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The efficacy of *Haridra Khanda* on *Vataja Pratishyaya*

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Abstract

Allergic rhinitis is one of the most common and most prevalent ailments, with an equal distribution more or less throughout the world, rather without any exception to the developed and under developed countries. Bronchial asthma is the main complication of allergic rhinitis as; patients with nasal allergy are four times at risk of developing bronchial asthma. In allopathic medical system a wide range of antibiotics and decongestants are available, but these drugs give only symptomatic relief. So it is need of hour; to develop a treatment protocol, which helps the patients to overcome this pathetic condition. Hence this problem was selected for the study taking all these points into consideration. In this present study *Denibadi Phanta*, *Seetarama Vati* and *Haridra Khanda* were selected as oral drugs. All the (30) patients were registered and randomly divided into two groups. In group A, *Denibadi Phanta*, *Seetarama Vati* and in group B *Denibadi Phanta*, *Seetarama Vati* along with *Haridra Khanda* were administered for a period of one month. The effect of therapy in both groups was assessed by a specially prepared proforma. In both groups, an apparent change in all the signs and symptoms was observed. After enrolment of the patients, vital signs and symptoms of *Vataja Pratishyaya* such as nasal discharge, headache and nasal blockage were studied before and after the treatment. The results of the study indicated that the group B was bestowed with a significant relief in almost all the signs and symptoms of *Vataja Pratishyaya* (allergic rhinitis). Group A also exhibited encouraging results.

Keywords: *Vataja Pratishyaya*, Allergic rhinitis, Bronchial asthma

Introduction

Ayurveda is one of the world's oldest approaches to medicine. The Sanskrit word Ayurveda means; the knowledge for long life or the science of healthy living. *Shalakyatantra* is one of the branches of *Ashtanga* Ayurveda, specifically for the diagnosis, treatment and prevention of all the diseases occurring above the clavicle bones, such as eyes, nose, mouth, ears and head region. *Shalakyatantra*, while dealing with the diseases of the nose, has paid maximum attention to the disease *Pratishyaya*. *Vata*, *Pitta* and *Kapha* with *Rakta* accumulated in the region of the head and get vitiated due to several aggravated factors, give rise to the disease *Pratishyaya*. According to various *Acharya*, the disease *Pratishyaya* has been classified as five types; *Vataja*, *Pittaja*, *Kaphaja*, *Raktaja* and *Sannipataja*. *Vataja Pratishyaya* is the type caused by the aggravation of *Vayu* with the prominent features of *Vata Dosha*. In *Pratishyaya* produced by *Vata*, the symptoms are bloated and obstructed nose, release of thin fluid, dryness of the throat and lips, constant pain in the temples and disorders of voice^[1]. All the signs and symptoms of *Vataja Pratishyaya* are similar to allergic rhinitis in allopathic medicine. So the allergic rhinitis could be able to be compared with the disease *Vataja Pratishyaya*. Allergic rhinitis is an extremely common condition affecting approximately 20% of population. It affects 10-30% of adults and 40% children worldwide, estimated at 400 million people by World Health Organization. Allergic rhinitis is an inflammation of the nasal air ways caused by allergens. It occurs when an allergen

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such as pollen, dust is inhaled by an individual with a sensitized immune system. Immunoglobulin E (IgE) bound to mast cells are stimulated by pollen and dust, causing the release of inflammatory mediators such as histamine. This usually causes sneezing, itching and watery eyes, swelling and inflammation of the nasal passage and an increase in mucus production. It is difficult to treat and is seldom cured, but it may improve. Bronchial asthma is the main complication of allergic rhinitis. Allergic rhinitis is never a fatal illness. But it greatly disturbs day to day activities. In allopathic medicine; steroids, antihistamines, decongestants, cromolyn are used to treat allergic rhinitis. These drugs give only symptomatic relief and they can have undesirable side effects too^[2]. So, it is need to develop an effective treatment for this wide spread disease condition. Taking all these points into consideration, this problem was selected for the study.

Many preparations have been mentioned in Ayurveda texts for the treatment of *Vataja Pratishyaya*. *Haridra Khanda* is one of the best medicine used to treat skin diseases such as *Sheetapitta*, *Udarda*, *Kotha* and it is a main formulation for controlling the allergic conditions, which acts on immunity. In Ayurveda texts, *Haridra Khanda* does not come under the treatments of *Vataja Pratishyaya*. But in practice, it has been used often to treat *Vataja Pratishyaya*.

The main ingredient of *Haridra Khanda* is turmeric (*Curcuma longa*) which is known as an anti-allergic herb^[3]. Therefore this medication can be effectively employed in allergic conditions of the respiratory tract. So *Haridra Khanda* has been selected as an oral drug, to measure its efficacy in *Vataja Pratishyaya* (allergic rhinitis).

Materials and Methods

Selection of patients

Patients who attended the O.P.D. of Gampaha Wickramarachchi Ayurveda Hospital, Yakkala, were randomly selected irrespectively of their sex, religion, occupation and habitat.

A detailed research proforma was prepared incorporating all the points from Ayurveda and Allopathic medical aspects to study the patient as well as the disease.

Criteria for inclusion

Patients presented with clinical features of *Vataja Pratishyaya*

Age group - 16-50 years.

Criteria for exclusion

Patients who were suffering from other nasal pathologies or complications of allergic rhinitis were excluded. Other nasal congestion anomalies were also excluded. Patients who were under other drug treatments which can alter the results were excluded.

After selection of the cases, detailed histories of the patients as well as disease were recorded in the specific proforma.

Grouping and posology

Total of 30 patients were randomly selected and divided in to two groups as follows-

Group A: 15 patients with *Vataja Pratishyaya* were administered *Denibadi Phanta* and *Sitarama Vati* orally.

Group B: 15 patients with *Vataja Pratishyaya* were administered *Denibadi Phanta*, *Sitarama Vati* and *Haridra Khanda* orally.

Method of preparation of the research drug

The recipe of *Haridra Khanda* was taken from Bhaisajya Ratnawali^[4].

375 g of *Haridra* powder, 280 g of ghee, 3 liters of milk and 2.3 kg of sugar were taken. Then mixed together in vessel and cooked under mild fire. 46 g of powdered *Shunthi* (*Zingiber officinale* Rosc.), *Pippali* (*Piper longum* Linn.), *Maricha* (*Piper nigrum*), *Twak* (*Cinnamomum verum* Presl.), *Ela* (*Elettaria cardomomum* Linn.), *Patra*

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(*Cinnamomum tamala*), *Vidanga* (*Embelia ribes* Burm.), *Trivrit* (*Operculina turpethum* Linn.), *Haritaki* (*Terminalia chebula* Rertz.), *Vibhitaki* (*Terminalia bellirica* Roxb.), *Amalaki* (*Emblica officinalis* Gaertn.), *Keshara* (*Mesua ferrea* Linn.), *Musta* (*Cyperus rotundus* Linn.) and *Lauha Bhasma* were added from each. Then mixed the preparation well and fried. Finally the prepared drug *Haridra Khanda* was stored in a ghee smeared vessel.

Method of drug application

- *Denibadi Phanta* – One tea spoonful of *Denibadi Phanta* twice daily for a duration of one month.
- *Sitarama Vati* – 2- 4 *Vati* at a time twice daily for a duration of one month.
- *Haridra Khanda* – 15 g of *Haridra Khanda* twice daily for a duration of one month.

Follow up period: one month

Criteria for assessment

Criteria for assessment were done on the basis of relief of subjective and objective parameters of allergic rhinitis. The scale was used by rating the symptoms numerically according to the severity of the symptoms. Total effects of the therapy have been assessed in terms of completely cured, markedly improved, improved and unchanged.

General evaluation score for subjective criteria

Kshavathu (sneezing)

- 0 - No sneezing
- 1 - Frequency 1-10 sneezes
- 2 - Frequency 10-15 sneezes
- 3 - Frequency 15-20 sneezes

Nasavarodha (nasal obstruction)

- 0 - No obstruction
- 1 - Inhalation and exhalation with effort of mild obstruction
- 2 - Inhalation and exhalation with effort of moderate obstruction

3 - Complete blockage with total mouth breathing.

Nasa Srava (rhinorrhea)

- 0 - No discharge
- 1 - Occasional rhinorrhea with a feeling of running nose without visible fluid
- 2 - Rhinorrhea with occasional running nose with visible fluid
- 3 - Rhinorrhea with running nose which needs moping but controllable
- 4 - Severe rhinorrhea with copious fluid needs continuously moped

Shirahshula (headache)

- 0 - No headache
- 1 - Mild headache
- 2 - Moderate headache
- 3 - Severe headache, patient restless and able to carry routine work with great difficulty

Kandu (itching)

- 0 - No itching
- 1 - Mild itching
- 2 - Moderate itching
- 3 - Severe itching

Swrabheda (hoarseness of voice)

- 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

Shiro Gaurava (feeling heaviness of the head)

- 0 - No heaviness of the head
- 1 - Mild heaviness of the head
- 2 - Moderate heaviness of the head
- 3 - Severe heaviness of the head
- 4 - Very severe heaviness of the head (forced to take medicine)

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Gandhahani (loss of smell)

0 - No loss of smell

1 - Partial and unilateral loss of smell

2 - Partial and bilateral loss of smell

3 - Complete and unilateral loss of smell

4 - Total loss of smell

Criteria for overall assessment

The total effect of the therapy was assessed by considering following criteria.

- 1) Complete remission: 100% relief in the signs and symptoms
- 2) Marked improvement: more than 76% and less than 99% relief in the signs and symptoms
- 3) Moderate improvement: more than 51% and less than 75% relief in the signs and symptoms
- 4) Mild improvement: more than 26% and less than 50% relief in the signs and symptoms
- 5) Unchanged: below 25% relief in the signs and symptoms

Data was analyzed by using SPSS 16 statistical package and Ms excel 2007 packages.

Results

It was found that maximum number of patients (40%) belonged to the age group of 16-25 years; followed by 33.33% patients belonging to the age group of 26-35 years. According to the gender distribution, maximum percentage (53.33%) was observed under male predominance. While considering the occupation, results revealed that

majority of patients (40%) were students, followed by 26.66% were under office workers category.

Observation under aggravating factors maximum patients (73.33%) were exposed to dusty environment. In addition to other aggravating factors, involving with pets and seasonal changes were observed in 70% and 63.33% respectively (Figure 1).

While considering the symptoms maximum number of patients (36.66%) were accompanied by 40% with unilateral nasal obstruction, 80% with watery nasal discharge, 83.33% with itching in nose and 30% with heaviness of the head.

Considering the effect on cardinal symptoms of group A, highly significant results ($p < 0.00$) were obtained in *Kshavathu*, *Nasa Srava* and *Kandu*. Further, highly significant results were obtained in *Nasavarodha* at the level of $p < 0.005$, *Sirahshoola* at the level of $p < 0.008$ and *Shiro Gaurava* at the level of $p < 0.001$. No any significant effect found on *Swarabheda* and *Gandhahani* (Table 1 and Figure 2).

When data was analyzed on total effects of therapy group A was shown, 13.33% complete remission and in group B it was 40.00%. Marked improvement was found in 60.00% in group A and 53.33% in group B. Moderate improvement was observed in 26.66% patients in group A and 6.66% patients in group B. For mild improvement and unchanged category none of the patients were observed in both groups.

Table 1: Effect of both therapies on Vataja Pratishyaya (Group A and Group B)

Clinical feature	Group A			Group B		
	BT	AT	P value	BT	AT	P value
	Mean \pm SE	Mean \pm SE		Mean \pm SE	Mean \pm SE	
<i>Kshavathu</i>	29 \pm 0.21	3 \pm 0.21	$p < 0.000$	27 \pm 0.28	2 \pm 0.28	$p < 0.00$
<i>Nasavarodha</i>	19 \pm 0.23	6 \pm 0.23	$p < 0.005$	20 \pm 0.33	1 \pm 0.33	$p < 0.001$
<i>Nasa Srava</i>	29 \pm 0.20	2 \pm 0.20	$p < 0.00$	29 \pm 0.25	0 \pm 0.25	$p < 0.00$
<i>Sirahshoola</i>	13 \pm 0.26	1 \pm 0.26	$p < 0.008$	15 \pm 0.26	0 \pm 0.26	$p < 0.001$
<i>Kandu</i>	30 \pm 0.19	6 \pm 0.19	$p < 0.00$	28 \pm 0.15	2 \pm 0.15	$p < 0.00$
<i>Shiro Gaurava</i>	22 \pm 0.3	3 \pm 0.3	$p < 0.001$	22 \pm 0.31	3 \pm 0.31	$p < 0.001$
<i>Gandhahani</i>	7 \pm 0.15	3 \pm 0.15	$p > 0.235$	8 \pm 0.21	1 \pm 0.21	$p > 0.068$
<i>Swarabheda</i>	6 \pm 0.12	1 \pm 0.12	$p > 0.069$	14 \pm 0.28	0 \pm 0.28	$p < 0.003$

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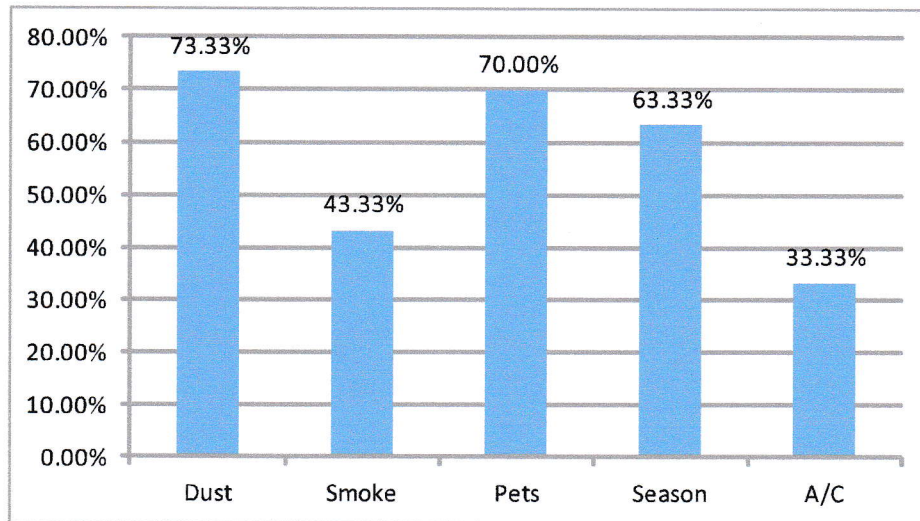


Figure 1: Aggravating factors of *Vataja Pratishyaya* according to distribution of patients

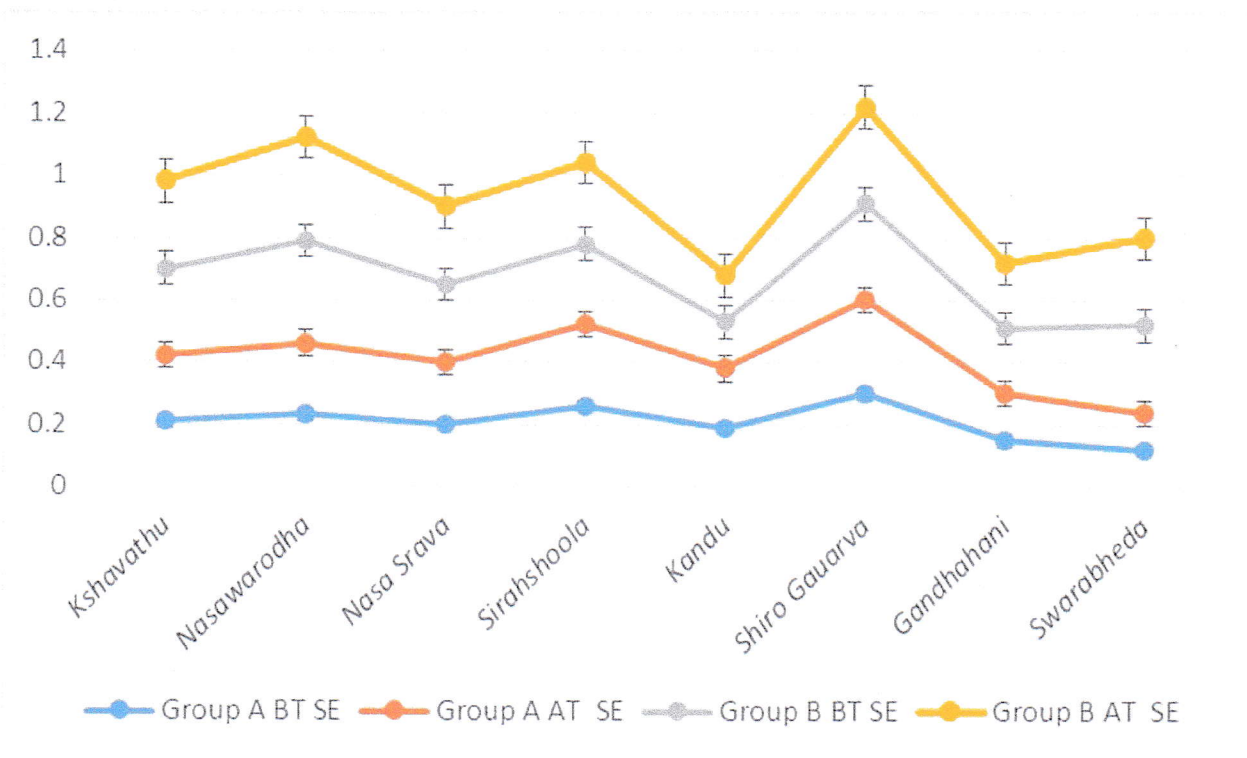


Figure 2: Effect of both therapies on *Vataja Pratishyaya* (Group A and Group B)

Discussion

Considering the age group, majority of patients were reported in 16-25 age group. This is the age group where individuals are active and enjoying their life in their own ways. Therefore, they are

often exposed to dust. Intake of cold drinks and cold water is also a causative factor among this age.

Maximum number of patients was males. This is because males have maximum exposure to dusts

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and smoke at outdoors. Dust is one of the main allergen which is responsible for this disease. It can be said that various habits and occupations are also responsible for the male patients. Females are lesser affected persons from these types of precipitating factors.

Reasons for students are; highly affected poor hygiene, polluted weather, dust, and their fast and changing life style. This adolescent period is also one, which marks the change in a person from childhood to adulthood. This is the period wherein hormones are unstable and subtle changes start occurring in the body. As a result, the immunity is also challenged and the person is exposed to infections and allergies easily. Also often exposure to air conditioner can be a reason.

Better relief was found in group B (92.59%) than in group A (89.65%) in sneezing. Both are statistically highly significant ($p < 0.00$). 68.42% relief was found in group A and 95% in group B in nasal obstruction. Statistically it is highly significant ($p < 0.005$) in group A and ($p < 0.001$) group B. Even though all these values are statistically highly significant, group B showed better result than group A. 100% relief was found in group B and 93.1% in group A in rhinorrhea. Statistically it is highly significant ($p < 0.00$) in both groups. Headache reduced 92.1% in group A ($p < 0.008$), 100% in group B ($p < 0.001$). Both these values are statistically highly significant, but group B showed better results than group A. Almost equal relief was observed in group A (86.36%) and group B (86.36 %) in heaviness of the head. Both are statistically highly significant ($p < 0.001$). Itching reduced 80% in group A ($p < 0.00$) and 92.85% in group B ($p < 0.00$).

Two patients were found with complete remission in group A (13.33%) and 06 patients were found in group B (40%). Marked improvement was found in 09 (60%) patients in group A and 08 (53.33%) patients in group B, 04 (26.66%) patients were observed with moderate improvement in group A and 01 (6.66%) in group B. No one was found with mild improvement or without any change in both groups. As a whole

total among 30 patients which has been studied, a total of 08 (26.66%) patients showed complete remission, 17 (56.66%) patients showed marked improvement, 05 (16.66%) patients showed moderate improvement. The effect of therapy was statistically highly significant at the level of $p < 0.005$ in all cardinal symptoms except for the *Gandhahani* in group B. While group A, was highly significant at the level of $p < 0.005$ in all cardinal symptoms except for *Gandhahani* and *Swarabheda*.

When considering all the above observations it is evident that *Haridra Khanda* combined with *Seetarama Vati* and *Denibadi Phanta* (group B) showed better response in patients than *Seetarama Vati* and *Denibhadi Phanta* without *Haridra Khanda* (group A).

Also in the follow up study, it was clear that the persistence of relief in signs and symptoms were better in group B than group A.

The causative factors for *Pratishyaya* are the abnormalities of *Agni*, *Dhatu*, *Dosha* and reduction of *Vyadhi Kshamatva Shakti*. So the ultimate aim of the treatment should be correcting all these involved factors. The concept of *Agni* is of paramount interest in Ayurveda. Disturbances of *Agni* results in *Ama* formation which by itself may culminate various ailments or by thwarting absorption and assimilation impeding the efficacy of the drug used in treatment.

In *Haridra Khanda*, most of the drugs have *Agnivardhaka*, *Deepana* and *Pachana* properties which provoke the *Agni*. Another important concept forwarded by the Ayurveda system of medicine is *Rasayana*. However, there were no direct references found in Ayurveda classics outlining the exact mode of *Vyadhikshamatva Shakti*. *Haridra Khanda* having *Rasayana*, *Jeevaniya*, *Balya*, *Vrumhaniya*, *Ojovardhaka*, *Ayurvedhaka*, *Dhatuposhaka* properties, indirectly increases the *Vyadhikshamatva shakti*.

On the other hand, when reviewing the available Ayurveda literature of *Rasayana*, *Jeevaniya*, *Balya* and *Ojovardhaka* drugs it reveal that most

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of these drugs carry *Prithv* and *Vayu Bhuta* predominance. Considering the *Bhautika* (physical) composition of *Haridra Khanda*, it is seen that the compound is having *Vayu* (35%), *Prithvi* (23%), and *Agni* (18%) predominance. Thus, the process of *Rasayana* invariably involves regeneration of the *Dhatu*. Hence *Haridra Khanda* may undoubtedly augment the process of tissue resistance or repair.

To sketch the mode of action of a drug it is also imperative to look into the *Rasapanchaka* or the properties of the drug.

When screening the *Rasa* of the ingredients of *Haridra Khanda*; *Katu* (30%), *Tikta* (23%) *Rasa*, and *Katu Vipaka* (44%), subsides the *Nasa Kandu*, *Kasa*, *Ghana Nasa Srava*, *Agnimandhya*, and *Jwara*. The drug on dominant of its *Madhura Rasa* is found 25% and 56% is *Madhura Vipaka*. It has *Snigdha*, *Guru* properties and also elevates *Vata*. Among the functions ascribed to *Madhura Rasa* are *Vrumhana*, *Jeevana* and *Balya*. These properties are very much in favor of building up tissues and may increase the *Vyadhikshamatva* and alleviates *Kshavathu*, *Shirahshoola* by its *Vatapittahara* property.

The *Guna* present in the ingredients of the selected drug are *Laghu* (30%), *Ruksha* (28%) and *Tikshana* (14%) which alleviate *Nasa Srava* and *Kasa* symptoms whereas *Snigdha* (12%) and *Guru* (9%) acts as *Balya*, *Tarpana* and *Vrumhana*. *Virya* is dominated by *Ushna* (55%), which has been also mentioned as *Vata Kapha Shamaka*, *Pachana* and *Dipana* actions.

Pratishyaya results from the vitiation of *Vata* and *Kapha*. Various ingredients of *Haridra Khanda* having *Vata Kapha Shamaka* (34%), *Tridosha Shamaka* (33%) properties help to bring the affected *Dosha* back to the normal level.

Haridra Khanda is prescribed as an ideal drug in choice selected for managing allergic condition in oral administration.

The main content of this drug is *Haridra*; having *Laghu*, *Ruksha Guna*, *Katu Vipaka*, and *Ushna Virya* helps in digesting the vicious *Kapha* and thus

reduce nasal obstruction. *Haridra* having *Shothahara*, *Kandughna*, *Vishaghna*, and *Raktashodhaka Karma* helps in relieving the symptoms of the disease.

Goghrita, *Godugdha* and *Sita* are *Madhura* in *Rasa*, *Guru*, *Snigdha* in *Guna*, *Sheeta* in *Virya* and *Madhura* in *Vipaka*. They also have *Rasayana*, *Ojovardhaka*, *Balya*, *Vrumhana* properties that may increase *Vyadhikshamatva* and decrease the chance of recurrence.

Prakshepa Dravyas like *Trikatu*, *Trijata*, *Triphala* have *Deepana*, *Pachana*, *Vatanulomana*, *Shothahara*, *Shleshmahara*, *Jwaraghna*, *Kaphanissaraka*, *Rasayana*, *Balya* properties^[5,6].

Anti-inflammatory, analgesic, antipyretic, antioxidant, immuno-modulatory, anti-allergic, anti-histaminic activities of ingredients of *Haridra Khanda* are scientifically proven.

Conclusion

It is concluded that oral administration of *Denibadi Phanta* and *Seetarama Vati*, and oral administration of *Denibadi Phanta*, *Seetarama Vati* and *Haridra Khanda*, are both effective in treatment of *Vataja Pratishyaya* (allergic rhinitis). Out of these, oral administration of *Denibadi Phanta*, *Seetarama Vati* and *Haridra Khanda* is the most effective treatment.

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