



Research Article

## A CLINICAL STUDY ON PIPALADI LEH IN TAMAK SHWASA (BRONCHIAL ASTHMA) IN CHILDREN

Mohar<sup>1\*</sup>, Keerti Verma<sup>2</sup>, Anup Kumar Gakkhar<sup>3</sup>

<sup>1</sup>MD Scholar, <sup>2</sup>Professor & Head of Department, PG Department of Kaumarbhritya, Rishikul Campus, Uttrakhand Ayurved University, Haridwar, Uttrakhand, India.

<sup>3</sup>Professor & Head of Department, PG Department of Maulik Siddhant Evam Sanskrita, Rishikul Campus, Uttrakhand Ayurved University, Haridwar, Uttrakhand, India.

### Article info

#### Article History:

Received: 22-07-2023

Revised: 09-08-2023

Accepted: 28-08-2023

#### KEYWORDS:

*Tamak Shwasa, Yappya, Peenasa, Kasa, Shwasa Krichhata, Anidra, Ghur-Ghurk Shabda, Kashten Shelshma Mokshata.*

### ABSTRACT

*Tamak Shwasa* is a term that encompasses many diseases such as shortness of breath as the main symptom. But we can also associate bronchial asthma with *Tamak Shwasa* because of the remaining four, three of them are incurable and the fourth is *Kshudra Shwasa*, which is caused by overwork and overeating, it can be cured in a simple way. Early onset is easy to treat, but the chronic condition is difficult to treat. In Ayurveda, the word *Shwasa* defines its meaning as a disease in itself as well as symptoms and problems of other diseases. The patient has an attack of a disease that threatens his life. Acharya Charaka describes *Tamak Shwasa* as a *Yappya* type of illness in which the patient has to rely on medicine for relief. Acharya Charak teaches different good thoughts about *Tamak Shwasa*. Every Ayurvedic practitioner should have a detailed knowledge of *Tamak Shwasa* to distinguish between *Chikitsa* and disease assessment. In *Pipalaadi leh* therapy, 04 pts. i.e., 09.76% of the patients attained marked improvement, 33 pts. i.e., 80.48% of the patients attained moderate improvement and 04 pts. i.e., 09.76% of the patients attained mild improvement.

### INTRODUCTION

*Shwasa* is the main disease affecting *Pranavaha Srotas*. There are five types such as *Maha Shwasa, Urdhva Shwasa, Chinna Shwasa, Tamaka Shwasa* and *Kshudra Shwasa*. *Tamak Shwasa* is also one of them and it is caused by the reverse movement of *Vata* which permeates the vital airway, causing neck and head and stimulating *Kapha* to cause *Pinasa*. *Vata* created *Tamaka Shwasa*<sup>[1]</sup> with a block. Known for its inconsistency and chronicity, this disease is a threat to humans.

In this disease, due to various etiologies, the movement of air in *Pranavaha Srotas* is blocked and there is difficulty in breathing.

*Tamaka Shwasa* for the definition of bronchial asthma in modern medicine the same as in Ayurveda. Asthma is a major global health problem of our time.

Today, the incidence of asthma is between 1.2-3% of adults in many countries.

Around 300 million people worldwide suffer from asthma and this number has increased by 50% in the last decade. There are few studies on the prevalence of asthma in India. The total burden of asthma patients in India is about 15 million. 5% of children under the age of 11 in India have asthma.

The Global Asthma Initiative has proposed a definition of asthma. Asthma is an inflammatory disease of the airways associated with hypersensitivity of the airways, causing recurrent episodes of wheezing, shortness of breath, chest tightness and coughing, especially at night or in the morning. It affects all human groups regardless of age and gender and causes a negative quality of life for patients. It is currently estimated that 300 million people worldwide have asthma, and by 2025<sup>[2]</sup> another 100 million people will be diagnosed with asthma.

According to current research, current treatment of asthma faces efficiency, reduced mortality, side effects, and other problems. Although *Tamaka Shwasa* is considered *Yappya Vyadhi*<sup>[3]</sup> if it is newer and *Rogi Bala* is more it becomes *Sadhya*. Early

#### Access this article online

Quick Response Code



<https://doi.org/10.47070/ayushdhara.v10iSuppl4.1334>

Published by Mahadev Publications (Regd.)  
publication licensed under a Creative Commons  
Attribution-NonCommercial-ShareAlike 4.0  
International (CC BY-NC-SA 4.0)

diagnosis and treatment are important to minimize further progression. Ayurvedic treatment is a hope for asthma sufferers. Thus, in the present study *Tamak Shwasa* (Bronchial Asthma) is taken as the subject of intervention with the drug "*Pipaladi Leh*" mentioned in the "*Kashyapa Samhita*" under "*Khilsthana* chapter 10<sup>th</sup> *Antarvarthani Adhaya*"<sup>[4]</sup>

**MATERIAL AND METHODS**

**Method of Data Collection**

After the completion of treatment, the assessment was done on the same criteria as before the treatment and scoring was done on the same pattern. The different tables of scores, obtained before treatment and after treatment, is prepared for the comparison and statistical analysis was done.

**Statistical Analysis**

On comparison of subjective criteria before and after treatment Wilcoxon Signed Rank Test and for objective criteria Mann Whitney Rank Sum test was applied.

**Study Design:** Open Labelled Single Arm Study

S.No		Intermittent	Mild	Moderate
1	Symptoms	Less than once a week	More than once a week	Daily
2	Sensorium	Normal	Normal	Anxious
3	Peak Expiratory FlowRate (PEFR)	80-100%	≥80%	60-80%
4	Force Expiratory Volume (FEV)	<20%	20-30%	≥30%
5	Blood Oxygen Saturation(SPO2)	95-98%	>95%	90-95%

**Exclusion Criteria**

- Severe asthma according to Global Initiative for Asthma (GINA) guidelines.
- Patients with known case of HIV, TB, Hep-B & frequent H/O hospitalization due to Status Asthmatics.

**Criteria for Withdrawal**

- Personal matters

**Study setting Study:** Patients were randomly selected from OPD & IPD of Rishikul Ayurvedic College & Hospital, Haridwar.

**Study population:** 11.6%

**Study sample:** 50

**Sample size:** 50

**Diagnostic Criteria**

An extensive performa was prepared on the basis of classical signs and symptoms of *Tamak shwasa* as per the Ayurvedic and modern science. A detailed clinical history and respiratory examination was done and the data was collected. A complete history taking, *Asthvidh pariksha* etc. of each patient was compiled and filled in proforma. Peak flow meter reading was taken and all vital signs like pulse rate, respiratory rate were noted before, during and after treatment for assessment.

**Inclusion Criteria**

- Mild and Moderate asthma according to Global Initiative for Asthma (GINA) guidelines<sup>[5]</sup>.
- Age 6-14 years

- Aggravation of complaints

- Inter current illness

- LAMA (patient leave against medical advice)

**Parameters of Assessment**

**1. Subjective assessment**

**2. Objective assessment**

S.No	Symptom	Grade 0	Grade 1	Grade 2	Grade 3
1	<i>Shwasa krichhrata</i>	No sign of <i>Shwasakrichhrata</i>	Slight <i>Shwasakrichhrata</i> after heavy work	<i>Shwasakrichhrata</i> on slight exertion like walking	<i>Shwasakrichhrata</i> even at rest
2	<i>Kasa</i>	No <i>Kasa</i>	<i>Kasavega</i> sometimes	Troublesome	Very troublesome,
3	<i>Pinasa</i>	No <i>Pinasa</i>	Along with attack	Very often even without attack	Always persisting
4	<i>Parshvashula</i>	No	Along with the attack	Very often even without attack	Always
5	<i>Ghurghurukam</i> (Wheezing)	No wheezing on auscultation	Often wheezing throughout in few lobes of the lungs	Mild wheezing throughout in few lobes of the lungs	Moderate Wheezing throughout in few lobes of the lungs
6	<i>Kapha Nishthivana</i>	No <i>Kaphanishthivan</i>	Occasional <i>Kaphanishthivan</i>	Very often <i>Kaphanishthivan</i>	Always <i>Kaphanishthivan</i>
7	Frequency of	No attack during 7	1 attack during	>1 attacks during 7 days	Daily attacks during 7

	<i>Shwasa Vega</i>	days	7days		days
8	<i>Anidra</i>	Sound sleep	Undisturbed late sleep	Sleep disturbed in late night and early morning	Disturbed sleep

### Objective Parameters for Assessment

The objective assessment was done on the basis of changes in clinical findings, relevant laboratory parameters and functional assessment will be done with the help of peak expiratory flow meter, pulse oximeter before during and at the end of the trial.

### Laboratory Investigations

- Blood - Hb%, TLC, DLC, ESR
- Absolute Eosinophil Count (AEC)
- X-ray Chest PA view (If required)
- These investigations carried out before and after completion of trial except PEFT and pulse oximetry test. PEFT and Pulse oximetry test was done on every 15 days.

### Method of Treatment

**Selected Drug:** *Pipalaadi Leh*

**Form of Medicine:** Leh

**Composition of Medicine:** *Guda, Pippali, Rasna, Manjistha, Haridra, Marich, Draksha* and *Til Taila*

*गुडो रासना पिप्पल्यो द्राक्षा समरीचा तथा ।*

*हरिद्रा च समंडगानि चूणोन्येतानि लेहचेत् ॥*

*तैलेन श्वासकासेषु तमके चैव पूजितः । (का.खिल.10/136)*

### Assessment and Follow Up

The assessment of the patients was done at the interval of 15 days. After treatment follow up was done at the interval of 15 days.

### During treatment

- At registration
- First follow up at 15<sup>th</sup> day
- Second follow up at 30<sup>th</sup> day
- Third follow up at 45<sup>th</sup> day
- Fourth follow up at 60<sup>th</sup> day

### Dose of Medicine

Dose is calculated by using Young's Formula for every patient: × Adult Dose

Adult dose is 6-12gm.

Age in Years	Dose (in grams in four divided doses)
6 years	2 gm
7 years	2.6 gm
8 years	3.2 gm
9 years	3.8 gm
10 years	4.5 gm
11 years	5.2 gm
12 years	6 gm
13 years	6.8 gm
14 years	7.4 gm

**Route of Administration-** Orally

### OBSERVATIONS & RESULTS

Total 50 patients were registered and out of them 09 patients left against medical advice.

**Table 2: Chief Complaints**

S.No.	Chief Complaints	No. of Patients	%
1	<i>Shwasakrichhrata</i>	41	100
2	<i>Kasa</i>	41	100
3	<i>Pinasa</i>	34	82.92
4	<i>Parshvashula</i>	41	100
5	<i>Ghurghurukam</i>	41	100
6	<i>Kapha Nishthivana</i>	18	43.90
7	Frequency of <i>Shwasa Vega</i>	41	100
8	<i>Anidra</i> (Disturbed Sleep)	22	53.65

*Shwasakrichhrata, Kasa, Parshvashula, Ghurghurukam*, frequency of *Shwasa Vega* was observed in 100%, 82.92% had *Pinasa*, 53.65% had disturbed sleep and 43.90% had *Kapha Nishthivana*.

**Table 3: Aggravating Factor**

Aggravating Factors	No. of Patients	Total %
<i>Durdin</i>	22	53.65
<i>Varsha Ritu</i>	22	53.65
<i>Sheet</i>	30	73.17
<i>Pragvata</i>	17	41.46
<i>Slesmla</i>	11	26.82
<i>Vyayama</i>	25	60.97

In aggravating factors, *Sheet* was present in 30 (73.17%) patients, *Durdin* and *Varsha ritu* 22 (53.65%), *Vyayama* in 25 (60.97%), *Pragvata* in 17 (41.46%) and *Slesmla* in 11 (26.82%) patients.

**Table 4: Effect on subjective Parameter**

Parameter	N	Mean Score			Change in %	SD±	SE±	t- value	p- value	Results
		BT	AT	D						
<i>Shwasakrichhta</i>	41	1.70	0.47	1.23	77.50	0.488901	.076354	820	<0.001	SS
<i>Kasa</i>	41	1.73	0.39	1.34	82.5	0.529611	0.82711	820	<0.001	SS
<i>Pinasa</i>	41	1.176	0.323	0.823	69.98	0.57584	0.09875	351	<0.001	SS
<i>Parshvashula</i>	41	1.53	0.41	1.12	82.05	0.457991	.071526	780	<0.001	SS
<i>Ghurghurukam</i>	41	1.63	0.39	1.24	84.2	0.582258	0.090933	741	<0.001	SS
<i>Kapha Nishthivana</i>	41	1.16	0.27	0.761	65.60	0.538958	0.120515	120	<0.001	SS
Frequency of <i>Shwasa Vega</i>	41	1.46	0.46	1	84.84	0.632456	0.098773	561	<0.001	SS
<i>Anidra</i> (Disturbed Sleep)	41	1.73	0.80	0.926	62.85	0.468521	0.073171	630	<0.001	SS

**Table 5: Effect on objective Parameter**

Hematological Parameters	N	Mean Score			%of Relief	SD +-	SE +-	T	P	Results	
		BT	AT	D							
<b>Hb</b>	41	12.129	12.165	-0.036	17.93	0.26247	0.040991	1701.50	0.996	NS	
<b>TLC</b>	41	12265.85	7512.683	4753.17	36.59	3086.103	481.9683	2408	<0.001	SS	
<b>DLC</b>	<b>Neutrophils</b>	41	47.853	54.551	-6.698	21.45	9.629343	1.503851	1365	0.002	SS
	<b>Eosinophils</b>	41	19.60976	5.217073	14.39268	71.82	5.855228	0.914433	906	<0.001	SS
	<b>Basophils</b>	41	0.75	0.477778	0.272222	36.26	0.900987	0.150165	1487	0.052	NS
	<b>Monocytes</b>	41	3.853659	4.44878	-0.595121	54.62	1.689667	0.263882	1584	0.290	NS
	<b>Lymphocytes</b>	41	28.262829	35.1431	-6.87561	35.62	7.902904	1.234226	5.121	<0.001	SS
<b>ESR</b>	41	26.19152	13.56098	12.63414	48.03	3.960783	0.61857	2519.5	<0.001	SS	
<b>AEC</b>	41	2489.659	413.4829	2076.1761	80.43	1014.62	158.4571	2491	<0.001	SS	
<b>PEFR</b>	41	243.17073	300.4878	-57.31	23.5	15.16977	2.36912	1148	<0.001	SS	
<b>SPO<sub>2</sub></b>	41	96.04870	97.09756	-1.04878	1.04	1.283574	0.20041	1308	<0.001	SS	

**Display Overall Effect of 41 Patients of *Tamak Shwasa***

Assessment	No. of Patients	%
Complete Remission (100%)	00	00
Marked Improvement (>75%)	04	09.76
Moderate Improvement (50-75%)	33	80.48
Mild Improvement (25-50%)	04	09.76
Unchanged (<25%)	00	00

In *Pipalaadi leh* therapy, 04 pts. i.e., 09.76% of the patients attained marked improvement, 33 pts. i.e., 80.48% of the patients attained moderate improvement and 04 pts. i.e., 09.76% of the patients attained mild improvement.

**DISCUSSION**

*Tamak Shwasa* is the chronic disease of *Pranavaha Srotas*. It is one of the five varieties of *Shwasa*. This is a major health problem in countries around the world. This was a very important time as

shown in Vedic literature. Description of *Shwasa* is found in Brihatrayee and Laghutrayee. Sushruta talked about the main illness of *Vata Kapha*. The detailed breathing process can be followed from the Sharangdhar Samhita. It describes the role of breath in controlling fire and life. With the help of modern knowledge, the breathing process can be explained and understood. The alveolar respiration mentioned in modern science is usually related to the definition of *Shwasa Kriya* mentioned by Sharangdhar, of the five variants, *Tomoka Shwasa* has a "Swatantra" nature and the rest is *Paratantra*. While *Kshudra Shewasa* can be a symptom of many ailments and does not need medicine, *Maha Presenta Urdhva* and *Chinna Shwasa* are finally available. The written example of *Tamak Shwasa* coincides with the definition of bronchial asthma in the modern literature. Asthma is considered an inflammatory disease of the airways. Modern research on bronchial asthma has reached a turning point where anti-inflammatory drugs are considered to be many different diseases. These conditions can be better managed by not only treating broncho constriction and related symptoms, but by inhibiting and reversing inflammation.

#### Mode of Action Pipalaadi Leh

The *Shamana Yoga* in *Shwasa* is expected to work on *Prana-Udaka* and *Annavaha Srotas* and should provide *Dipana*, *Pachana*, *Vatanulomana*, *Vatakaphahara* property.

- *Guda* is *Ushana Virya*, *Tridosha Shamaka* and having *Shwasahara* property.
- *Pippali* is *Kapha-Vata Shamaka*. *Agni Vardhaka* and having *Shwasa Kasahara* property.
- *Rasna* is *Kapha-Vata Shamaka*. *Agni Vardhaka* and having *Ushana Virya*.
- *Draksha* is *Sheet Virya*
- *Maricha* is *Kapha-Vata Shamaka*. *Agni Vardhaka* and having *Ushana virya*.
- *Haridra* is *Laghu* in *Guna*, *Katu* in taste and having *Ushana Virya*.
- *Manjistha* is *Kapha-Pitta Shamaka* and having *Ushana Virya*.
- *Til Taila* is *Kapha-Pitta Shamaka* and having *Ushana Virya*.

All these characteristics made these drugs to act on *Prana-Udaka* and *Anna vaha Srotasa* so that the *Samprapti Vighatana* occurs in a systemic manner starting from the *Aamashaya* where the *Dipana-Pachana* and *Agni Guna* of these drugs helps in the *Pachana* of *Ama* In the body Also *Kapha Shamaka Guna* will helps in the removing of blocked channels of the body in *Srotorodha* will be cured and *Vatanulomana* will be achieved so that the *Kupita Vata* will attain its *Samyaka* State and there will be relief in the symptoms

of *Tamaka Shwasa*, *Balaya Guna* of these medicines on the other hand will prevent the *Prokapa* of *Vayu* which may occur due to continuous use of *Kapha Nashaka Aushadh*.

The pharmacological studies already reported on the individual drugs, also favours the effectiveness of various contents of *Pipalaadi Leh* in disease bronchial asthma as given below:

- Anti-allergic- *Haridra*
- Anti-inflammatory - *Pippali, Maricha*
- Bronchodilator - *Pippali, Jaggery, Rasna*
- Expectorant - *Maricha*
- Immunomodulator- *Pippali, Manjistha*
- Anti-oxidant- *Maricha, Haridra, Draksha, Til Taila*

Highly statistically significant results were found in 8 subjective parameters like *Shwaskricchrata*, *Kasa*, *Pinasa*, *Parsvashula*, *Ghurghurukam*, *Kapha nishtivana*, frequency of *Shwasavega* and *Anidra*.

Statistically significant result was found in objective parameter i.e., total leukocyte count, different leukocyte- neutrophil, different leukocyte count- lymphocyte, different leukocyte count – eosinophils, ESR, AEC, PEF and SPO<sub>2</sub>.

No statistically significant result was found in 3 objective parameters like hemoglobin, different leukocyte count- monocyte and different leukocyte count- basophils.

#### CONCLUSION

Conclusion is a judgement or suggestion made on whole outcome of the study after valid reasoning. It communicates the importance of ideas and subject matter of the study. The conclusions made after the completion of study are as follows:

1. The etiological factors of *Tamaka Shwasa* are pollution due to urbanization and industrialization, modern dietary habits and familial disposition as evident from the study.
2. The patients having positive family history in 1<sup>st</sup> degree relative are more prone to develop *Tamaka Shwasa*.
3. *Nidanas* like *Dadhi*, *Sleshmalahara*, *Rajodhooma*, *Diwaswapna* etc. which increase the main *Doshas* of the disease were found in majority of patients.
4. *Nidanas* are deteriorating the *Agni* and *Pranavaha Srotas*.
5. Maintenance of *Pathya- apathya* has a great role in disease prevention and breaking its progression. Foods and drinks that help in restoring normal functions of respiratory system are useful in treating asthma. Light food should be taken by the patient. Heavy and rich foods, which are difficult to digest and foods that are dry like bread, dry fish, oatmeal, pasta etc should be avoid.

6. The optimum results have been seen by the usage of *Pipalaadi leh* which improve the consistency of *Srotas* and *Agni*.

### Recommendations for Further Studies

The following are the possible considerations for future studies of similar kinds:

Study should be carried out in large sample size. Anti-microbial study (Bacterial culture and sensitivity test) of the drugs should be carried out to check the efficacy of herbal drugs for microorganisms). Increasing the duration of the study. Experimental studies to evaluate the effect of drug on immunoglobulins.

### REFERENCES

1. Ramharsh Singh, P. Introduction of Kayachikitsa Part-II. Varanasi: Chaumkhambha Subharti Prakashana. Page 423.
2. Chugh, Dr. S.N. Textbook of Medicine 3<sup>rd</sup> Edition.

3. Shastri, P. and Chaturvedi, D. 2012. Charaka Samhita. Varanasi: Chaumkhambha Subharti Prakashana. chikitsasthan chapter-17.
4. Vriddha Jivaka. Kasyapa Samhita Revised by Vatsya Introduction by Nepal Rajguru Pandita Hemaraja Sharma with Vidyotini Hindi Commentery. Varanasi: Chaumkhambha Sanskrit Sansthan Khilasthan Chapter-10/136.
5. World Health Organization. Global Initiative for Asthma (GINA) Guidelines. New York: Global Strategy for Asthma Management, 2021.
6. J. 2018. Harrison's Principles of Internal Medicine vol-II. McGraw-Hill Education page no-1508.
7. Vinod K Paul, A. 2019. Ghai Essential Pediatrics. New Delhi: CBS Publishers page no-382
8. Alagappan, Manual of Practical Medicine 5<sup>th</sup> Edition page no-227.

#### Cite this article as:

Mohar, Keerti Verma, Anup Kumar Gakkhar. A Clinical Study on Pipaladi Leh in Tamak Shwasa (Bronchial Asthma) in Children. AYUSHDHARA, 2023;10(Suppl 4):1-6.

<https://doi.org/10.47070/ayushdhara.v10iSuppl4.1334>

**Source of support: Nil, Conflict of interest: None Declared**

#### \*Address for correspondence

**Dr. Mohar**

MD Scholar,

Department of Kaumarbhritya,

Rishikul Campus, Uttrakhand

Ayurved University, Haridwar,

Uttrakhand, India.

Email: [moharlather@gmail.com](mailto:moharlather@gmail.com)

Disclaimer: AYUSHDHARA is solely owned by Mahadev Publications - A non-profit publications, dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. AYUSHDHARA cannot accept any responsibility or liability for the articles content which are published. The views expressed in articles by our contributing authors are not necessarily those of AYUSHDHARA editor or editorial board members.