ROLE OF **TRIPHALA RASAYANA** IN THE PREVENTION OF RECURRENT RHINITIS- AN OPEN CLINICAL TRIAL

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**ABSTRACT**

Changing lifestyle, increased pollution, urban sprawl and increase resistance to the antibiotics are responsible for increased prevalence of many diseases. Nose being exposed to the external environment, is more prone to all these causes and recurrent infections. Upper respiratory tract infection is a common problem among all age groups. As India is a developing country, the incidence of upper respiratory tract infection is very high here. The most common problem related with upper respiratory tract is Rhinitis which in the later stage converts into recurrent rhinitis. The body demands a more holistic approach in treatment, hence indigenous system of medicine especially *Triphala rasayana* can play major role in finding a safe, simple and cost effective solution for the prevention of recurrent rhinitis. The clinical study was conducted on 30 patients and the drug, *Triphala Rasayana* was given in the form of *churna*, in a dose of 10gm twice daily in adults and as per Young’s formula in children along with *Madhu & Gritha* for 60 days. Assessment based on clinical Symptoms and haematological values was done before, after and during follow up. The study shows that all symptoms of recurrent rhinitis were reduced, compared to before therapy and up to fourth follow up and is seen statistically highly significant. All haematological mean values were also seen statistically significant but IgE mean value is insignificant. So Triphala Rasayana is an ideal choice in preventing Recurrent Rhinitis for long time.

**Key words:** Recurrent Rhinitis, *Triphala Rasayana* and Prevention of recurrent rhinitis.

**INTRODUCTION**

In the present scientific era, people are fed up with the side effects and after effects of the most effective and fast acting modern drugs, which are lowering the human immunity at the same time when they are suppressing disease. The use of naturally available substances to relieve the ailment by men as well as animals is as old as beginning of life.

*Ayurveda* is an age-old science of health, which emphasizes on the maintenance of health rather than to cure the disease. So, now a days people are coming back to the nature from synthetics, hence, *Ayurveda* will be the future medicinal science not only of India, but of the world. In *Ayurveda*, Life is defined as conjunction of body, soul, mind and senses. Each has been given due importance in the maintenance of health, prevention and cure of disease.

In today’s world there are some diseases which are rampant and need to be given special attention. Changing lifestyle, increased pollution, urban sprawl and increase resistance to the antibiotics are responsible for increased prevalence of many diseases. Nose being exposed to the external environment, is more
prone to all these causes and recurrent infections. Upper respiratory tract infection is a common problem among all age groups. As India is a developing country, the incidence of upper respiratory tract infection is very high here. The most common problem related with upper respiratory tract is *Pratishyaya* or Rhinitis which in the later stage converts into recurrent rhinitis. The acute stage leads the disease to chronic phase. Paralysis of cilia and blockage of the sinus ostia will lead to the retention of discharge and sinus remain as closed cavity with purulent discharge in chronic phase. Complications like tonsillitis, pharyngitis, laryngitis, otitis media etc. are also common in this stage.

There are no standardized criteria laid in any authentic textbook of medicine or pathology regarding the number of episodes that are essential to coin the term recurrent rhinitis. In this condition include the recurrent infectious rhinitis, chronic rhinitis, vasomotor rhinitis, allergic rhinitis etc. Recurrent infectious rhinitis is usually defined as more than five episodes per year. (Bellanti, 1997; Graham, 1990; Teele et al., 1989). In the present study recurrence of at least one episode of rhinitis for last three months or 4 episodes for last every year had taken as the criteria.

According to Ayurvedic classics recurrent means, *bhutwa bhutwa* and rhinitis means *pratishyaya*. So, recurrent rhinitis may be correlated with *sannipataja pratishyaya*. The cardinal symptoms are “*Bhutwa bhutwa pratishyayo yo akasmatvinivartate*” means symptoms of pratishyaya appear and disappear without any cause, this is recurrent episodes of rhinitis, entitled recurrent rhinitis.

Ayurvedic physicians have formulated single as well as compound drugs for the cure and prevention of various ailments. As many systemic and local therapeutic applications have been mentioned in Ayurvedic classics for the treatment of rhinitis but to overcome the limitations of single drug therapy, the practice of compound drugs came into existence owing to slow acting nature of herbal drugs.

The compound drug “TRIPHALA RASAYANA” has no direct reference in the curative and preventive aspect of rhinitis in Ayurvedic Samhitas, but customarily ingredient of this Rasayana having deepan, pachan, nourishment of dhatu, Rasayana properties and modern aspect properties are Antibacterial, Antimicrobial, Antiviral, Antioxidant, Anti-inflammatory, Anti-allergic and Immunomodulatory, intended to improve the body defense system as well as general nutrition of the patient. There are drugs that cure the disease temporarily but there may be recurrence. There for, a Rasayana is selected here which will help the patient to relieve the symptoms and prevent the recurrence for long time.

**OBJECTIVE:**
1. To study etiopathogenesis of recurrent rhinitis.
2. To assess the efficacy of “Triphala Rasayana” in preventing Recurrent Rhinitis.

**MATERIALS AND METHODS:**

- **REVIEW OF RELATED LITERATURE:**
  An authentic and detailed review of the subject will be collected from Ayurvedic classics, medical books, journals and internet. Relevant research data will also be included.

- **DRUG PREPARATION:**
  Triphala Rasayana (ch.chi.1-3/45)
  1. Triphala (Haritaki, Bhibhitaki, Amalaki)
  2. Madhuka
  3. Tugakshee
  4. Pippali
  5. Sita
  6. Madhu
  7. Ghrita

- **METHOD OF STUDY:**
Role Of Triphala Rasayana In The Prevention Of Recurrent Rhinitis- An Open Clinical Trial

a. Selection of subjects:
The Patients was selected according to the inclusion and exclusion criteria in out-patient unit of Govt. Ayurveda College hospital, Tripunithura.

b. Inclusion criteria:
- Patient with recurrent rhinitis.
- Age groups – 5 to 50 year
- Individuals irrespective of Gender.
- Patient with written informed consent.

c. Exclusion Criteria:
- Patient suffering from chronic illness like Tuberculosis, Diabetes mellitus etc.
- Diagnosed HIV Positive cases
- Diseases of upper respiratory tract in which surgical management are indicated like nasal polyp, tumor of nose, deviated nasal septum cleft palate etc.

SUMMARY OF STUDY DESIGN:
- Period of Therapy – 2 months
- Dose – Child dose - will be calculated by Young’s formula
  - Adult dose - 10 gm twice daily.
- Total subjects – 30
- Selection of subjects as per inclusion and exclusion criteria.
- Study Setting – Out-patient unit of Govt. Ayurveda college and Hospital, Tripunithura

ASSESSMENT CRITERIA:
- Frequency of Rhinitis.
- Rhinorrhoea
- Sneezing
- Nasal obstruction:
- Head ache
- Loss of smell (Anosmia)
- Itching of nose
- Watering of eyes
- these all sign and symptoms of recurrent rhinitis was graded with grade 0, grade 1, grade 2, and grade 3

Investigations:-
- Absolute Eosinophil count.
- Hb%
- IgE test

RECURRENT RHINITIS:
There are no standardized criteria laid in any authentic textbook of medicine or pathology regarding the number of episodes that are essential to coin the term recurrent rhinitis. In this condition include the recurrent infectious rhinitis, chronic rhinitis, vasomotor rhinitis, allergic rhinitis etc. Recurrent infectious rhinitis is usually defined as more than five episodes per year. (Bellanti, 1997; Graham, 1990; Teele et al., 1989). In the present study recurrence of at least one episode of rhinitis for last three months or 4 episodes for last every years was taken as the criteria.

In Ayurvedic classics recurrent rhinitis means, recurrent means bhutwa bhutwa and rhinitis means pratishyaya, so mays be correlated with sannipatja pratishyaya. In this pratisyaya having cardinal symptoms are “Bhutwa Bhutwa Pratishyaya Yo aksmatvinivartate” ¹ means symptoms of pratishyaya appear and disappear without any cause, this is recurrent episodes of rhinitis, entitled recurrent rhinitis.

NIDANA:
The term Nidana is designated to the cause of the disease as well as the diagnosis of the disease. Etiological factors are the first modalities among the main 5 diagnostic methods (Pancha Nidana Lakshana) described in Ayurvedic texts. ²

Knowledge of Nidana is very essential for the perfect diagnosis of the disease as well as in treatment. Primary treatment principle postulated by Acharya Sushruta is “Samkshepatah kriyayogo nidanparivarjana”³

So it is very essential to know the Nidana in detail before starting the treatment. The Nidana of any diseases can be multifa-

¹
²
³
rious in nature. The same seems to be true in
case of the disease Pratishyaya.

Acharya Sushruta has divided Nidanas
of Pratishyaya in to two categories i.e. Sadhyojanaka and Kalantarajanaka.

Sadyojanaka Nidana;⁴

Naariprasanga (indulgence in wom-
en), Shirshobhitapa (injury to the head), Dhuma-
sevana (assault by smoke), Raja (assault by
dust), Shitam (exposure to mist, fog, rain etc.),
Atipratapa (exposure to sunlight), Sandhar-
nam mutrapurish (suppression of urges of
urine and faeces) are the immediate cause of
Pratishyaya.

Kalantarajanaka Nidana;⁵

Vata and other doshas either individu-
ally or in combination and also with raka,
getting aggravated by exciting causes accumu-
late in the head and produce Pratishyaya.

In Yogaratnakara and Bhavaprakasha
also two types Sadhyojanaka and
Kalantarajanaka of Nidanas are accepted⁶

SAMPRAPTI:

The way in which the Dosha gets vi-
tiated and the course it follows for the mani-
festation of disease is called Samprapti. A pro-
er understanding of Samprapti is vital for the
treatment since Chikitsa is illustrated in the
Ayurvedic text is nothing but ‘Samprapti Vig-
hatana’.⁷

Acharya Sushruta:

According to Acharya Sushruta when
Vata, Pitta, Kapha and Rakta singly or togeth-
er accumulate in Shirah and afterwards get
vitiatied by different aggravating factors then it
give rise to disease Pratishyaya.⁸

Acharya Charaka:

According to Acharya Charaka, when
Kaphadi Doshas get lodged in excess quantity
in Shirah and then due to indulgence in caus-
ative factors of Pratishyaya, Vata Dosha in-
creases in Shirah (head) and produces Prati-
shyaya.⁹

Acharya Vagbhata:

Due to indulgence in Vata aggravating
factors Vata Dosha gets vitiatied and localised
in the nasal cavities and give rise to Prati-
shyaya.¹⁰

Acharya Kashyapa:

Due to indulgence in causative factors
of Pratishyaya (mentioned earlier), Vata Do-
sha gets vitiatied and goes towards the differ-
ent Srotas by vitiating Urthva Kaphashaya or
Murdha (head and neck). If the Khavaigunya
is present in the Nasa, the Vata Dosha gets
lodged here, and vitiates the Kapha, Pitta or
Rakta which are already lodged in Nasikamu-
la, causing secretions and other symptoms.
Such a condition is called Pratishyaya.¹¹

➢ Acharya Madhava, Yogaratnakara and
Bhavaprakasha have followed Acharya
Sushruts opinion.¹²

Indulgence in Sadhyojanaka Nidanas
(Immediate causes or precipitating causative
factors) causes immediate vitiatiion of Doshas
(Achaya Prakopa) and causes Pratishyaya.
Hence, they can also be considered as Sanni-
krishta Hetus (Immediate causative factors).¹³

In Nidanas (Pratishyaya due to distant
causes), the continuous exposure to Kalantarajanaka Nidanas (Distant causative factors)
causes Aagnimandya, Prakopa of Pranavayu,
Pachaka Pitta, Tarpaka Kapha, vitiatiion of
Rasa and Rakta Dhatus, Rasavaha, Raktavaha
and Pranavaha SrotoduShiti which all causes
the Sthanasamshraya of Doshas in Shirah.
The vitiatiated Doshas pass through all six
Kriyakalas to produce the disease Pratishyaya.

In the development of the disease Prat-
ishyaya above Nidanas (Causative factors)
play major role.
The Pratishyaya can occur either by insidious onset or by acute onset. Samprapti of both of these are different from one another.

In certain individuals (mild allergic patients) a mild Srotovaigunya temporarily or permanently exists. In such a condition due to simple Nidanas like change of reasons (Prakrita chaya of Doshas), with a simple soft drinks, riding on motor cycle on an industrial area and intercourse will produce Pratishyaya to the person. In these, simple causes acts as Sannikrishta Nidana. Due to the frequent exposure to foretold environment as well as due to the vitiation of Doshas according to circadian rhythm, the subject will be always in a status with mild Srotovaigunya. Such persons are very susceptible to be affected with this disease.

Pratishyaya of insidious onset is permanent and recurrent. This is resulting from a severe Srotodushti. This Srotodushti can happen mainly by three ways.

- Conversion of mild Srotodushti of acute Pratishyaya in to chronic form.
➢ Local Doshas undergone Sanchaya and 
latter subjected to persistent 
Prakopyamana hetu (Prakopyaman hetu-
Madhukosha) like Divaswapna can produce 
this type of Srotodushti.

➢ Doshas vitiated in whole body due to the 
Nidanas like Virudhasana or secondary to 
certain disease like Rajayakshma after its 
dislodgement making 
Sthanasamshraya at Pranavaha srotas can 
produce Pratishyaya.

All above mechanisms can represented diagrammatically as

Due to indulgence in Nidanas

Causative factors

Vitiation of Kapha, Pitta and Rakta

Causing Avarana of Vata (Udana Vata)

Gati of Vata is obstructed (Ch. Chi. 28/4)

Leading to

Movement of Vata in Upward direction

Doshas get lodged in the head

Giving rise to

PRATISHYAYA

Figure No. - 2 Samprapti chart 2

Here due to Nidana Sevana there is 
Vitiation of Kapha, Pitta and Rakta, while Va-
ta is in Sam Avastha. These vitiated Doshas 
are obstructing the normal Gati of Vata, due to 
which there is Urdhwa gamana (movement in 
upward direction) of Vayu. Doshas get lodged 
in the head, giving rise to the disease Prati-
shyaya.

This Samprapti takes place when 
causative factors are mainly Vata vitiating. 
Such causative factors vitiate Vata, leading to 
its Vriddhi. Here Kapha, Pitta and Rakta are 
in Sam Avastha. But they’ll obstruct the Gati 
of this Vata causing Avarana of Vayu. Doshas 
get lodged in Shirah Pradesh. This Vridhha 
Vata expels out Kapha, Pitta and Rakta 
through Nasal route, giving rise to symptoms 
of Pratishyaya.
Here Vata gets vitiated with its own etiological factors and Kapha, Pitta and Rakta gets vitiated with their etiological factors. Both are individually vitiated. This vitiated Kapha, Pitta and Rakta will obstruct the Gati of Vata causing its ‘Avarana’ which leads to the Urddhagamana of Vata, Sthana-Sanshraya in Shirah Pradesh, and giving rise to the disease Pratishyaya.

TRIPHALA RASAYANA:

Triphala mix with Madhuka, Tugakssheeri, Pippali, and Sita along with Madhu and Ghrita, entitled Triphala Rasayana, is mentioned by Acharya Charaka in the triiya pada of Rasayana chapter in Chikitsa sthana i.e. considered in Vatatapika Rasayana and Naimittika Rasayana.

Rasa Panchaka of Triphala Rasayana:

Cumulative Rasa Panchaka of all ingredients of Triphala Rasayana:

Rasa: Customarily Madhura, followed by kashaya, katu, Tikta and Amla Rasa
Gunà: Customarily Laghu - Ruksa followed by Guru – Snigdh, Sheeta, Teekshna, Sara and Yogavahi Gunà.

Veerya: Customarily Sheeta veerya followed by Ushna veerya.
Vipaka: Madhura vipaka.
Doshaghnata: Customarily Vatashamaka followed by Pittashamaka and Kaphashamaka that’s by Triphala Rasayana is Tridoshashamaka.
Anupana of Triphala Rasayana: Madhu and Ghrita are having Madhura rasa and vipaka, Sheeta veerya and Guru, Ruksha, Snigdha, yogavahi Gunà, it is also having Tridoshashamaka. Madhu and Ghrita are to be used in unequal quantities.
Karma: Deepana – Pachana, Rochaka, Chakshushhya etc.

Pharmacological Activities:
Pharmacologically Triphala is having Immunomodulatory, Antimicrobial, Antibacterial, Antioxidant, Antiviral and Anti-inflammatory properties.
PROBABLE MODE OF ACTION OF TRIPHALA RASAYANA IN RECURRENT RHINITIS:

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

The concept of Agni is of paramount interest in Ayurveda. Disturbances of Agni result in Ama formation which by itself may culminate in various ailments. The role of ama in generating the disease pratishyaya is undeniable. So the first aim should be the correction of agni. In triphala rasayana most of drugs having deepana, pachana action through their laghu and rukshaguna.

Another important concept forwarded by the Ayurvedic system of medicine is that of Vyadhikshamatva Shakti. In other words it can be compared with Immunity of body. All ingredients of triphala rasayana is having a direct immunomodulatory, antimicrobial and antioxidant activity. The main ingredient of the rasayana i.e the triphala is proved for its immunomodulatory action. We can explain the immunomodulatory action of triphala as it is a rare combination of three drugs, amalaki, harreetaki & vibhhitaki of which the first two are bestowed with the agrya guna of rasayana. Since the process of Rasayana invariably involves regeneration of the dhatus, Triphala rasayana may undoubtedly augment the process of tissue resistance or repair.

Triphala, as a combination possess tridoshasamana especially vata kapha samana along with raktadosha prasamana properties (AH), so it makes sense then that it can be used as a samana therapy in recurrent rhinitis where a possibility of rakthadushti is also there.

Next, in pratishyaya the main dosha vitiated is vata. So a combination which is used to cure pratishyaya should be more vata-samaka with tridosha samana properties. On analyzing the dosha samakatwa of triphala rasayana as a whole, there is more vata samaka property. Next is pitta samaka, which is ideal as in recurrent rhinitis chronicity is an important factor which is pointing towards the involvement of pitta dosha. Which goes in hand with acharya susrutas view of sannipata pratisyyya, where dosha is pitta pradhana. So an ideal combination which is more vata pitta samaka can be used in recurrent rhinitis and triphala rasayana satisfies that criteria.

The rasa panchaka of triphala rasayana reveals that it is madhura rasa pradhana and madhura vipaka which can attribute to the balya, jeevaneeya line of treatment in recurrent rhinitis. In recurrent rhinitis the immunity of the body is in a totally depleted condition. Madhura rasa and madhura vipaka is balya and jeevaneeya. So it can be used in an immunocompromised state as in recurrent rhinitis. Eventhough rasa and vipaka is madhura, as a combination of drugs triphala rasayana possess more of laghu rukshaguna.

In recurrent rhinitis state, the channels are blocked due to the ama nature of dhatus especially the rasa dhatu.so srotosodhana should be the first aim followed with the use of balya, jeevaneeya and rasayana drugs. Triphala rasayana satisfies all these criteria as guna predominant is laghu and ruksha, which can help in eliminating the ama dosha from the obstructed channels. It also helps in reducing the increased kapha dosha and thereby alleviating kapha dosha predominant symptoms like heaviness of head, watering of eyes, rhinorhhoea etc. Madura rasa and madhura vipaka helps in adding a balya and jeevaneeya property.
**Madura rasa** is Snigdha, Guru and also elevates Vata. Among the functions which are ascribed to Madhura Rasa are brimhana, Jeevana and Balya. These properties are very much in favour of building up tissues and may increase Vyadhikshamatva and alleviate Kshavathu, Shirahsholla etc.

Goghrita, Sita are Madhura in Rasa, Guru, Snigdha in Guna, Sheeta in Virya and madhura in Vipaka. They also have rasayana, Ojovardhaka, Balya, Brimhana etc. properties that may increase Vyadhikshamatva and decrease the chance of recurrence.

At modern side, most of ingredients of Triphala rasayana are proved as Immunostimulator, Antiinflammatory, Antimicrobial, Antibacterial, Antiviral, Analgesic, Antipyretic, Antioxident, Anti allergic, Anti histaminic pharmacologically. These properties, intended to improve the body defense system as well as general nutrition of the patient to relieve the symptoms and prevent the recurrence for long time.

**RESULT:**

**A. Related with presenting complaints**

**On Frequency of rhinitis:**

In this study, mean score of frequency of rhinitis before therapy was 2.53. After therapy mean score was reduced to 0.33, then from first follow up to fourth follow up mean score was gradually augmented i.e. 0.53, 0.86, 1.03, and 1.13 in first, second, third and fourth follow up respectively. But they were all less compared to before therapy mean score was reduced. So, this therapy prevents the frequency of rhinitis up to fourth follow up but more effective after therapy then gradually decreases.

When assessed with Wilcoxon signed-rank test, compared to before therapy, the reduced severity of frequency of rhinitis up to fourth follow up is seen to be highly significant statistically (P<0.001).

**On Rhinorrhea:**

In this study mean score of rhinorrhea before therapy was 2.4. After therapy mean score was reduced to 0.36, then from first to fourth follow up mean score was gradually augmented i.e. 0.50, 0.73, 0.93, and 0.96 in first, second, third and fourth follow up respectively. But they were all less compared to before therapy mean score was reduced. So, this therapy prevents the rhinorrhea up to fourth follow up but more effective after therapy then gradually decreases.

When assessed with Wilcoxon signed-rank test, compared to before therapy, the reduced severity of rhinorrhea up to fourth follow up is seen to be highly significant statistically (P<0.001).

**On Sneezing:**

In this study mean score of sneezing before therapy was 2.13. After therapy mean score was reduced to 0.40, then from first to fourth follow up mean score was gradually augmented i.e. 0.50, 0.80, 1.03 and 1.13 in first, second, third and fourth follow up respectively. But they were all less compared to before therapy mean score was reduced. So,
this therapy prevents the sneezing up to fourth follow up but more effective after therapy then gradually decreases.

In the prevention of sneezing, it was found that, percentage of relief after therapy was 81.2 % and on the first follow up 76.5 %, second follows up 62.4 %, third follow up 51.6 % and fourth follows up 46.9 %. So after therapy and first follow up the sneezing was markedly prevented and then gradually decreasing and moderately prevented up to fourth follow up.

When the assessed with Wilcoxon signed-rank test, compared to before therapy, the reduced severity of sneezing up to fourth follow up is seen to be highly significant statistically (P<0.001).

**On Nasal obstruction:**

In this study mean score of nasal obstruction before therapy was 1.33. After therapy mean score was reduced to 0.16, then from first to fourth follow up mean score was gradually augmented i.e. 0.36, 0.60, 0.73 and 0.83 in first, second, third, and fourth follow up respectively. But they were all less compared to before therapy mean score was reduced. So, this therapy prevents the nasal obstruction up to fourth follow up but more effective after therapy than gradually decreases.

In the prevention of nasal obstruction, it was found that, percentage of relief after therapy was 87.9 % and on the first follow up 72.9 %, second follows up 54.8 %, third follow up 45.1 % and fourth follows up 37.5 %. So after therapy the nasal obstruction was markedly prevented. On first and second follow up it was moderately prevented then gradually decreasing and the prevention was mild up to fourth follow up.

When the assessed with Wilcoxon signed-rank test, compared to before therapy, the reduced severity of nasal obstruction up to fourth follow up is seen to be highly significant statistically (P<0.001).

**On Headache:**

In this study, mean score of headache before therapy was 1.43. After therapy mean score was reduced to 0.13, then from second to fourth follow up mean score was gradually augmented i.e. 0.23, 0.040, 0.60, and 0.83 in second, third, fourth, fifth and six month after therapy. But they were all less compared to before therapy mean score was reduced. So, this therapy prevents the headache up to fourth follow up but more effective after therapy then gradually decreases.

In the prevention of headache, it was found that, percentage of relief after therapy was 90 % and on the first follow up 83.9 %, second follows up 72 %, third follow up 58 % and fourth follows up 41.9 % respectively. So after therapy and first follow up the headache was markedly prevented and then gradually decreasing and moderately prevented up to fourth follow up.

When the assessed with Wilcoxon signed-rank test, compared to before therapy, the reduced severity of headache up to fourth follow up is seen to be highly significant statistically (P<0.001).

**On Loss of smell:**

In this study, mean score of loss of smell before therapy was 0.70. After therapy mean score was reduced to 0.06, then from first to fourth follow up mean score was gradually augmented up to fourth follow up i.e. 0.10, 0.10, 0.16, and 0.20 in first, second, third and fourth follow up respectively. But they were all less compared to before therapy mean score was reduced. So this therapy prevent the loss of smell up to fourth follow up but more effective after therapy then gradually decreases.

In the prevention of loss of smell, it was found that, percentage of relief after ther-
apy was 91.4 % and on the first follow up 85.7 %, second follows up 85.7 %, third follow up 77.1 % and fourth follows up 71.4 %. So up to third follow up the loss of smell was markedly prevented and on fourth follow up it was moderately prevented.

When the assessed with Wilcoxon signed-rank test, compared to before therapy, the reduced severity of loss of smell up to fourth follow up is seen to be highly significant statistically (P<0.001).

On Itching of nose:

In this study, mean score of itching of nose before therapy was 0.76. After therapy mean score was reduced to 0.06, then from first to fourth follow up mean score was gradually augmented i.e. 0.26, 0.33, 0.43 and 0.50 in first, second, third and fourth follow up respectively. But they were all less compared to before therapy mean score was reduced. So this therapy prevent the itching of nose up to fourth follow up but more effective after one month then gradually decreases.

In the prevention of itching of nose, it was found that, percentage of relief after therapy was 92.1 % and on the first follow up 65.7 %, second follows up 56.5 %, third follow up 43.4 % and fourth follows up 34.2 %. So after therapy the itching of nose was markedly prevented. On first and second follow up it was moderately prevented then gradually decreasing and the prevention was mild up to fourth follow up.

When the assessed with Wilcoxon signed-rank test, compared to before therapy, the reduced severity of itching of nose up to fourth follow up is seen to be highly significant statistically (P<0.001) up to third months then high significant statistically (P<0.01).

On Overall effect of therapy in prevention of recurrent rhinitis:

In this study, among all the signs and symptoms of recurrent rhinitis, overall effect of therapy in the prevention of recurrent rhinitis, it was found that, percentage of relief after therapy was 85.6 % and on the first follow up 77.1 %, second follow up 65.3 %, third follow up 55.5 % and fourth follow up 49 % respectively. So after therapy and first follow up the recurrent rhinitis was markedly prevented and then gradually decreasing and moderately prevented up to fourth follow up.

B. Related with Haematological values:

On Haemoglobin%:

In this study, mean value of Hb% before therapy was 11.88. After therapy mean value was augmented to 12.88, then on the first, second, third and fourth follow mean value was also augmented comparative to be-
fore therapy i.e. 12.76, 12.03, 13.13 and 12.89 perceived respectively. So, this therapy effective up to fourth follows up after therapy for augmentation of Hb%.

When the assessed with paired ‘t’ test, compared to before therapy, augmented Hb% values, up to fourth follow up is seen to be high significant statistically (P<0.01) on after therapy then significant statistically (P<0.05).

**On absolute eosinophils count:**

In this study, mean value of absolute eosinophils count before therapy was 85.13. After therapy mean value was reduced to 75.06, then on the first, second, third and fourth follow up mean value was also reduced comparative to before therapy i.e. 70.26, 66.50, 64.67 and 64.33 perceived respectively. So, this therapy effective up to fourth follows up for reduction of absolute eosinophils count.

When the assessed with paired ‘t’ test, compared to before therapy, reduced absolute eosinophils count values, up to fourth follow up is seen to be highly significant statistically (P<0.01) on after therapy then significant statistically (P<0.05).

**On ESR:**

In this study, mean value of ESR before therapy was 29.86. After therapy mean value was reduced to 14, then on the first, second, third and fourth mean value was also reduced comparative to before therapy i.e. 12.96, 11.50, 10.50 and 10.83 perceived respectively. So, this therapy effective up to fourth follows up for reduction of ESR.

When the assessed with paired ‘t’ test, compared to before therapy, reduced ESR values, up to fourth follow up is seen to be high significant statistically (P<0.01) on after therapy then significant statistically (P<0.05).

**On total leucocytes count:**

In this study, mean value of TLC before therapy was 12237 After therapy mean value was reduced to 10277, then on the first, second, third and fourth follow up mean value was also reduced comparative to before therapy, i.e. 8903, 8573, 8637 and 8637 perceived respectively. So, this therapy effective up to fourth follows up for reduction of TLC.

When the assessed with paired ‘t’ test, compared to before therapy, reduced TLC values, up to fourth follow up is seen to be highly significant statistically (P<0.001) on after therapy then significant statistically (P<0.05).

**On Neutrophils %:**

In this study, mean value of neutrophils % before therapy was 46.13. After therapy mean value was augmented to 54.37, then on the first, second, third and fourth follow up mean value was also augmented comparative to before therapy i.e. 60.50, 62.82, 61.70 and 61.70 perceived respectively. So, this therapy effective up to fourth follows up for augmentation of neutrophils %.

When the assessed with paired ‘t’ test, compared to before therapy, augmented neutrophils % values, up to fourth follow up is seen to be high significant statistically (P<0.01) on after therapy then significant statistically (P<0.05).

**On Lymphocytes %:**

In this study, mean value of lymphocytes % before therapy was 46.67. After therapy mean value was reduced to 39.73, then on the first, second, third and fourth follow up mean value was also reduced comparative to before therapy i.e. 32.27, 29.20, 29.06 and 29.63 perceived respectively. So this therapy effective up to fourth follows up for reduction of lymphocytes %.

When the assessed with paired ‘t’ test, compared to before therapy, reduced lymphocytes % values, up to fourth follow up is seen to be significant statistically (P<0.05).

**On Eosinophils %:**

In this study, mean value of eosinophils % before therapy was 6.23. After therapy
mean value was reduced to 4.60, then on the first, second, third and fourth follow up mean value was also reduced comparative to before therapy i.e. 12.76, 12.03, 13.13 and 12.89 perceived respectively. So this therapy effective up to fourth follows up for reduction of eosinophils %.

When the assessed with paired ‘t’ test, compared to before therapy, reduced eosinophils % values, up to fourth follow up is seen to be highly significant statistically (P<0.001) on after therapy then significant statistically (P<0.05).

**On IgE:**

In this study, mean value of Ig E before therapy was 132.67. On the fourth follow up mean score was reduced to 131.87. So, this therapy effective up to fourth follows up for reduction of Ig E value.

When the assessed with paired ‘t’ test, compared to before therapy, reduced Ig E values, on the fourth follow up is seen but statistically Insignificant (P>0.05).

**CONCLUSION**

- Recurrent Rhinitis is most common worldwide disorder affecting any age group of both sexes. Lack of immunity is the factor behind recurrent infections.
- Triphala Rasayana improves the body defense mechanism as well as general nutrition of the patient.
- It helps cure symptoms like frequency of rhinitis, rhinorrhea, sneezing, nasal obstruction, and headache, loss of smell, itching of nose, and watering of eyes.
- Triphala Rasayana is an ideal choice in preventing Recurrent Rhinitis for long time.

**REFERENCE**

9. Charaka Samhita (elaborated by Charaka and Dridhabala, edited by Vd. Jadavji T
Kripa Shankar Sharma et al: Role of Triphala Rasayana in the Prevention of Recurrent Rhinitis- An Open Clinical Trial

11. Kashyapa Samhita Chikitsa Sthana, chapter 2/3
12. Madhav Nidana Uttaaraedha, chapter 58/14, and Yoga Ratnakar Uttarardha, chapter Nasaroja Nidana/17, and Bhava Prakash Madhya Khand, chapter 65/17

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