International Research Journal of Ayurveda & Yoga

Vol 6-Issue-8
August -2023

IRJAY

Journal of Bala G Publications

International Research Journal of Ayurveda & Yoga Vol. 6(8), pp. 15-22, August, 2023
Available online at http://irjay.com
ISSN: 2581-785X
DOI: 10.47223/IRJAY.2023.6803

ORIGINAL RESEARCH ARTICLE

Clinical Study to Evaluate the Efficacy of *Vasadi Syrup* and A *Yoga* Intervention Program in the management of *Tamaka Shwasa* W.S.R to Childhood Asthma

Nandini Gupta[1]*, Laxmi Singh[2], Kalpana Patni[3], Mithilesh Kumar Verma[4]

[1]Assistant Professor, Department of Kaumarabhritya, PremRaghu Ayurvedic Medical College and Hospital, Hathras, Uttar Pradesh, India.
[2]Assistant Professor P.G, Department of Kaumarabhritya, State Ayurvedic College and Hospital, Lucknow, Uttar Pradesh, India.
[3]Assistant Professor P.G, Department of Kaumarabhritya, IMS, BHU, Varanasi, Uttar Pradesh, India.
[4]H.O.D of P.G, Department of Kaumarabhritya, State Ayurvedic College and Hospital, Lucknow, Uttar Pradesh, India.

ARTICLE INFO

Article history:
Received on: 19-06-2023
Accepted on: 02-08-2023
Available online: 03-08-2023

Key words:
Bronchial asthma,
Shamana chikista,
Shodhana,
Tamaka shwasa

ABSTRACT

Ayurveda is the major systems of indigenous medicines and treatment. Bronchial Asthma occurs due to many causes, for example, environmental, racial, and behavior. *Tamaka shwasa* is a disease according to Ayurvedic texts that shows close resemblance with bronchial asthma on the basis of clinical manifestations. In this clinical study, we include yoga which is *Pranayam*, *Tadasana*, *Parvatasana*, *Paschimottasana*, *Bhujanagasana*, and *Shavasana*. Moreover, drug is used is *Vasadi* Syrup which is act as bronchodilator, anti-inflammatory, antihistamine, and immunomodulator. There is no cure for asthma as per the conventional medical science. In this study, patients selected as randomized. The present study was a review on the management of *Tamaka-shwasa* (bronchial asthma) through *Ayurvedic* approach that includes a combination of *Ayurvedic* drugs in *Shodhana* and *Shamana* chikitsa and lifestyle management. Thus, a study concluded that the *Shodhana*, *Shamana*, herbal, and herbominerals compound.

1. INTRODUCTION

Childhood bronchial asthma has multifactorial causation. Geographical location, environmental, racial, as well as factors related to behaviors and lifestyles are associated with the disease. There is no cure for asthma as per the conventional medical science. *Kashyap samhita* is the first and foremost classic, which gave a priority to *Balachikitsa*. As it is a *Kapha-vata* predominant disorder, its incidence should be witnessed more either during the *Balyaavastha*, which is the normal time of *Kapha* dominance.[1] Difficulty in breathing or shortness of breath may be simply termed as *Shawas* (Asthma). It may be primary - originating from respiratory system, secondary - originating from other systems of the body, but the impact is on respiratory system. Bronchial asthma is a chronic inflammatory disease of airway. It leads to the recurrent episodes of wheezing, breathlessness, tightness of chest, and cough particularly at night or early morning.[2] As per *Ayurveda*, *Shwasa is mainly cause by Vata* and *Kapha doshas*. *Shawas* is broadly classified into five types in *Mahashawas* (dyspnea major), *Urdhawashawas* (Expiratory dyspnea), *Chinna shawas* (Chyne stroke respiration), *Kshudra shwasa* (Dyspnea minor), and *Tamaka shawas* (Bronchial asthma). *Tamak shawas* is a *Vatakaphaja vyadhi*, originating from *Pittasthan* and manifested through *Pranavaha srotas*. *Vata* get obstructed by *Kapha dosha* and travels into *Pratiloma gati* (opposite direction) and in turn causes *Shwasa* (Dyspnea). Its clinical features resemble with bronchial asthma.[3] Once among the 8 branches of *Ayurveda*, *Kaumarabhritya* specially deals with the problems related with infants and children. It is a unique practice of *Ayurveda* that *Ayurvedic* pediatrics deals from conception to 16 years of age. It deals with antenatal perinatal and postnatal care along with the different aspect of child health and disease. In *Kashyap samhita*, *Sutrasthana* chapter 25th "*Vedana adhyaya*" it is mentioned that child suffering from *Shwasa roga* exhales warm air. The word *Tamaka shwasa* is found in *Khil sthana* 10th chapter while mentioning its management.[4] *Shwasa* is one of the most distressing diseased and is quite common in all the socioeconomic strata all the age groups and almost all over the world. This work has been done with the intension that its way to use natural medicines should justify for implementation as a whole therapy, or to set a systemic integrated approach.[5] This approach can

Corresponding Author:
Nandini Gupta, Assistant Professor, Department of Kaumarabhritya, PremRaghu Ayurvedic Medical College and Hospital, Hathras, Uttar Pradesh, India.
Email: nandini2517@gmail.com

helpful to those patients burdened by drug induce toxic side effect and have turned to seek help from natural herbal care.

1.1. Aim and Objective of Study

To study the concept of *Tamaka Shwasa* along with childhood *asthma* through *Ayurvedic* and modern text and evaluate and observe the effect of *Vasadi Syrup with and without Yoga* in the management of *Tamaka shwasa*.

2. MATERIALS AND METHODS

2.1. Protocol of Research

Approval of synopsis for human trial was obtained from the Institutional Ethical committee of S.A.C. and Hospital, Lucknow, U.P (No. IEC/AYM/0932018). The study was registered in the Clinical Trial Registry of India (CTRI Registration no: CTRI/2019/05//019137).

2.2. Clinical Study

2.2.1. Sample source

All the patients were selected from the OPD & IPD of PG Department of Kaumarabhritya State Ayurvedic College and Hospital, Lucknow U.P.

2.2.2. Type of study

Randomized two groups comparative clinical trial.

2.2.3. Sample size

Minimum 30 patients out of which 15 in each group.

2.3. Method of Trial Drug

The compound will be prepared in the form of syrup on the basis of classical *sharkara kalpa* preparation to enhance its palatability for easy administration in children.

2.4. Inclusion Criteria

1. Age 6–14 years of age both sex
2. Cardinal features of childhood asthma
3. History of at least 3 attacks in last year.

2.5. Exclusion Criteria

1. Age <6 and >14 years
2. *Shwasa roga* associated with complications
3. Secondary infections of respiratory system
4. Children with cardiac disease
5. Children having to pneumonia and tubercular infection
6. Children with any systemic disorder which interfere with the present treatment
7. Children with any congenital anomalies and genetic disorders.

2.6. Discontinuation Criteria

1. Parents are not willing to continue the treatment
2. Aggravation of complaints
3. Any other acute illness.

2.7. Subjective Criteria

2.7.1. Scoring criteria

The detail of the score adopted for the main sign and symptom in this study which is given in MRC Dyspnoea Scale [Table 1].[6]

2.8. Objective Criteria

- The effect of medicine will also be analyzed on certain parameters before and after treatment
- Peak Expiratory flow rate (PEFR)
- BLOOD – Hb%, TLC, DLC, ESR, AEC

2.9. Funding Agency for Lab Investigation

- PEFR
- BLOOD – Hb%, TLC, DLC, ESR, AEC

All these are done by self finance.

2.10. Overall Effect of Therapy

The total effect of therapy of this trial will be grouped as follow

1.	Complete remission	- 100%
2.	Markedly improvement	- >75<100%
3.	Moderate improvement	- >50–75%
4.	Mild improvement	- >25–50%
5.	No improvement	- 0–25%

2.11. Content of the Vasadi Syrup Described Below [Table 2][7]

2.11.1. Group allocation

The present study was done on two groups, in which the dissertation work is divided into following sections.

2.11.2. Yoga intervention program

The following *yoga* practices will be performed for 20 min daily in the morning for 6 days a week under expert supervision and 1 day at home under parent's supervision for 30 days up 3 months of trial. The duration of the *yoga* session will be as follows:

Sukshma Vyayam (warming up)	- 2 min
Pranayam (Respiratory exercise)	- (1) *Anulome Vilome* (4 min) (2) *Kapalbhati* (4 min)
Asanas (Postures)	- 8 min
Relaxation (*Shavasana*)	- 2 min

Asanas are *Tadasana*, *Paschimottanasana*, *Bhujangasana*, and *Parvatasana shavasana.*

2.11.3. Clinical plan

The observation of the present study was documented under the headings of demographic observation, to understand the etiological aspects of the disease, clinical observation, to understand the prevalence of signs and symptoms in patients and therapeutic observations, and to assess the effect of therapy on symptoms of *Tamaka shwasa.*

2.12. Observation

2.12.1. Distribution according to age

The minimum age of the subjects was 6 years, whereas maximum age was 15 years. The three age groups 6–9 years, 10–12 years, and 13–15 years were in proportion 33.3%, 38.9%, and 27.8% in Group A, 50%, 33.3%, and 16.7% in Group B, and 41.7%, 36.1%, and 22.2% overall.

2.12.2. Distribution according to sex

Among the study subjects, 33.3% were female, whereas rest 66.7% were males.

2.12.3. Distribution according to religion

Among the study subjects, 83.3% were Hindus, whereas rest 16.7% were Muslim. The Group A contained 77.8% Hindus and 22.2%

Muslim, whereas Group B contained 88.9% Hindus and 11.1% Muslim.

Among the study subjects, maximum 50% were belong to the middle SES, 36.1% belong to upper, and 13.9% belong to lower SES.

3. RESULTS

3.1 Effect of Treatments on *ShawasaKashtata* (Breathlessness) in both the Groups (Table 3)

In Group A, significant improvement was found from BT to Day 15 (78.95%, $P < 0.001$) and onward. 100% improvements were seen from BT to Day 60 ($P = 0.001$) and onward. In Group B, significant improvement was found from BT to Day 15 (91.67%, $P = 0.011$) and onward. 100% improvements were seen from BT to Day 30 ($P = 0.011$) and onward.

3.2. Intergroup Comparison of *ShawasaKashtata* (Breathlessness) in between the Groups

No significant difference in mean *ShawasaKashtata* (Breathlessness) was found between the groups at BT and any follow-up during the treatment ($P > 0.05$).

3.3 Effect of Treatments on *Ghurghurakam* (Wheezing) in both the Groups (Table 4)

In Group A, significant improvement was found from BT to Day 15 (76.47%, $P = 0.001$) and onward. 100% improvements were seen from BT to Day 45 ($P = 0.001$) and BT to Day 60 ($P = 0.001$) and AT ($P = 0.001$). In Group B, significant improvement was found from BT to Day 15 (100%, $P = 0.007$) and onward.

3.4. Intergroup Comparison of *Ghurghurakam* (Wheezing) in between the Groups

No significant difference in mean *Ghurghurakam* (Wheezing) was found between the groups at BT and any follow-up during the treatment ($P > 0.05$).

3.5. Effect of Treatments on *Kasa* (Cough) in both the Groups (Table 5)

In Group A, significant improvement was found from BT to Day 15 (77.27%, $P = 0.002$) and onward and at AT 90.91% improvement was seen ($P = 0.001$). In Group B, significant improvement was found from BT to Day 15 (76.19%, $P = 0.012$) and onward and at AT 90.48% improvement was found and this was significant ($P = 0.008$).

3.6. Intergroup Comparison of *Kasa* (Cough) in between the Groups

No significant difference in mean *Kasa* (Cough) was found between the groups at BT and any follow-up during the treatment ($P > 0.05$).

3.7. Effect of Treatments on Frequency of *Shwasa Vega* (Frequency of attack) in both the Groups (Table 6)

In Group A, significant improvement was found from BT to Day 15 (66.67%, $P = 0.003$) and onward and at AT 100% improvement was seen ($P = 0.001$). In Group B, significant improvement was found from BT to Day 15 (69.44%, $P = 0.003$) and onward and at AT 100% improvement was found and this was significant ($P = 0.001$).

3.8. Intergroup Comparison of *Shwasa Vega* (Frequency of attack) in between the Groups

No significant difference in mean Frequency of Shwasa Vega (Frequency of attack) was found between the groups at BT and any follow-up during the treatment ($P > 0.05$).

3.9. Effect of Treatments on *Na ChapiNidraLabhate* (Night Symptoms) in both the Groups (Table 7)

In Group A, significant improvement was found from BT to Day 15 (87.50%, $P = 0.026$) and onwards and at AT 100% improvement was seen ($P = 0.026$). In Group B, no significant improvement was found from BT to any time of follow-up ($P > 0.05$).

3.10. Intergroup Comparison of *Na ChapiNidraLabhate* (Night Symptoms) in between the Groups

No significant difference in mean *Na Chapi Nidra Labhate* (Night Symptoms) was found between the groups at BT and any follow-up during the treatment ($P > 0.05$).

3.11. Effect of Treatments on *AsinoLabhateSaukhyam* in both the Groups (Table 8)

In Group A, significant improvement was found from BT to Day 15 (90.91%, $P = 0.002$) and onward and at AT 100% improvement was seen ($P = 0.001$). In Group B, no significant improvement was found from BT to any time of follow-up ($P > 0.05$).

3.12. Intergroup Comparison of *AsinoLabhateSaukhyam* in between the Groups

No significant difference in mean *Asino Labhate Saukhyam* was found between the groups at BT and any follow-up during the treatment ($P > 0.05$).

3.13. Effect of Treatments on Clinical Investigations in both the Groups (Table 9)

In Group A, significant changes were found in Eosinophils and PEFR ($P < 0.05$). In Group B, significant changes were found in TLC, eosinophils, monocytes, AEC, PEFR, PR, and RR. Rest changes were insignificant.

3.14. Final Improvement Status in both the Groups (Table 10)

In Group A, the proportion of complete remission and marked improved was 93.8% and 6.3%, respectively, whereas in Group B, the proportion of complete remission, moderate improved, and mild improved was 87.5%, 6.3%, and 6.3%, respectively. No significant difference was found in the proportion of improvement levels between the groups ($P = 0.596$).

4. DISCUSSION

The enrolled cases of *Tamaka shwasa* for the present clinical study were kept into two groups. The *Vasadi* Syrup has been administered in the dose of 1 mL/kg body weight in 3 divided doses. All the necessary measures regarding the preparation of trial drug have been taken carefully. In second group, *Vasadi* syrup along with a yoga intervention program. The observation was divided into following points: demographic observation, clinical observation, therapeutic observation, in demographic observation, clinical observation, and therapeutic observations. In demographic observation present, we observed 36 patients. In the observation, 66.7% male, 33.33% female, 83.33%

Hindu, 16.75% Muslim, 50.00% lower middle class, 97.2% of patients have complete immunization status, 47.2% of patients have good hygiene status, and 2.8% of patients have disturbed sound, 47.2% of patients have mixed diet, 52.8% of patients have *Vataj-kaphaj Prakriti*, 41.7% of patients have *Vataj pittaj prakriti*, 86.1% of patients have *Madhayam saar*, 77.8% of patients have *Madhayam satmya*, 63.9% of patients have *Madhayam satva*, 88.9% of patients have *Madhyam Ahara sahakti*, 61.15% of patients have *Avar Vyayam Shakti*, 52.8% of patients have dust sensitivity, 16.7% of patients have cold sensitivity, and 16.7% patients have positive family history. The therapeutic observations were done on 32 patients who completed the trial. Trial drug shows highly significant results on *Shwasakrucchata*, *Ghurghuraka*, *Frequency of Shwasa Vega*, *Kanthodhvamsa*, *Asino Labhte Saukhyam*, *and Usnaschavabhinidti*, *Parshvashula*, *Krichchhrabhashitam,* and significant results on *Kasa*, *Na Chapi Nidra Labhate saukhyam.* Mean PEFR value significantly increased and mean AEC value significantly decreased in objective parameters. Hb% significantly increased, raised ESR, and eosinophils are significantly decreased. Trial drug formed shows positive and hopeful results in response of signs and symptoms of *Tamaka shwasa.* The result in the present trial drug research work was assessed on the basis of symptomatic improvement. In Group A, 93.8% of patients were completely relieved, 6.3% of patients were markedly improvement, 0.0% patients were moderately improved, and 0.0% patients were mildly improved. In Group B, 87.5% of patients were completely relieved, 0.0% of patients were markedly improvement, 6.3% of patients were moderately improved, and 6.3% of patients were mildly improved.

5. CONCLUSION

After treatment, the mean PEFR value was significantly increased. The mean AEC value was significantly decreased. Mean PEFR value significantly increased and mean AEC value significantly decreased in objective parameters. Drug shows highly significant results on *Shwasakrucchata*, *Ghurghuraka*, *Kasa*, *Peenasa,* and *Kanthodhwansha* and significant results on *Lalata sweda* and *Asino labhte saukhyam* (breathlessness during sitting position) in subjective parameters. Hb% significantly increased, raised ESR, and eosinophils are significantly increased. Ingredients of *Vasadi syrup* are *Kaphavatashamak* and have different therapeutic actions such as antiallergic, antitussive, antihistaminic, mast cell stabilizing activity, anti-inflammatory, and immunomodulatory action.

6. ACKNOWLEDGMENTS

None.

7. AUTHORS' CONTRIBUTIONS

All authors give equal contribution while preparing manuscript.

8. FUNDING

Nil.

9. ETHICAL APPROVALS

Approval of synopsis for human trial was obtained from the Institutional Ethical committee of S.A.C. and Hospital, Lucknow, U.P (No. IEC/AYM/0932018). The study was registered in the Clinical Trial Registry of India (CTRI Registration no: CTRI/2019/05//019137).

9. CONFLICTS OF INTEREST

Nil.

11. DATA AVAIBALITY

This is an original manuscript and all data are available for only review purposes from principal investigators.

12. PUBLISHERS NOTE

This journal remains neutral with regard to jurisdictional claims in published institutional affiliation.

REFERENCES

1. Shastri K. Charaka Samhita-Vidhyotini Hindi. Varanasi: Chaukhambha Bharati Academy; 1994.
2. Pandyan H. Bhava Prakasha, Vidhyayotini Bhasa Tika. 5th ed. Vanaransi: Chaukhmbha Sanskrita Shirija; 1980.
3. Bagga RK. Esential Pediatrics. 8th ed. CBS Publishers and Distributers; 2014. p. 383.
4. John H. Harrision's Principle of Internal Medicine. 13 ed. USA: MC Graw-Hill Health Professions Division; 2008. p. 1352-8.
5. Patil V. Role of Ayurveda in life style diseases. Int J Yoga 2009;2:22-5.
6. Karmakar S, Gupta N, Prasad R. Stress and Asthma. In: Souvenir of 11th National Seminar on Management of Mental Health through Yoga and Naturopathy. 2015. p. 40-2.
7. Morse D. Yoga for Asthma. Int J Yoga Ther 2007;17:81-8.

How to cite this article:
Gupta N, Singh L, Patni K, Verma MK. Clinical Study to Evaluate the Efficacy of *Vasadi Syrup* and A *yoga* Intervention Program in the management of *Tamaka Shwasa* W.S.R to Childhood Asthma. IRJAY. [online] 2023;6(8);15-22.
Available from: https://irjay.com
DOI link- https://doi.org/10.47223/IRJAY.2023.6803

Table 1: Subjective criteria

Presenting symptoms	Score grade
(1) Shwasakashtata (Breatlessness)-(MRCdyspnoea scale)	
Not troubled by breathlessness and strenuous exercise	0
Not troubled by breathlessness except on strenuous exercise	1
Walks slower than contemporaries on level ground because of breathlessness or have to stop for breath after walking at own pace	2
Stop for breath after walking about 100 meters or after a few minutes on level ground	3
(2) Frequency of Shwasa Vega (Frequency of Attack)	
No attack during 1 month	0
Frequency of attack once in 1 week or 2 week	1
Frequency of attack once in 2 week or 4 week	2
Frequency of attack once in four or Eight	3
(3) Ghurghurakam (Wheezing)	
No Wheezing	0
Weezing present during attack	1
Very often Wheezing	2
Always Wheezing found	3
(4) Kasa (Cough)	
No Kasa	0
Kasa vega sometimes but not troublesome	1
Troublesome *kasa*, but do not disturbing the sleep	2
Very Troublesome *Kasa*, does not even allowing to the sleep at night	3
(5) Kanthodhvamsa (irritation in Throat)	
No *Kanthodhvamsa*	0
Occasional *kanthodhvamsa*	1
Very often *Kanthodhvamsa*	2
Always *Kanthodhvamsa*	3
(6) Na Chapi Nidra Labhate (Night symptoms)	
No Night symptoms	0
Sleep Disturbed because of Slight breathlessness	1
Awakening because of breathlessness	2
No Sleep difficulty of breathlessness whole Night	3
(7) Krichchhrabhashitam (Difficulty in Speaking)	
No Difficulty in Speaking	0
Difficulty in Speaking during attack	1
Difficulty continuous soon after attack	2
Difficulty continuous for more than time	3
(8) Parshvashula (Chest pain)	
No pain	0
Pain on exertion	1
Pain on cough	2
Persistent pain	3
(9) Usnaschavabhinidti (Desire to Hot)	
NO Desire to Hot food and Drink	0
Mild Desire to Hot food and Drink	1
Moderate Desire to Hot food and Drink	2
Severe Desire to Hot food and Drink	3
(10) Asino Labhate Saukhyam	
Relief in Supine Position	0
Temporarily, feels better in Sitting Posture	1
Relief in Sitting Position	2
Spontaneous Sitting Posture, Cannot Sleep	3

Table 2: Content of the vasadi syrup described below

Drug	Scientfic name
Vasa patra	*Adhatoda vasica*
Haridra	*Curcuma longa*
Dhanika	*Coriandrum sativum*
Guduchi	*Tinospora cardifolia*
Bharangi	*Clerodendrum serretum*
Nagar	*Zingiber officinale*
Kana	*Piper longum*
Kantakari	*Solanum surratense*
Marich	*Piper nigrum*

Table 3: Effect of treatments on ShawasaKashtata (Breathlessness) in both the groups

Shawasa Kashtata (Breathlessness)	Group A					Group B				
	Mean	SD	% imp	z-value!	*P*-value	Mean	SD	% imp	z-value	*P*-value
BT	1.19	1.38	-	-	-	1.50	1.71	-	-	-
Day 15	0.25	0.77	78.95	−3.49	<0.001	0.13	0.34	91.67	−2.54	0.011
Day 30	0.06	0.25	94.74	−3.25	0.001	0.00	0.00	100.00	−2.55	0.011
Day 45	0.06	0.25	94.74	−3.24	0.001	0.00	0.00	100.00	−2.55	0.011
Day 60	0.00	0.00	100.00	−3.37	0.001	0.00	0.00	100.00	−2.55	0.011
Day 90	0.00	0.00	100.00	−3.37	0.001	0.00	0.00	100.00	−2.55	0.011
AT	0.00	0.00	100.00	−3.37	0.001	0.00	0.00	100.00	−2.55	0.011

Table 4: Effect of Treatments on Ghurghurakam (Wheezing) in both the Groups

Ghurghurakam (Wheezing)	Group A					Group B				
	Mean	SD	% imp	z-value!	*P*-value	Mean	SD	% imp	z-value	*P*-value
BT	1.06	1.44	-	-	-	1.31	1.58	-	-	-
Day 15	0.25	0.68	76.47	−3.42	0.001	0.00	0.00	100.00	−2.70	0.007
Day 30	0.13	0.34	88.24	−2.98	0.003	0.00	0.00	100.00	−2.70	0.007
Day 45	0.00	0.00	100.00	−3.23	0.001	0.00	0.00	100.00	−2.70	0.007
Day 60	0.00	0.00	100.00	−3.23	0.001	0.06	0.25	95.24	−2.69	0.007
Day 90	0.14	0.34	86.76	−3.23	0.001	0.00	0.00	100.00	−2.70	0.007
AT	0.00	0.00	100.00	−3.23	0.001	0.00	0.00	100.00	−2.70	0.007

Table 5: Effect of Treatments on Kasa (Cough) in both the Groups

Kasa (Cough)	Group A					Group B				
	Mean	SD	% imp	z-value!	*P*-value	Mean	SD	% imp	z-value	*P*-value
BT	1.38	1.31	-	-	-	1.31	1.35	-	-	-
Day 15	0.31	0.48	77.27	−3.17	0.002	0.31	0.48	76.19	−2.51	0.012
Day 30	0.31	0.79	77.27	−2.77	0.006	0.31	0.79	76.19	−2.22	0.027
Day 45	0.13	0.34	90.91	−3.21	0.001	0.13	0.34	90.48	−3.02	0.003
Day 60	0.19	0.75	86.36	−2.63	0.009	0.19	0.75	85.71	−2.35	0.019
Day 90	0.02	0.06	98.86	−3.20	0.001	0.02	0.06	98.81	−2.97	0.003
AT	0.13	0.50	90.91	−3.21	0.001	0.13	0.50	90.48	−2.67	0.008

Table 6: Effect of Treatments on Frequency of Shwasa Vega (Frequency of attack) in both the groups

Frequency of Shwasa Vega (Frequency of attack)	Group A					Group B				
	Mean	SD	% imp	z-value!	*P*-value	Mean	SD	% imp	z-value	*P*-value
BT	2.44	1.67	-	-	-	2.25	1.65	-	-	-
Day 15	0.81	1.22	66.67	−2.96	0.003	0.69	1.20	69.44	−2.96	0.003
Day 30	0.25	0.58	89.74	−2.99	0.003	0.25	0.58	88.89	−2.97	0.003
Day 45	0.13	0.34	94.87	−3.11	0.002	0.13	0.34	94.44	−3.09	0.002
Day 60	0.19	0.75	92.31	−2.99	0.003	0.19	0.75	91.67	−2.90	0.004
Day 90	0.00	0.00	100.00	−3.24	0.001	0.00	0.00	100.00	−3.23	0.001
AT	0.00	0.00	100.00	−3.24	0.001	0.00	0.00	100.00	−3.23	0.001

Table 7: Effect of Treatments on Na ChapiNidraLabhate (Night Symptoms) in both the Groups

Na Chapi Nidra Labhate (Night Symptoms)	Group A					Group B				
	Mean	SD	% imp	z-value!	*P*-value	Mean	SD	% imp	z-value	*P*-value
BT	1.00	1.41	-	-	-	0.80	1.42	-	-	-
Day 15	0.13	0.34	87.50	−2.23	0.026	0.27	0.59	66.67	−1.63	0.102
Day 30	0.06	0.25	93.75	−2.26	0.024	0.13	0.52	83.33	−1.83	0.068
Day 45	0.00	0.00	100.00	−2.23	0.026	0.07	0.26	91.67	−1.84	0.066
Day 60	0.00	0.00	100.00	−2.23	0.026	0.07	0.26	91.67	−1.84	0.066
Day 90	0.00	0.00	100.00	−2.23	0.026	0.07	0.26	91.67	−1.84	0.066
AT	0.00	0.00	100.00	−2.23	0.026	0.07	0.26	91.67	−1.84	0.066

Table 8: Effect of Treatments on AsinoLabhate Saukhyam in both the Groups

Asino Labhate Saukhyam	Group A					Group B				
	Mean	SD	% imp	z-value!	*P*-value	Mean	SD	% imp	z-value	*P*-value
BT	0.69	1.14	-	-	-	0.53	1.13	-	-	-
Day 15	0.06	0.25	90.91	−3.16	0.002	0.07	0.26	87.50	−1.47	0.141
Day 30	0.00	0.00	100.00	−3.21	0.001	0.00	0.00	100.00	−1.63	0.102
Day 45	0.00	0.00	100.00	−3.21	0.001	0.00	0.00	100.00	−1.63	0.102
Day 60	0.00	0.00	100.00	−3.21	0.001	0.00	0.00	100.00	−1.63	0.102
Day 90	0.00	0.00	100.00	−3.21	0.001	0.00	0.00	100.00	−1.63	0.102
AT	0.00	0.00	100.00	−3.21	0.001	0.00	0.00	100.00	−1.63	0.102

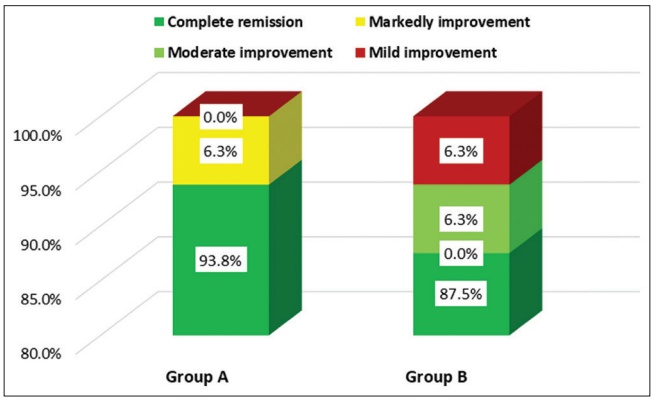
Table 9: Effect of Treatments on Clinical Investigations in both the groups

Parameter	Time	Group A				Group B			
		Mean	SD	t-value	*P*-value	Mean	SD	t-value	*P*-value
Hb	BT	12.5	1.4	−2.10	0.053	12.8	1.2	−0.21	0.834
	AT	13.2	1.2			12.8	1.1		
TLC	BT	7753.1	3010.0	−1.32	0.207	9776.9	2643.7	2.94	0.010
	AT	8531.3	2393.0			8306.3	3001.0		
P	BT	56.6	9.2	0.46	0.653	49.1	14.0	−0.95	0.358
	AT	55.4	8.8			51.5	9.6		
L	BT	35.0	12.5	0.60	0.560	41.9	13.3	0.41	0.689
	AT	32.8	11.0			40.9	9.9		
E	BT	6.5	3.0	2.37	0.032	6.1	3.0	3.52	0.003
	AT	5.3	2.1			4.7	1.9		
M	BT	1.4	0.6	1.69	0.111	1.5	0.8	3.00	0.009
	AT	1.1	0.8			0.8	0.9		
B	BT	0.0	0.0	NA	NA	0.0	0.0	NA	NA
	AT	0.0	0.0			0.0	0.0		
AEC	BT	495.1	231.7	0.93	0.367	944.2	1438.0	3.63	0.002
	AT	456.8	229.6			732.6	1420.1		
ESR	BT	17.6	4.2	0.54	0.598	17.1	3.2	1.10	0.289
	AT	16.9	3.6			16.2	2.7		
PEFR	BT	185.6	56.5	−2.33	0.034	219.4	80.3	−3.56	0.003
	AT	193.4	59.1			234.6	87.0		
PR	BT	88.5	14.3	1.94	0.071	95.1	7.9	2.15	0.048
	AT	86.6	13.4			93.4	6.3		
RR	BT	18.3	4.0	0.13	0.896	17.7	3.0	3.16	0.006
	AT	18.3	4.5			16.4	2.9		

PEFR: Peak Expiratory flow rate

Table 10: Final improvement status in both the groups

Improvement level	Group A		Group B		Chi-sq	*P*-value
	No.	%	No.	%		
Complete remission	15	93.8	14	87.5	3.03	0.386
Markedly improvement	1	6.3	0	0.0		
Moderate improvement	0	0.0	1	6.3		
Mild improvement	0	0.0	1	6.3		
Total	16	100.0	16	100.0		



Graph 1: Effects in both groups