pharma Research

Research Article

# COMPARATIVE STUDY OF *BALADI GHRITA NASYA* WITH *GOGHRITA NASYA* IN THE MANAGEMENT OF *NASAPRATINAHA*

**Mayur V.Shiralkar[1], Devata M. Shiralkar[2], Shende Krushnadev[3]***

[1]Associate Professor, Dept. of Shalakya Tantra, Dr. D.Y.Patil College of Ayurved, Pimpri, Pune, M.S., India.

[2]Associate Professor, Dept. of Shalya Tantra, K.P.S.V.S. College of Ayurved, Manavi, Karnataka, India.

*[3]Assistant Professor, Dept. of Kayachikitsa Dr.D.Y. Patil Ayurved College, Pune, M.S., India.

Received on: 25/07/2015 Revised on: 12/08/2015 Accepted on: 15/08/2015

**ABSTRACT**

**Aim:** To compare the effect of *Baladi Ghrita Nasya* with *Goghrita Nasya* in the management of *Nasapratinaha*.

**Objective:** 1. To evaluate the effect of *Baladi Ghrita* (trail drug) *Nasya* in management of *Nasapratinaha*.

2. To evaluate the effect of *Nasya* with *Goghrita* (control drug) in management of *Nasapratinaha*.

**Method:** Patients were divided into 2 groups. i.e., Group A and Group B.

**Group A** - *Baladi Ghrita Nasya* was administered for seven days, once daily in the morning.

**Group B**- *Nasya* with *Goghrita* for seven days was administered, once daily in the morning.

**Types of study:** Comparative Clinical Study.

**Period of Study:** After seven days of treatment, both the groups were followed at regular intervals of 15 days for a period of two months.

**Follow Up:** Both the groups were followed at regular intervals of 15 days.

**Results:** By comparing both the groups, Group A patients those who were administered *Baladi Ghrita Nasya* showed a significant improvement / relief in the management of *Nasapratinaha*.

**Statistical Analysis:** The Statistical Analysis reveals that In *Nasapratinaha* the efficacy of treatment with *Baladi Ghrita Nasya* has an effective role in treating *Nasapratinaha* than *Nasya* with plain *Goghrita*.

**Conclusion:** In *Nasapratinaha* the efficacy of treatment with *Baladi Ghrita Nasya* has an effective role in treating *Nasapratinaha* than *Nasya* with plain *Goghrita.*

**KEYWORDS:** *Nasapratinaha, Baladi Ghrita Nasya, Goghrita Nasya.*

## INTRODUCTION

*Shalakya Tantra* comprises the study of diseases affecting the organs situated above jatru (clavicle) and their treatment. *Nasa* is a part situated above the *Jatru*. Therefore the study of *Nasarogas* and their treatment are included in *Shalakya Tantra*. Our classics have explained 31 types of *Nasarogas* of which *Nasapratinaha* is one. It is one of the common clinical conditions found in day to day general as well as *Shalakya* practice. It presents with obstruction of nose as its cardinal feature and its occurrence is found in both sexes and in all age groups.

The cardinal feature of *Nasapratinaha* is nasal obstruction. This condition is becoming increasingly prevalent because of few common *Nidana* encountered nowadays such as *Avashyaya* (fog), *Rajo* (dust), Dhuma (smoke), *Asathyma Gandha* (smell) and *Vayu Sevana* etc. Hence the incidence of *Nasapratinaha* is becoming more prevalent among the population. In this regard while exploring Ayurvedic Classics, we come across few simple techniques and principles in the treatment of *Nasapratinaha*, of which, *Nasya* with *Baladi Ghrita* is one. *Nasya karma* is considered as a prime treatment modality in all types of *Nasaroga* and also in *Nasapratinaha*.

*Ashtanga Sangraha* has described '*Baladi Ghrita Nasya'* in diseases of *Urdhwa Jatru* where there is predominance of *Vata Dosha*. This technique is easy to perform and the medicines are easily available and economical. Hence, it is selected for the present research work in *Nasapratinaha*. This work is intended to know the efficacy of the trial drug. For this purpose, a need for the control group was taught either with a placebo or with a standard drug.

There are various references regarding the usage of *Goghrita* as a base for different *Nasya Yogas* used in the management of *Nasapratinaha*. *Goghrita* is said to possess qualities like *Deepana* etc. Because of this reasons, *Goghrita* has been taken for the comparison as a control drug in this study. In the present clinical study patients are divided into 2 groups with 10 patients in each group. 'Group A' is

administered with *Baladi Ghrita Nasya*; and 'Group B' *Nasya* with *Goghrita* is administered to evaluate the effect of *Baladi Ghrita Nasya* in the management of *Nasapratinaha*.

The entire study contains the contents like of review of literature, which has the literary aspects of both Ayurvedic and contemporary science. It deals *Nirukti, Paribhasha, Nidana Panchaka, Sadyasadhyata, Chikitsa,* review on *Nasya* and drug review. The chapters concerning the clinical trials are materials and methods, observations and results, discussion and conclusion.

**Aims & Objectives**

**Aims**: To compare the effect of *Baladi Ghrita Nasya* with *Goghrita Nasya* in the management of *Nasapratinaha*.

**Objectives**

1. To evaluate the effect of *Baladi Ghrita* (trail drug) *Nasya* in management of *Nasapratinaha*.
2. To evaluate the effect of *Nasya* with *Goghrita* (control drug) in management of *Nasapratinaha*.

**Materials and Methods**

**Materials**

The drugs/formulation taken for the study are: 1.*Baladi Ghrita Nasya* 2.*Goghrita*

**I. *Baladi Ghrita Nasya***

The ingredients of *Baladi Ghrita Nasya* are *Bala* and *Bilva moola* which was used for *Nasya karma* in Group A.

**II. *Goghrita***

*Ghrita* Prepared from Cow's milk was used for of *Nasya* karma in Group B.

**Collection of Drugs**

- All the raw materials were procured and purchased from reliable Ayurvedic Raw Material shop.
- *Goghrita* was procured from a reliable milk vender.

**Method of preparation of *Baladi Ghrita Nasya:*** *Baladi Ghrita Nasya* was freshly prepared in the *Shalakya Kriya kalpa* room of S.D.M. Ayurvedic Hospital, Hassan.

Equal quantity of *Bala Moola Choorna* and *Bilva Moola Choorna* were taken. Sixteen parts of water was then added to the *Choorna*. This entire mixture was then boiled till 1/4$^{th}$ part remained. This mixture was then filtered using a cotton cloth to get *Kwatha*.

One part of Kalka of *Bala* and *Bilva* was then taken to which four parts of *Goghrita* and sixteen parts of the above *Kwatha* were added. This entire mixture was then boiled till *Sneha* or *Ghrita* only left behind.

While the *Sneha Paka*, the *Baladi Ghrita* at *Mridu Paka* stage should be collected for *Nasya*. The *Lakshanas* of *Mridu Paka* were then observed like the Kalka being sticky on touch as it contained traces of water and it produced crackling sound when kept on fire. This *Ghrita* was then used for *Nasya* purpose.

**Method**

**Inclusion Criteria**

- Patients between the age group of 08to 60yrs were selected.
- Patients presenting with the classical features of *Nasapratinaha* (Hypertrophic Turbinates).
- Patients were selected irrespective of sex, occupation, religion, socio – economic status and duration of illness.

**Exclusion Criteria**

- Patients below 08 years and above 60 years of age were excluded.
- Patients suffering with *Nasapratinaha* other than Hypertrophic Turbinates like DNS, Polyps and those with other systemic and neurological problems.
- Duration of the disease more than one year.

**Assessment Criteria**

**Subjective Parameters**

1. Nasal Obstruction
2. Nasal Discharge
3. Loss of Smell Perception
4. Discomfort in Nose
5. Congestion of Nasal Mucosa and Turbinates
6. Headache

**Objective Parameters**

1. Anterior Rhinoscopy
2. X-Ray (PNS)

**Investigations:** X-ray, PNS view

**Research Design:** Patients were divided into 2 groups. i.e., Group A and Group B.

**Group A:** *Baladi Ghrita Nasya* was administered for seven days, once daily in the morning.

**Group B:** *Nasya* with *Goghrita* for seven days was administered, once daily in the morning.

After seven days of treatment, both the groups were followed at regular intervals of 15 days for a period of two months. Following method was adopted for administration of *Navana Nasya*.

**Method of *Navana Nasya***

***Purvakarma*:** The *Purvakarma* of *Nasya* was performed in a place having sufficient light and devoid of direct blowing winds and dust. Patient was asked to sleep comfortably in supine position on a table and *Abhyanga*

with lukewarm *Taila* was done over face, scalp, temporal and neck region. After completion of *Abhyanga*, *Mrudusvedana* was done by covering the eyes.

***Pradhanakarma*:** After *Purvakarma*, the patient was asked to relax and lie down on a table in supine position and head portion was made to extend further from the edge of table bending at an angle. The limbs were kept slightly up and spread apart on both the sides. *Baladi Ghrita Nasya/Goghrita* was taken over on a piece of cloth/by a cotton swab respectively, and six drops are administered in each nostril. Thereafter patient was asked to inhale deeply and was advised to spit it out the drug that reaches the throat.

***Pashchatkarma*:** After performing the *Nasya Karma*, patient was allowed to come to ease in supine position. Again massage and fomentation with palms were done around face, nose, head, neck and chin. It was advised to spit out nasal secretion reaching the throat and to do gargle with warm water. After this, the patient was given instructions neither to take cold food and water nor to have a cold water face wash and to avoid wind, sun and dust.

**Follow up study:** After the completion of treatment, all the patients were advised to attend the O.P.D up to two months for the follow up study.

**Criteria for assessment of treatment**

Assessment of treatment were made before and after the treatment based on,

1. Nasal obstruction
2. Nasal discharge
3. Loss of Smell Perception
4. Discomfort in Nose
5. Congestion of Nasal Mucosa and Turbinates
6. Headache
7. X – ray, PNS view

**Gradation Index Showing Gradation Index**

| Sl. No. | Assessment criteria |
|---|---|
| 1. | **Nasal blockage**<br>0 – Not present<br>1 – Slight nasal obstruction but no mouth breathing<br>2 – Partial nasal obstruction with occasional mouth breathing<br>3 – Gross nasal obstruction with mouth breathing<br>4 – Total nasal obstruction with mouth breath/day |
| 2. | **Nasal Discharge**<br>0 – No discharge<br>1 – Negligible<br>2 – Intermittent<br>3 – Continuous<br>4 – Heavy |
| 3. | **Reduced Smell Perception**<br>0 – No<br>1 – Occasional<br>2 – Partial<br>3 – Complete |
| 4. | **Discomfort in Nose**<br>0 – Not present<br>1 – Slight discomfort<br>2 – Intermittent discomfort<br>3 – Continuous discomfort<br>4 – Severe discomfort |
| 5. | **Congested Nasal Mucosa and Turbinates**<br>0 – No<br>1 – Congestion of nasal mucosa<br>2 --Congestion of nasal mucosa & turbinates<br>3 – Hypertrophy of mucosa & turbinates<br>4 – Congestion, Oedema & obstructive lesions |
| 6. | **Headache**<br>0 – No<br>1 – Occasional<br>2 – Intermittent<br>3 – Continuous<br>4 – Intolerable |
| **Objective** | **X-Ray (PNS):** 0- Normal<br>1- Hazy |

**Before Treatment Grading**

0 – Nil
1 – Mild
2 – Moderate
3 – Severe
4 – Very Severe

**After Treatment**

4– No Relief
3 – Mild Relief
2 – Moderate Relief
1 – Good Relief
0 – Complete Relief

**Severity of *Nasapratinaha***

For assessing the severity of *Nasapratinaha* in each patient the above adopted scores were grouped and assessed as follows

| | | |
|---|---|---|
| Absent | - 0 - | 0 |
| Mild | -1 - | 1- 4score |
| Moderate | -2 - | 4- 8 Score |
| Severe | - 3 - | 8-12 Score |
| Very Severe | - 4- | >12 Score |

For assessing the relief observed in the various severity of *Nasapratinaha*, the above adopted scores were assessed as follows:

| | |
|---|---|
| Complete Relief - | 0 |
| Good Relief - | 1-4 score |
| Moderate Relief- | 4-8 score |
| Mild Relief- | 8-12 score |
| No Relief- | >12 |

No change in score and score within one group was considered as No relief, change of score from one group to the immediate next was considered as Mild Relief, difference of two groups was considered as Moderate Relief, that of three Good and difference of four groups was considered as Complete Relief.

**Statistical analysis of the Result**

The results having P value less than < 0.05 is considered as statistically significant in this study.

**Criteria for Assessment of Overall Symptoms**

Overall effect of the therapies was assessed in terms of complete remission, marked improvement, moderate improvement, and mild improvement.

**Complete remission:** 100% relief in complaints is considered as complete remission.

**Marked improvement:** More than 70% and less than 100% improvements in complaints is recorded as marked improvement.

**Moderate improvement:** 70% and more than 50% improvement in complaints is recorded as moderate improvement.

**Mild improvement:** 50% and more than 20% improvement in chief complaints is considered as mild improvement.

**Not responded/ unchanged:** Less than 20% reduction in complaints or recurrence of the symptoms to the similar extent of severity is noted as recurrence.

**Follow up study:** After the completion of treatment, all the patients are advised to attend the O.P.D up to three months for the follow up study with a regular interval of 15 days.

**Recurrence:** Less than 20% reduction in chief complaints or recurrence of the symptoms to the similar extent of severity is noted as recurrence.

**Observations and Results**

**Observations**

20 patients of *Nasapratinaha* (Hypertrophic Turbinates) were taken for the clinical trial, with 10 patients divided in two groups. One was given *Nasya* with *Baladi Ghrita* and the second with plain *Goghrita*. The observation made in the present study is as follows.

**Results**

**Nasal Obstruction**

Severity of Nasal Obstruction: Severity of Nasal Obstruction was recorded as per the history given by the patients. Data was graded according to gradation index. Statistical analysis is made on the basis of data, collected before and after treatment.

**Table 1: Showing the 't' test results of the difference between the means of the two dependent samples (before and after treatment) in reduction of severity of the Nasal Obstruction in Group A and Group B**

| Obstruction | | Mean score | | Reduction in mean score | % of reduction in mean score | S.D of mean | S.E of mean | df | 't' Value | 'p' Value |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BT | AT | | | | | | | |
| GROUP A | After 7 days of treatment | 2.4 | 1.0 | 1.4 | 58.33 | 0.97 | 0.31 | 9 | 4.58 | <0.005 |
| | Follow up after 1 month | 2.4 | 1.2 | 1.2 | 50.00 | 0.14 | 0.36 | 9 | 3.34 | <0.01 |
| | Follow up after 2 month | 2.4 | 1.4 | 1.0 | 41.66 | 1.05 | 0.33 | 9 | 3.00 | <0.025 |
| GR | After 7 days of treatment | 2.8 | 2.1 | 0.7 | 25.00 | 0.67 | 0.21 | 9 | 3.28 | <0.010 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| O U P B | Follow up after 1 month | 2.8 | 2.2 | 0.6 | 21.42 | 0.70 | 0.22 | 9 | 2.71 | <0.025 |
| | Follow up after 2 month | 2.8 | 2.4 | 0.4 | 14.28 | 0.70 | 0.22 | 9 | 1.81 | >0.05 |

**In group A, the reduction in mean severity of the Nasal Obstruction is**

- Before and after treatment shows changes from 2.4 to 1.0 showing a reduction of 1.4 (58.33%) which is statistically significant at the level of p<0.005,
- Changes after 1st month follow up is from 2.4 to 1.2 showing a reduction of 1.2 (50%) which is statistically significant at the level of p<0.01 and
- Changes after 2nd month follow up is from 2.4 to 1.4 showing a reduction of 1.0 (41.66%) which is statistically significant at the level of P <0.025.

**In group B, the reduction in mean severity of the Nasal Obstruction is**

- Before and after treatment shows changes from 2.8 to 2.1 showing a reduction of 0.7 (25%) which is statistically significant at the level of P <0.010.
- Changes after 1st month follow up is from 2.8 to 2.2 showing a reduction of 0.6 (21.42%) which is statistically significant at the level of P <0.025 and
- Changes after 2nd month follow up is from 2.8 to 2.4 showing a reduction of 0.4 (14.28%) which is statistically insignificant at the level of P >0.05.

**Nasal Discharge**

The symptom of nasal discharge was recorded according to the gradation index. Data was collected and statistically analysed.

**Table 2: Showing the 't' test results of the difference between the means of the two dependent samples (before and after treatment) in reduction of Nasal discharge in Group A and Group B**

| Nasal discharge | | Mean score | | Reduction in mean score | % of reduction in mean score | S.D of mean | S.E of mean | df | 't' Value | 'p' Value |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BT | AT | | | | | | | |
| G R O U P A | After 7 days of treatment | 2.2 | 0.9 | 1.3 | 59.09 | 0.82 | 0.26 | 9 | 4.99 | <0.001 |
| | Follow up after 1 month | 2.2 | 1.2 | 1.0 | 45.45 | 0.67 | 0.21 | 9 | 4.74 | <0.005 |
| | Follow up after 2 month | 2.2 | 1.1 | 1.1 | 50.00 | 1.10 | 0.35 | 9 | 3.16 | <0.025 |
| G R O U P B | After 7 days of treatment | 2.3 | 1.7 | 0.6 | 15.00 | 0.84 | 0.27 | 9 | 2.25 | >0.05 |
| | Follow up after 1 month | 2.3 | 1.7 | 0.6 | 15.00 | 0.52 | 0.16 | 9 | 3.67 | <0.01 |
| | Follow up after 2 month | 2.3 | 2.2 | 0.1 | -10.00 | 0.74 | 0.23 | 9 | 0.43 | >0.05 |

**In group A, the mean reduction of nasal discharge is**

- Before and after treatment shows changes from 2.2 to 0.9 showing a reduction of 1.3 (59.09%) which is statistically significant at the level of p <0.001.
- Changes after 1st month follow up is from 2.2 to 1.2 showing a reduction of 1.0 (45.45%) which is statistically significant at the level of p <0.005.
- Changes after 2nd month follow up is from 2.2 to 1.1 showing a reduction of 1.1 (50%) which is statistically significant at the level of p <0.025.

**In group B, the mean reduction of nasal discharge is**

- Before and after treatment shows changes from 2.3 to 1.7 showing a reduction of 0.6 (15%) which is statistically insignificant at the level of p >0.05.
- Changes after 1st month follow up is from 2.3 to 1.7 showing a reduction of 0.6(15%) which is statistically significant at the level of p <0.01 and

- Changes after 2nd month follow up is from 2.3 to 2.1 showing a reduction of 0.1 (-10%) which is statistically insignificant at the level of p >0.05.

**Smell Perception:** The symptom of smell perception was recorded according to the gradation index. Data was collected and statistically analysed.

**Table 3: Showing the 't' test results of the difference between the means of the two dependent samples (before and after treatment) in reduction of loss of smell perception in Group A and Group B**

| Smell Perception | | Mean score | | Reduction in mean score | % of reduction in mean score | S.D of mean | S.E of mean | df | 't' Value | 'p' Value |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BT | AT | | | | | | | |
| GROUP A | After 7 days of treatment | 0.7 | 0.4 | 0.3 | 42.85 | 0.67 | 0.21 | 9 | 1.41 | >0.05 |
| | Follow up after 1 month | 0.7 | 0.4 | 0.3 | 42.85 | 0.67 | 0.21 | 9 | 1.41 | >0.05 |
| | Follow up after 2 month | 0.7 | 0.4 | 0.3 | 42.85 | 0.48 | 0.15 | 9 | 1.96 | >0.05 |
| GROUP B | After 7 days of treatment | 0.8 | 0.6 | 0.2 | 25.00 | 0.79 | 0.25 | 9 | 0.80 | >0.05 |
| | Follow up after 1 month | 0.8 | 0.6 | 0.2 | 25.00 | 0.79 | 0.25 | 9 | 0.80 | >0.05 |
| | Follow up after 2 month | 0.8 | 0.6 | 0.2 | 25.00 | 0.42 | 0.13 | 9 | 1.50 | >0.05 |

**In group A, the mean reduction of loss of smell perception is**

- Before and after treatment shows changes from 0.7 to 0.4 showing a reduction of 0.3 (42.85%) which is statistically insignificant at the level of P >0.05.
- Changes after 1st month follow up is from 0.7 to 0.4 showing a reduction of 0.3 (42.85%) which is statistically insignificant at the level of P >0.05 and
- Changes after 2nd month follow up is from 0.7 to 0.4 showing a reduction of 0.3 (42.85%) which is statistically insignificant at the level of P >0.05.

**In group B, the mean reduction of loss of smell perception is**

- Before and after treatment shows changes from 0.8 to 0.6 showing a reduction of 0.2 (25%) which is statistically insignificant at the level of P >0.05.
- Changes after 1st month follow up is from 0.8 to 0.6 showing a reduction of 0.2 (25%) which is statistically insignificant at the level of P >0.05 and
- Changes after 2nd month follow up is from 0.8 to 0.6 showing a reduction of 0.2 (25%) which is statistically insignificant at the level of P >0.05.

**Headache:** The symptom of headache was recorded according to the gradation index. Data was collected and statistically analysed.

**Table 4: Showing the 't' test results of difference between the means of two dependent samples (before and after treatment) in reduction of headache, of Group A and Group B**

| Headache | | Mean score | | Reduction in mean score | % of reduction in mean score | S.D of mean | S.E of mean | df | 't' Value | 'p' Value |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BT | AT | | | | | | | |
| GROUP A | After 7 days of treatment | 1.1 | 0.6 | 0.5 | 54.54 | 0.53 | 0.17 | 9 | 3.00 | <0.025 |
| | Follow up after 1 month | 1.1 | 0.3 | 0.8 | 27.27 | 0.79 | 0.25 | 9 | 3.21 | <0.025 |
| | Follow up after 2 month | 1.1 | 0.4 | 0.7 | 36.36 | 0.48 | 0.15 | 9 | 4.58 | <0.005 |
| GROUP B | After 7 days of treatment | 0.7 | 0.3 | 0.4 | 57.14 | 0.70 | 0.22 | 9 | 1.81 | >0.05 |
| | Follow up after 1 month | 0.7 | 0.3 | 0.4 | 57.14 | 0.52 | 0.16 | 9 | 2.45 | <0.05 |
| | Follow up after 2 month | 0.7 | 0.3 | 0.4 | 57.14 | 0.70 | 0.22 | 9 | 1.81 | >0.05 |

**In group A, the mean reduction of headache is**

- Before and after treatment shows changes from 1.1 to 0.6 showing a reduction of 0.5 (57.14%) which is statistically significant at the level of P >0.025.
- Changes after 1st month follow up is from 1.1 to 0.3 showing a reduction of 0.8 (27.27%) which is statistically significant at the level of P <0.025 and
- Changes after 2nd month follow up is from 1.1 to 0.4 showing a reduction of 0.7 (36.36%) which is statistically significant at the level of P <0.005.

**In group B, the mean reduction of headache is**

- Before and after treatment shows changes from 0.7 to 0.3 showing a reduction of 0.4 (57.14%) which is statistically insignificant at the level of P >0.05.
- Changes after 1st month follow up is from 0.7 to 0.3 showing a reduction of 0.4 (57.14%) which is statistically significant at the level of P <0.05 and
- Changes after 2nd month follow up is from 0.7 to 0.3 showing a reduction of 0.4 (57.14%) which is statistically insignificant at the level of P >0.05.

**Discomfort of Nose:** The symptom of discomfort in nose was recorded according to the gradation index. Data was collected and statistically analysed.

**Table 5: Showing the 't' test results of the difference between the means of the two dependent samples (before and after treatment) in reduction in discomfort of nose in Group A and Group B**

| Discomfort of Nose | | Mean score | | Reduction in mean score | % of reduction in mean score | S.D of mean | S.E of mean | df | 't' Value | 'p' Value |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BT | AT | | | | | | | |
| GROUP A | After 7 days of treatment | 1.1 | 0.5 | 0.6 | 54.54 | 0.70 | 0.22 | 9 | 2.71 | <0.025 |
| | Follow up after 1 month | 1.1 | 0.6 | 0.5 | 45.45 | 0.53 | 0.17 | 9 | 3.00 | <0.025 |
| | Follow up after 2 month | 1.1 | 0.5 | 0.6 | 54.54 | 0.84 | 0.27 | 9 | 2.25 | >0.05 |
| GROUP B | After 7 days of treatment | 1.9 | 1.3 | 0.6 | 31.57 | 1.07 | 0.34 | 9 | 1.77 | >0.05 |
| | Follow up after 1 month | 1.9 | 1.3 | 0.6 | 31.57 | 0.97 | 0.31 | 9 | 1.96 | >0.05 |
| | Follow up after 2 month | 1.9 | 1.2 | 0.7 | 36.84 | 1.34 | 0.42 | 9 | 1.66 | >0.05 |

**In group A, the mean reduction of discomfort of nose is**

- Before and after treatment shows changes from 1.1 to 0.5 showing a reduction of 0.6 (54.54%) which is statistically significant at the level of P <0.025.
- Changes after 1st month follow up is from 1.1 to 0.6 showing a reduction of 0.5 (45.45%) which is statistically significant at the level of P <0.025 and
- Changes after 2nd month follow up is from 1.1 to 0.5 showing a reduction of 0.6 (54.54%) which is statistically insignificant at the level of P >0.05.

**In group B, the mean reduction of discomfort of nose is**

- Before and after treatment shows changes from 1.9 to 1.3 showing a reduction of 0.6 (31.57%) which is statistically insignificant at the level of P >0.05.
- Changes after 1st month follow up is from 1.9 to 1.3 showing a reduction of 0.6 (31.57%) which is statistically insignificant at the level of P >0.05 and
- Changes after 2nd month follow up is from 1.9 to 1.2 showing a reduction of 0.7 (36.84%) which is statistically insignificant at the level of P >0.05.

**Congestion of Nasal Mucosa and Turbinates**

The symptom of congestion of nasal mucosa and turbinates was recorded according to the gradation index. Data was collected and statistically analysed.

**Table 6: Showing the 't' test results of the difference between the means of the two dependent samples (before and after treatment) in reduction of congestion of nasal mucosa and turbinates in Group A and Group B**

| Congestion | | Mean score | | Reduction in mean score | % of reduction in mean score | S.D of mean | S.E of mean | df | 't' Value | 'p' Value |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BT | AT | | | | | | | |
| GROUP A | After 7 days of treatment | 2.1 | 1.1 | 1.0 | 47.61 | 0.82 | 0.26 | 9 | 3.87 | <0.005 |
| | Follow up after 1 month | 2.1 | 1.3 | 0.8 | 38.09 | 0.79 | 0.25 | 9 | 3.21 | <0.025 |
| | Follow up after 2 month | 2.1 | 1.5 | 0.6 | 28.57 | 0.70 | 0.22 | 9 | 2.71 | <0.025 |
| GROUP B | After 7 days of treatment | 2.2 | 1.9 | 0.3 | 13.63 | 0.82 | 0.26 | 9 | 1.15 | >0.05 |
| | Follow up after 1 month | 2.2 | 1.5 | 0.7 | 31.81 | 0.67 | 0.21 | 9 | 3.28 | <0.01 |
| | Follow up after 2 month | 2.2 | 1.9 | 0.3 | 13.63 | 0.82 | 0.26 | 9 | 1.15 | >0.05 |

**In group A, the mean reduction of nasal congestion is**

- Before and after treatment shows changes from 2.1 to 1.1 showing a reduction of 1.0 (47.61%) which is statistically significant at the level of P <0.005.
- Changes after 1st month follow up is from 2.1 to 1.3 showing a reduction of 0.8 (38.09%) which is statistically significant at the level of P <0.025 and
- Changes after 2nd month follow up is from 2.1 to 1.5 showing a reduction of 0.6 (28.57%) which is statistically significant at the level of P <0.025.

**In group B, the mean reduction of nasal congestion is**

- Before and after treatment shows changes from 2.2 to 1.9 showing a reduction of 0.3 (13.63%) which is statistically insignificant at the level of P >0.05.
- Changes after 1st month follow up is from 2.2 to 1.5 showing a reduction of 0.7 (31.81%) which is statistically significant at the level of P <0.01 and
- Changes after 2nd month follow up is from 2.2 to 1.9 showing a reduction of 0.3 (13.63%) which is statistically insignificant at the level of P >0.05.

**X – Ray Findings:** X – Ray findings were and gradation was done according gradation index. Statistical analysis was made with before and after treatment data.

**Table 7: Shows the 't' test results of the difference between the means of the two dependent samples (before and after treatment) in X – ray findings of Group A and Group B**

| X – ray findings | | Mean score | | Reduction in mean score | % of reduction in mean score | S.D of mean | S.E of mean | df | 't' Value | 'p' Value |
|---|---|---|---|---|---|---|---|---|---|---|
| | | BT | AT | | | | | | | |
| GROUP A | After 7 days of treatment | 0.9 | 0.5 | 0.4 | 44.44 | 0.52 | 0.16 | 9 | 2.45 | <0.05 |
| | Follow up after 1 month | 0.9 | 0.7 | 0.2 | 22.22 | 0.63 | 0.20 | 9 | 1.00 | >0.05 |
| | Follow up after 2 month | 0.9 | 0.7 | 0.2 | 22.22 | 0.63 | 0.20 | 9 | 1.00 | >0.05 |
| GROUP B | After 7 days of treatment | 0.8 | 0.6 | 0.2 | 25.00 | 0.42 | 0.13 | 9 | 1.50 | >0.05 |
| | Follow up after 1 month | 0.8 | 0.7 | 0.1 | 12.50 | 0.32 | 0.10 | 9 | 1.00 | >0.05 |
| | Follow up after 2 month | 0.8 | 0.7 | 0.1 | 12.50 | 0.32 | 0.10 | 9 | 1.00 | >0.05 |

**In group A, the mean reduction in X – Ray findings**

- Before and after treatment shows changes from 0.9 to 0.5 showing a reduction of 0.4 (44.44%) which is statistically significant at the level of P <0.05.
- Changes after 1st month follow up is from 0.9 to 0.7 showing a reduction of 0.2 (22.22%) which is statistically insignificant at the level of P >0.05 and

- Changes after 2nd month follow up are from 0.9 to 0.7 showing a reduction of 0.2 (22.22%) which is statistically insignificant at the level of P> 0.05.

**In group B, the mean reduction in X – Ray findings**

- Before and after treatment shows changes from 0.8 to 0.6 showing a reduction of 0.2 (25%) which is statistically insignificant at the level of P >0.05.
- Changes after 1st month follow up is from 0.8 to 0.7 showing a reduction of 0.1 (12.50%) which is statistically insignificant at the level of P >0.05 and
- Changes after 2nd month follow up is from 0.8 to 0.7 showing a reduction of 0.1 (12.50%) which is statistically insignificant at the level of P >0.05.

Thus in all the above five parameters of assessment, the percentage of improvement / relief can be made out as follows.

**Table 8: Percentage of improvement / relief in the symptoms of *Nasapratinaha* in Group A and B after treatment (i.e. after 7 days of treatment)**

| | Severity of Disease | Number of Patients | Relief | | | | |
|---|---|---|---|---|---|---|---|
| | | | Complete | Good | Moderate | Mild | No |
| GROUP\A | Mild | - | - | - | - | - | - |
| | Moderate | - | - | - | - | - | - |
| | Severe | 07 | 01 | 00 | 03 | 03 | 00 |
| | Very Severe | 03 | 00 | 00 | 01 | 01 | 01 |
| GROUP\B | Mild | - | - | - | - | - | - |
| | Moderate | 01 | 00 | 00 | 00 | 00 | 01 |
| | Severe | 04 | 00 | 00 | 00 | 02 | 02 |
| | Very Severe | 05 | 00 | 00 | 00 | 05 | 00 |

**Table 9: Patients of Group A and Group B after 7 days of *Nasya Karma***

| Percentage of improvement / relief | Group A | Group B |
|---|---|---|
| Reduction in severity of Nasal Obstruction | 58.33% | 25.00% |
| Reduction in nasal discharge | 59.09% | 15.00% |
| Reduction in smell perception | 42.85% | 25.00% |
| Reduction in headache | 54.54% | 57.14% |
| Reduction in Discomfort of Nose | 54.54% | 31.51% |
| Reduction in Congestion | 47.61% | 13.51% |
| Changes in X-Ray Finding | 44.44% | 25.00% |

**Table 10: Showing of improvement/Relief in each symptom of Group A**

| Symptoms | Group A-Relief in Symptoms | | | | | | |
|---|---|---|---|---|---|---|---|
| | No of Pts | Complete | Marked | Moderate | Mild | No | Increase |
| Nasal Obstruction | 10 | 04 | 00 | 02 | 02 | 02 | 00 |
| Nasal Discharge | 10 | 04 | 00 | 00 | 05 | 01 | 00 |
| Smell Perception | 05 | 01 | 00 | 01 | 00 | 03 | 00 |
| Headache | 08 | 02 | 00 | 00 | 03 | 03 | 00 |
| Discomfort in Nose | 07 | 04 | 00 | 00 | 01 | 02 | 00 |
| Congestion | 10 | 02 | 00 | 01 | 04 | 03 | 00 |

**Table 11: Showing of improvement/Relief in each symptom of Group B**

| Symptoms | Group B- Relief in Symptoms | | | | | | |
|---|---|---|---|---|---|---|---|
| | No of Pts | Complete | Marked | Moderate | Mild | No | Increase |
| Nasal Obstruction | 10 | 00 | 00 | 01 | 05 | 04 | 00 |
| Nasal Discharge | 10 | 01 | 00 | 00 | 05 | 03 | 01 |
| Smell Perception | 06 | 02 | 00 | 00 | 00 | 03 | 01 |
| Headache | 07 | 05 | 00 | 00 | 00 | 01 | 01 |
| Discomfort in Nose | 09 | 01 | 00 | 01 | 05 | 01 | 01 |
| Congestion | 10 | 00 | 00 | 01 | 02 | 06 | 01 |

**Table 12: Showing over all percentage of improvement / relief in the patients of Group A and Group B**

| Overall improvement / relief | No. of Patients in Group A | Percentage % | No. of Patients in Group B | Percentage % |
|---|---|---|---|---|
| Complete remission | 01 | 10% | 00 | 00% |
| Marked relief | 03 | 30% | 00 | 00% |
| Moderate relief | 03 | 30% | 00 | 00% |
| Mild relief | 02 | 20% | 06 | 60% |
| Not responding | 01 | 10% | 04 | 40% |

Out of 10 patients of Group A, 01 (10%) had complete relief, 03 (30%) had marked relief, 03 (30%) had moderate relief, 02 (20%) had mild relief and 01 (10%) did not respond to treatment. In Group B, 06 (60%) had mild relief and 04 (40%) did not respond to the treatment.

From the above data it is clear that *Baladi Ghrita* is useful in managing *Nasapratinaha*.

## DISCUSSION

*Nasapratinaha* is one among the 31 types of *Nasa Rogas*. The main symptom of which is Nasal Obstruction. As per contemporary science, various conditions lead to nasal obstruction like DNS, Polyps, Hypertrophic Turbinates, Atrophic Rhinitis, Choanal Atresia etc. In the present study Nasal Obstruction due to Hypertrophic Turbinates is only taken.

**Discussion on distribution of Age:** Patients were randomly categorized into two groups. Of which, the first group of patients were given *Baladi Ghrita Nasya* and in second group *Nasya* with *Goghrita* was given. An observation of present study reveals that maximum numbers of patient's i.e. 55% were between the age group of 16 - 30 years. This is the age group of college going in whom chances of exposure to allergens is more, hence may be the cause for high incidence. The minimum age of the patient registered for the study was 10 years old and maximum was 45 years old.

**Discussion on distribution of Sex:** It was observed that more numbers of patients were males i.e. 60% and 40% were females. This might be because males are more exposed to the environment than the females.

**Discussion on distribution of Religion:** Maximum number of patients belonged to Hindu community. This might be because Hindu's residing here are more in number. Hence, has no research significance.

**Discussion on distribution of Socio-Economic Status:** Socio-economic status wise distribution of patients in this study noted that *Nasapratinaha* was more prevalent (45%) in upper class than in the middle class (30%) and lower class (25%). This may be because of prolonged and over use of sweet, freezed and preserved items which may cause cold leading to the hypertrophy of turbinates. This might be the reason for high incidence in the upper class than the middle and lower class.

**Discussion on distribution of Habitat:** Habitat wise distribution revealed that majority of the patients included in the study were from Urban area (70%) than that from the Rural area (30%). This supports the fact that as patients from urban area have more exposure to air pollution, than that of rural area, hence the incidence of *Nasapratinaha* is more in the Urban population.

**Discussion on distribution as per *Prakruti*:** *Prakruti* wise distribution shows that maximum number of patients included in the study were of *Vatakaphaja Prakruti* (40%) than *Kaphapittaja* (30%), *Vatapittaja* (15%) and *Pittakaphaja prakruti* (15%). As *Vata Dosha* and *Kapha Dosha* are the main *Doshas* in *Nasapratinaha*, the disease is more prevalent in *Vatakaphaja prakruti* as per the present study.

**Discussion on Dietary Habitat** Dietary Habitat wise distribution has revealed more number of patients being mixed (55%) than that of pure vegetarian (45%). There is not much of difference in ratio of percentage between the two groups. Hence has no significance in the current study.

**Discussion on Occupation:** The chief occupations of the patients noted in this study were, students (55%), agriculturist (15%), housewives (10%), businessmen (10%), nursing (5%) and teacher (5%). Occupation wise distribution noted that, *Nasapratinaha* was prevalent in those who were studying in schools and colleges and those working in fields. Both these groups are exposed to dust, wind and extreme atmospheric conditions. By these, we can infer that working environment (occupation) plays an important role in causing *Nasapratinaha*.

**Discussion on *Nidana*:** Most of the *Nidana* described in the classics were observed in patients with *Nasapratinaha*. Especially *Nidana* like *Avashyaya* (45%), *Raja Sevana* (70%), *Dhooma sevana* (70%), *Ambukrida* (10%), *Pratishyaya* (20%) were reported. These can act either as an *Utpadaka* or as a *Vyanjaka nidana* for *Nasapratinaha*. In this study, in addition to the above etiological factors, it is noted that in few of the patients *Pratishayaya* (20%) acted as a *Nidhanakara roga* or predisposing factor in the manifestation of *Nasapratinaha*.

**Discussion on *Lakshanas*:** It is observed that, nasal obstruction is present in all patients (100%) nasal obstruction aggravated when exposed to air and dust, this can be clearly justified as this is a part of *Samprapti* mentioned in the classics.

**Discussion on severity of Nasal Obstruction:** The incidence of severity of nasal obstruction showed that 10% of patients experienced very severe nasal

obstruction, 45% suffered with severe degree of nasal obstruction, 40% with moderate and 5% with mild form of nasal obstruction. The above proves that nasal obstruction is present in 100% patients.

**Discussion on severity of Nasal Discharge:** The incidence of severity of nasal discharge showed that 35% suffered with severe degree of nasal discharge, 55% with moderate and 10% with mild form of nasal discharge. This is because the turbinates, when inflamed, partially block the opening of the sinuses into the middle meatus leading to stagnation of secretion into the sinuses. This stagnated secretion comes out in the form of discharge through the nose. *Asatmya Gandha* and *Sheeta Sevana* are also responsible for nasal discharge.

**Discussion on Severity of Loss of Smell Perception:** The incidence of severity of loss of smell perception showed that 05% of patients suffered from severe loss of smell perception, 10% with moderate and 40% with mild loss of smell perception, whereas 45% of patients did not complain of any kind of loss of smell perception. This shows that smell perception is not a common feature seen in *Nasapratinaha* with respect to Hypertrophic Turbinates. The possible reason for loss in smell perception can be that because of hypertrophic turbinates, inspired air is not able to reach the roof of nose where the olfactory receptors are situated. Hence the patient dose not gets smell perception properly. In 45% of patients in the present study, the inflammation of turbinates was not gross hence loss of smell perception was not complained by them.

**Discussion on Severity of Headache:** The incidence of severity of headache showed that 15% of patients suffered from moderate form of headache, 55% suffered from mild form and 30% did not complain of any kind of headache at all. This shows that headache is also not a common feature of *Nasapratinaha* with respect to Hypertrophic Turbinates. Majority of the sinuses drain into the middle meatus. The inflamed turbinates block the drainage of these sinuses into the middle meatus. This leads to mild form of sinusitis which might be the possible explanation for the predominance of mild (55%) form of headache. The *Udana Vayu* in this condition gets encircled by vitiated *Kapha dosha* and leads to *Nasapratinaha* with *Shirashoola*.

**Discussion on severity of Discomfort in Nose:** The incidence of severity of discomfort in nose showed that 5% of patients suffered from very severe form of nasal discomfort, 15% showed severe form, 30% moderate, 25% mild and 25% of patients did not complain of any kind of discomfort. Obstruction in nose leads to some kind of discomfort to the patient. This discomfort is dependant on the amount of obstruction and range of *Dosha* vitiation experienced by the patient as he or she is not able to breath air normally. In the present study, 15% had gross obstruction hence they experienced severe discomfort, 30% had moderate obstruction hence they experienced moderate discomfort, 25% had mild obstruction hence they experienced mild discomfort and 25% had negligible obstruction hence no discomfort was observed in them.

**Discussion on severity of Congestion of Nasal Mucosa and Turbinates:** The incidence of severity of Congestion of Nasal Mucosa and Turbinates revealed 25% of patients had severe form of congestion, 65% had moderate and 10% had mild form of congestion. Congestion is one of the main reasons for nasal obstruction. In Hypertrophic Turbinates, the turbinate gets congested and inflamed causing an obstruction in nasal pathway. Hence even in the current study, 65% of patients showed moderate form of congestion whereas there was not a single patient who did not present with any form of congestion of nasal mucosa and turbinates.

**Discussion on properties of Drug and its role in *Samprapti Vighatana*:** *Baladi Ghrita* was administered as *Nasya* in Group A. The contents in it are *Bala, Bilva* and *Goghrita*. In group B, *Nasya* with pure *Goghrita* was administered. Both *Baladi Ghrita* and *Goghrita* were observed as non irritant, as none of the patients complained of any adverse effect or irritation. *Bala* is of *Madhura Rasa*, *Sheeta Veerya* and *Madhura Vipaka*. It has the properties such as *Balya*, *Brumhana*, *Anulomana* and is *Vatahara*. *Bala* with its *Madhura Rasa*, *Sheeta Veerya* and *Madhura Vipaka* helps in the *Shamana* of *Vata Dosha*. It also has got Balya and *Brumhana* properties which helps in *Vata Shamana*. With its *Anulomana Guna*, it helps the *Pratilomit Vata Dosha* to return to its normal route and function. The chemical composition of *Bala* (*Sida Cordifolia*) is Ephidrine. Ephidrine is an alpha adrenergic drug. This alpha agonist on topical application as dilute solution produces local vasoconstriction. This vasoconstriction helps in relieving the nasal congestion and thus helps in relieving nasal obstruction. *Bilva* is of *Kashaya Tikta Rasa, Ushna veerya* and *Katu vipaka.* It has properties such as *Shothahara, Grahi* and *Kaphaghna*. In *Nasapratinaha*, the main *Doshas* involved are *Udana Vayu* and *Kapha dosha*. *Bilva* with its *Kashaya Tikta Rasa*, *Ushna Veerya* and *Katu Vipaka* is good *Kaphagna* and helps in reducing *Kapha Avarana*. It also posses the properties like *Shothahara*, which helps in relieving the inflammation of turbinates. With its *Kaphaghna* and *Grahi gunas*, *Bilva* helps in scraping out the excessive *Kapha* that has enveloped (*Avarana) Udana Vayu* and thus help in bringing the nose back to its normal function. Properties of *Goghrita* as per classics are *Madhura rasa*, *Sheeta veerya, Madhura vipaka* and *Vata pitta shamaka. Goghrita* has the capacity to transform itself so as to imbibe all the qualities of the substances. It is particularly significant that ghee does not give up its own properties even if it mixed up with other substances possessing other properties. In the procedure of *Nasya* karma, the procedures such as *Snehana* and *Swedana* constitute the *Poorva karma*; these have the properties such as *Dosha viliyana*, *Jadyahara, Sthabdagna* and *Ruk prashamana*. The *Pradhana* karma constitute, administration of the drug

to *Nasa*, they act on their own accord depending on the properties of the drug in them. In *Paschat karma Mardhana* and *Panitapa sweda* are done repeatedly and *Ushna kavala* is done to remove the residual *Dosha* or drug. As per the above classical description of the drugs, it is doubtless that *Baladi Ghrita* is having *Vatakaphahara, Brumhana, Vatanulomana, Shothahara, Snehana, Kanduhara, Sravahara* properties hence is capable to remove the *Kapha Avarana Vata Shamana* and promote *Vata Svamarga Pravrutti* thus capable to control *Nasapratinaha*. In contemporary science, primary management of hypertrophic turbinates is steam inhalation and instillation of local decongestant drops. These procedures help in relieving the congestion in nose and thus help in relieving the patient from nasal obstruction. Thus, the above mentioned drugs and the procedures have the properties to cheek the pathology as per Ayurveda in *Nasapratinaha* and also in terms of contemporary science for Hypertrophic Turbinates.

**Discussion on Results**

**Nasal Obstruction:** Nasal blockage is observed in all the 20 patients of group A and Group B. Relief from nasal blockage after treatment is 58.33% and 25.00% in group A and group B respectively. (P values at the level of <0.005 and <0.10 respectively). The relief of nasal obstruction after treatment noted was more significant in Group A than Group B. It suggests that *Baladi Ghrita* is more effective than normal *Goghrita*.

At the end of second month of follow up, it was observed that among the 10 patients in group A, 02 had complete relief, 01 had moderate relief and 05 patients had mild relief, 01 patient had no relief and in 01 patient the symptom aggravated.

In group B, after 2 months of follow up among 10 patients, 05 patients had mild relief, 04 patents had no relief and in 01 patient the symptom aggravated.

The above description shows that the effect of *Baladi Ghrita* in group A shows more improvement than that of *Goghrita* in group B.

**Nasal Discharge**: Nasal discharge is observed in all the 20 patients of group A and Group B. Relief from nasal discharge after treatment is 59.09% and 15%. in group A and group B respectively. ('p' values at the level of <0.001 and >0.05 respectively). The relief of nasal discharge after treatment noted was more significant in Group A and insignificant in Group B. It suggests that *Baladi Ghrita* is more effective than normal *Goghrita* in controlling nasal discharge. At the end of second month follow up, it was observed that among 10 patients in group A, 03 had complete relief, 01 had moderate relief and 04 patients had mild relief, 01 patient showed no relief and in 01 patient the symptom had aggravated.

In **group B** among 10 patients, 03 patients had mild relief, 05 patients had no relief in their symptoms and in 02 patients the symptoms had aggravated. It shows that, the response to the treatment is poor in group B than group A. This shows that *Baladi Ghrita* is effective in controlling the discharge in *Nasapratinaha*.

**Loss of Smell Perception:** Loss of smell perception was observed in 05 patients of group A and 06 patients of group B. Relief from Loss of smell perception after treatment was 42.85% and 25% in group A and group B respectively. (P values at the level of >0.05 in both the groups). The relief of loss of smell perception after treatment noted was insignificant in both the groups. It shows that the loss of smell perception has not much responded to the treatment in both the groups but slight improvement is noted after two months of follow up.

At the end of second month follow up, it was observed that among 05 patients of group A, 02 had complete relief, 01 patient had mild relief and in 02 patients there was no relief.

In group B among 06 patients, 02 patients had mild relief and 04 patients had no relief.

It shows that, both groups have no marked relief in loss of smell perception after the treatment.

**Severity of Headache:** Headache was observed in 08 patients of group A and 06 patients of group B. Relief from headache after treatment was 92.95% % and 73.07% in group A and group B respectively. (P values at the level of <0.001 in both the groups). The relief of headache after treatment noted was significant in both the groups. It suggests that both *Baladi Ghrita* and *Goghrita* are effective in managing headache in *Nasapratinaha* with respect to Hypertrophic Turbinates.

At the end of second month follow up, it was observed that among 08 patients in group A, 04 had complete relief, 03 patients had mild relief and in 01 patient there was no relief.

In **group B** among 06 patients, 05 had complete relief, 01 patient had no relief and in 01 patient the symptom began after second month of follow up.

It shows that, *Baladi Ghrita Nasya* is found effective at the time of follow up than the period of medication.

**Discomfort in Nose:** Discomfort was observed in 07 patients of group A and 08 patients of group B. Relief from discomfort after treatment was 54.54% % and 31.57% in group A and group B respectively. (P values at the level of <0.025 and >0.05 in group A and B respectively). The relief of discomfort after treatment noted was significant in group A and insignificant in group B. It suggests that *Baladi Ghrita* is effective in managing discomfort of nose than *Goghrita* in *Nasapratinaha* with respect to Hypertrophic Turbinates.

At the end of second month follow up, it was observed that among 07 patients in group A, 04 had complete relief, 02 patients had mild relief, 01 patient no relief and in 01 patient the symptom started at the end of second month. In group B among 08 patients, 01

had complete relief, 01 patient had good relief, 04 patients had mild relief, 02 patients had no relief and in 01 patient the symptom began at the end of second follow up. This shows that *Baladi Ghrita* is effective in controlling discomfort in nose better than *Goghrita*.

**Congestion of Nasal Mucosa and Turbinates**

Congestion of Nasal Mucosa and Turbinates was observed in all the patients of group A and group B. Relief from Congestion of Nasal Mucosa and Turbinates after treatment was 47.61% % and 13.63% in group A and group B respectively. (P values at the level of <0.005 and >0.05 in group A and B respectively). The relief of Congestion of Nasal Mucosa and Turbinates after treatment noted was significant in group A and insignificant in group B. It suggests that *Baladi Ghrita* is effective in managing Congestion of Nasal Mucosa and Turbinates than *Goghrita* in *Nasapratinaha* with respect to Hypertrophic Turbinates.

At the end of second month of follow up, it was observed that among 10 patients of group A, 01 had moderate relief, 04 patients had mild relief and in 05 patients there was no relief.

In group B among 10 patients, 05 patients had mild relief, 03 patients had no relief and in 02 patients the symptom had aggravated. This shows that *Baladi Ghrita* is effective in controlling congestion of nasal mucosa and turbinates better than *Goghrita*

**X – Ray findings:** Shadow of turbinates was positive in 09 patients in group A and 08 patients in group B. After the treatment shadows of turbinates were reduced by 44.44% and 25.00% in group A and B respectively. (P values at the level of <0.05and >0.05 in group A and B respectively). The relief after treatment noted was significant in group A and insignificant in group B. It suggests that *Baladi Ghrita* is effective than *Goghrita* in reducing the disease (turbinates shadow) in *Nasapratinaha* with respect to Hypertrophic Turbinates.

At the end of second month of follow up, among 09 patients in **group A**, 03 had clear X – Ray findings (responded to treatment), 06 had no change (not responded to treatment) in their X-Ray pattern, and in 01 patient the X-Ray showed shadows of turbinates (previously clear X-Ray) by the end of second month. Among 08 patients of **group B**, 01 had clear X-Ray findings (responded to treatment) and 07 had no change in their X-Ray pattern (not responded to treatment).

As per the above data, it is clear that the improvement / relief was better in the patients of group A, who were treated with *Baladi Ghrita Nasya* and there is significant reduction in the severity of nasal obstruction, nasal discharge, headache, congestion. In Group B patients, who were administered *Nasya* with *Goghrita*, showed a minimal improvement / relief in nasal obstruction, headache, congestion after seven days of *Nasya*. After second month of follow up Group A showed a significant relief in obstruction, discharge, headache and congestion of nasal mucosa and turbinates. In Group B instead of responding to treatment showed aggravation of all symptoms after second month and no significant relief was found.

**Discussion on Range of Severity of Symptoms**

**In Group A, among 10 patients**

1. 07 (70%) patients had severe form of *Nasapratinaha* of which 01 (10%) patient got complete relief, 03 (30%) got moderate and 03 (30%) got mild relief.
2. 03 (30%) of patients had very severe form of *Nasapratinaha* in whom 01 (10%) got moderate relief, 01 (10%) got mild and 01 (10%) got no relief from symptoms.

**Of the 10 patients of Group B**

1. 01 (10%) had moderate form of *Nasapratinaha* who got no relief from his symptoms,
2. 04 (40%) had severe form of the disease among whom 02 (20%) got mild relief and 02 (20%) had no relief from symptoms and
3. 05 (50%) had very severe form of disease among whom all got mild relief from symptoms.

From the above result we can conclude that in the present study *Baladi Ghrita Nasya* was effective in different forms of *Nasapratinaha*.

In group A the percentage of relief is improved after 2 months of follow up, but in group B the percentage of relief is further decreased after two months of follow up.

It is therefore concluded that *Baladi Ghrita Nasya* has an effective role in treating *Nasapratinaha* than *Nasya* with plain *Goghrita*.

**CONCLUSION**

- *Nidana* explained in Ayurvedic classics seems to be initiating or precipitating factor for *Nasapratinaha*. *Vihara sambhandi nidana* like exposure to dust (raja), smoke (Dhooma), cold breeze (*Sheetavayu*) and *Nidanarthakara roga* like *Pratishyaya* have a significant role causing *Nasapratinaha*.
- *Samprapti* of *Nasapratinaha* is complex, as various known, unknown, exogenous, or endogenous etiological factors are involved in the pathological process.
- In the present study, the prevalence of *Nasapratinaha* is more in males than females.
- Family history is insignificant in causing *Nasapratinaha*.
- *Baladi Ghrita Nasya* is effective than *Goghrita* in reliving the severity of disease.
- *Nasya* with *Goghrita* showed mild improvement/relief from the symptoms but nearly

all the symptoms aggravated again during follow up.

- By comparing both the groups, Group A patients those who were administered *Baladi Ghrita Nasya* showed a significant improvement / relief in the management of *Nasapratinaha*.
- Hence the efficacy of *Baladi Ghrita Nasya* in the management of *Nasapratinaha* is proved effective.

**REFRENCES**


1. Agnivesha - Charakasamhita with Ayurveda Dipika commentary of Charkapanidatta. Chaukhambha surabharathi prakashana, Varanasi, reprint 2000.
2. Agnivesha – Charakasamhita with Vidyothini Hindi Commentary by Pt. Kashinath Sastri and Dr. Gorakha Natha Chaturvedi, Reprint 1998. Chaukamba Bharati Academy Publication, Varanasi, Volume I, Volume II.
3. Annonymous – Yogaratnakara with Vaidyaprabha, Hindi Commentary by Dr. Indradevi Tripathi and Dr. Daya Shankar Tripathi, Krishnadas Academy, Varanasi, 1st Edition, 1998.
4. Bhavamisra – Bhavaprakash, Vidyotini Hindi Commentary, Choukambha Sanskrit Sansthan, Varanasi, 7th edition – 2000. Part I, Part II.
5. Bhela – Bhela Samhita, text with English translation commentary and critical notes by Dr. K H Krishna murthy. Chaukambha Vishwabharati Oriental publishers, Varanasi. 1st Edition, 2000.
6. Chakrapanidatta - Cakradatta with Tattvacandrika explanations and annotations of Sri Sivadas Sen and commentaries in Sanskrit by Pdt. Smd. Asubodha Vidyabushan and Pdt. Hityabodha Vidyaratha. Chowkhamba Orientalia, Varanasi. 1st Edition – 1993.
7. Dingra P L – Diseases of Ear, Nose and Throat, Elsevier publications, New Delhi, 3rd edition.
8. Govind Dasa – Bhaishajyarathnavali vidhyodhini hindi vyakya vimarsha by Kaviraj Sri Ambikadutta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, 15th edition – 2002.
9. Hall and Colman's – Diseases of Ear, Nose and Throat, Hurchill living stone, London, 15th edition - 2000.
10. I Simon Hall and Bernard H Colmen – Diseases of the Nose, Throat and Ear, ELBS with Churchill living stone, British government, 13th edition.
11. Kirtikar & Basu – Indian Medical Plants, 2nd Edition, Editor Blatter E, Cailus J.F., International Book Distributors,9/3 Rajapur Road, Dehradun.
12. Madhavakara – Madava nidana with madhukosha sanskrit commentary by Sri Vijaya rakshita and Srikantadutta with Vmala hindi commentary and notes by Dr. Bhramananda Tripathi, Published by Chaukhambha surabharathi prakashana, Varanasi, 2nd edition 1998.
13. Raja Radhakantha deva – Shabdha kalpa dhruma, Chaukamba sanskrit series office, Varanasi, 3rd Edition – 1967. Vol. 5.
14. Ramaling K K – A short practice of otolaryngology, All India publishers and distributors, 2nd edition – 2003. pp.
15. Sharangadhara – Sharangadhara Samhita with Adamalla's Dipika and Kashirams gudartha dipika, Chaukhambha Orientalia, Varanasi, 5th edition 2002.
16. Shodala – Gadanigraha with vidhyothini hindi commentary by Indradev Tripati, Choukamba sanskrit series office Varanasi 5th edition 1993. Vol 3.
17. Sushruta – Sushruta Samhita Ayurveda TattvaSandipika, Hindi Commentary, 11th Edition, 1997. Editor, Kaviraja Ambikadutta Shastri, Chaukamba Sanskrit Bhavana. Part II.
18. Sushruta – Sushurtasamhita with Nibandha Sangraha Commentary of Sri Dalhanacharya and Nyayachandrika panjika of Sri Gayadasacharya on Nidanasthana. Chaukhambha Orientalia, Varanasi, 6th edition 1997.
19. Vagbhata – Astanga Hridya with Sarvanga Sundara commentary of Arunadutta and Ayurvedarasayana of Hemadri. Chaukambha orentalia, Varanasi, 8th edition 1998.
20. Vagbhata – Astanga Sangraha, Translation by Prof. K R Srikantha Murthy, Chaukambha orentalia, Varanasi, 1st edition 1997, Vol 2, Vol 3.
21. Kashyapa Samhita- Vriddha Jivaka textbook with English translation and commentary by Prof. P. V. Tewari, Published by Chaukhambha Vishwabharati Oriental Publishers, 1st edition, 1996.
22. Vangasen- with Hindi Tika by Kaviraj Shaligramji Vaishya, Researched by Vd. Shankarlalji Jain, Published by Khemdas Shrikrishna Prakashana-Mumbai.
23. Scott Brawn- Edited by Michael Gleeson, Published by Butterworth-Heinemann, Printed and bound in Great Britain by Bath Press, Bath, Edition- 6th 1997.
24. ENT Simplified by Dr. Hathiram, Dr. Bachi and Dr. Grewal, Published by Bhalani Book Depot, Mumbai-1999.


**Cite this article as:**
Mayur V.Shiralkar, Devata M. Shiralkar, Shende Krushnadev. Comparative Study of Baladi Ghrita Nasya with Goghrita Nasya in the Management of Nasapratinaha. International Journal of Ayurveda and Pharma Research. 2015;3(8):77-90.

***Address for correspondence**
**Dr. Shende Krushnadev Laxman**
Asst. Prof., Dept. of Kayachikitsa,
D.Y. Patil Ayurved College, Pune,
M.S., India.
Email: dr.shende4126@gmail.com
Mobile: +919822588920