World Journal of Pharmaceutical Sciences ISSN (Print): 2321-3310; ISSN (Online): 2321-3086 Published by Atom and Cell Publishers © All Rights Reserved Available online at: http://www.wjpsonline.org/ Original Article



A Clinical Study on the role of *Shringyadi Churna* in the management of the disease *Tamaka Shwasa* w.s.r. Bronchial Asthma

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Received: 01-09-2015 / Revised: 28-10-2015 / Accepted: 29-10-2015

ABSTRACT

Tamaka Shwasa is a troublesome, stressful disease of today's era with multifactorial causation. The patients are observed with wide range of severity, age of onset, effect of environment & different modalities required for their treatment. On the basis of etiopathogenesis and symptoms, disease *Tamaka Shwasa* can be considered analogous to Bronchial Asthma. It is the need of the hour to have a better and effective therapy which may be without many side effects and having quick bronchodilator effects and at the same time within the reach of the masses. Here Ayurveda "The science of life" is the golden ray of hope for the suffereres of *Tamaka shwasa*. *Ayurvedic* management may help to decrease the recurrence, improve immunity, and check symptoms naturally. Twenty Patients suffering from *Tamaka Shwasa* and attending the O.P.D. and I.P.D. department of Kayachikitsa, Rishikul Campus Haridwar were selected randomly. Patients were investigated as per proforma prepared for the study. *Shringyadi Churna* is given with *ushnodaka* as *anupana dravya* for duration of 4 weeks, with assessment follow ups of 15 days interval. And follow up was done after 2 months of the completion of the trial. All the patients were kept under strict dietary control during the treatment. The observation of the effect of therapy was encouraging and reduced recurrence significantly. Out of 20 patients, 18 patients completed the trial, out of them 17 patients i.e. 94.44% patients attained Marked Improvement in the symptoms, 1 patient i.e. 5.55% attained Moderate improvement in symptoms of *Tamaka Shwasa*.

Key words: Shringyadi Churna, Tamaka Shwasa, Bronchial Asthma, Ayurveda

INTRODUCTION

Tamaka Shwasa or Bronchial asthma continues to be a distressing and alarming disease of the today's era. Its prevalence is increasing alarmingly due to excessive pollution, overcrowding, occupational conditions, stress and poor hygiene etc. Bronchial Asthma is a major global health problem, which can affect the population irrespective of age, sex, economic status, etc. It is very common at all ages but predominantly in early life. Current estimates suggest that 300 million people worldwide suffer from asthma and an additional 100 million may be diagnosed with asthma by 2025 [1]. Inspite of multidimensional development in the field of medical science, it still remained a challenge which is unconquered. Tamaka Shwasa is mainly a disease of *Pranavahasrotas*^[2] and one among the five types of the disease Shwasa. Acharya Charaka has mentioned that Tamaka Shwasa is kaphavataja vikar and site of its origin is pitta sthana. "कफ़वातात्मकावेतोपित्तस्थानसमुद्धवः ^[3] Tamaka Shwasa in general is described as yapya (palliable) disease. However in individual with recent origin of disease, person of *pravarabala* or both said to be sadhya^[4].

The signs, symptoms and etiopathogenesis of Bronchial Asthma explained in modern science have a lot of similarities with the disease entity *Tamaka Shwasa*. The main features of Bronchial Asthma are recurrent episodes of breathlessness, chest tightness, wheezing and cough.

Acharya Charaka has clearly mentioned the importance of Nidana parivarjana, along with the following principles for the management of Shwasa roga. 'The medicine and dietetic regimen which controls the kapha and vata due to their ushna guna and are vatanulomaka in action must be utilized in the treatment of Shwasaroga"^[5]. Brimhana is considered the best option compared to shamana

and karshana when treating Tamaka Shwasa patient^[6]. Also, any remedy which aggravates *vata* and pacifies kapha or which pacifies vata and aggravates kapha or which pacifies either vatakapha or which pacifies only vata should be used for the management of Tamaka Shwasa^[7]. At present time, management of Tamaka Shwasa in modern science is by making use of bronchodilators, anti-allergics, steroids, oxygen therapy and assistive ventilation in severe cases. These all measures do help in decreasing the episodes of the disease Tamaka Shwasa, but with time drug and dose dependency increases that ultimately leads the patient into the vicious circle of do or die. So this is the need of the hour to have effective & safe system of medicine for the management of the disease Tamaka Shwasa. Ayurveda is the best way to effectively & safely manage the disease Tamaka Shwasa, with no dependency on drugs where various shodhana procedures and use of internal medication not only detoxifies the body but also provides nutrition & increases the elasticity of lung tissue & develops natural immunity of the body. So with this aim present study was conducted to provide a unique, but accurate & effective method of dealing with the complexities of the disease. Thus decreasing episodic recurrence of the disease and providing long term relief to the patient.

For the present study drug has been selected from *Chakradatta Hikkashwasa-chikitsaprakarana*^[8] : Shringvadi Churna and ushnodaka as anupana dravya. Contents of Shringyadi Churna are Karkatshringi, Shati, Pushkarmula, Maricha, Shunthi ,Pippali, Mustaka and Sharkara in equal parts. All these drugs along with Ushnodaka are having Vatakaphahara, Ushna & Vatanulomaka property which helps these drugs to participate in samprapti- vighatana thereby pacifying the symptoms of the disease Tamaka Shwasa. After the evaluation of the trial, it has been proved that Shringyadi Churna with Ushnodaka as anupana dravya shown remarkably good results, in pacifying the symptoms and reducing the recurrence and frequency of episodes in the patients of Tamaka Shwasa.

MATERIAL & METHODS

Aims and Objectives

The present study has been undertaken with the following aims and objectives.

- To study the aetiopathogenesis of Tamaka Shwasa.
- To evaluate the efficacy of Shrigyadi Churna with ushnodaka as anupana dravya in the management of Tamaka Shwasa.

➢ To identify the best and effective treatment for the management of *Tamaka Shwasa*.

Selection of patients:

Total 20 Patients of *Tamaka Shwasa* were selected from the O.P.D./I.P.D. of P.G. Dept. of *Kayachikitsa*, Rishikul Campus, Haridwar on the basis of inclusion and exclusion criteria, depending on the detailed clinical history, physical examination and other necessary / desired investigations and irrespective of their gender, caste or creed.

Selection of Sample: Randomized sampling

Type of study: Single Blind

Drug trial schedule: Patients were treated with *Shringyadi Churna* 5 gm b.d with *ushnodaka* as *Anupana Dravya* 1 hour before meal.

Inclusion Criteria:

- Presence of symptoms of airflow obstruction (2 or more of cough, wheezing, dyspnoea).
- Airflow obstruction is atleast partially reversible.
- ✤ Oxygen saturation > 90%
- Cases included from intermittent, mildly persistent to moderate persistent asthma.
- ✤ PEFR 100 300 ml/min = Moderate Exacerbation.
- ✤ Age18-70 years.

Exclusion Criteria:

- PEFR< 100 litre/min = Severe Exacerbation (Status Asthmaticus).
- ✤ Oxygen saturation <90%</p>
- Chronicity more than 10 years.
- * Asadhya Lakshanas of Tamaka Shwasa
- The patient with H/O Tuberculosis, COPD, Emphysema, Chronic airway obstruction, H/O Cardiac involvement.
- H/O Endocrine disorders like diabetes mellitus, thyroidism.
- Other complicated respiratory diseases having any organic lesion such as tumor or any anatomical defect in airway.
- If the patient exhibits short seasonal changes of less than 4 weeks duration.
- Any other physical and surgically ill patient will be excluded

Criteria for withdrawal:

- (1) Personal matters
- (2) Intercurrent illness
- (3) Aggravation of complaints
- (4) Any other difficulties
- (5) Leave against medical advice (LAMA)

Diagnostic Criteria: An extensive proforma was compiled on the basis of classical signs and symptoms of the *Tamaka Shwasa* as per the *Ayurveda* & modern classics. A detailed clinical history and respiratory examination was done and the data was collected. A complete history taking

dashvidh pariksha etc. of each patient was compiled and filled in proforma. All vital signs like B.P, Pulse Rate, Respiratory rate were noted and Peak Flow Meter reading. Breath holding time, Chest expansion was taken before and during treatment for assessment.

Study Plan: The treatment schedule is classified as follows:

No. of pt's	Drug	Dose	Duration
20	Shringyadi Churna	5 gm churna twice in a day with	2 months
		ushnodaka as anupana dravya	

Criteria for assessment: The assessment of the trial was done on the basis of following parameters:

Subjective: The subjective assessment was done on the basis of improvement in signs and symptoms of *Tamaka Shwasa* described in classics, before during and at the end of the trial.

Objective: The objective assessment was done on the basis of changes in clinical findings, relevant laboratory parameters and Pulmonary Function Test before during and at the end of the trial.

Laboratory Investigations

- **a.** Haematological investigations after completion of treatment were repeated.
- **b.** Respiratory function tests were repeated before, during and at the end of trial.
- i. Peak Expiratory Flow Rate
- ii. Breath holding time
- iii. Chest Expansion

For the signs and symptoms of the disease *Tamaka Shwasa*, grading was done depending upon the severity and assessment was done on the following *lakshanas* graded. All the signs & symptoms were given scores depending upon their severity before, during and at the end study. They are as follows:

Frequency of Shwasa Vega

- 0 No attack during 15 days
- $1 \quad 1-5$ attack during 15 days
- 2 6 10 attack during 15 days
- 3 11 15 attack during 15 days
- 4 > 15 attack during 15 days

Intensity and Duration of attack

- 0 No attack
- 1 Attack lasting 10 mins, resolution without medication.
- 2 Attack lasting ¹/₂ hour resolution without medication.
- 3 Attack lasting ¹/₂ hour resolution with *ushnopchara*.
- 4 Attack lasting more than $\frac{1}{2}$ hour resolution only after medication.

Number of Emergency medicine taken

- 0 None
- 1 Occassionally during attack
- 2 Regular Oral / Inhaler
- 3 Regular Oral + Inhaler
- 4 Regular Oral + Inhaler + Occasional injectibles

CARDINAL SYMPTOMS Shwasakrichhata

- 0 No sign of Shwasakrichhata
- 1 SlightShwasakrichhata after heavy work
- 2 Shwasakrichhata on slight exertion like walking
- 3 Shwasakrichhataeven at rest
- 4 Very severe Shwasakrichhata and require medication / hospitalization.

Kasa

- 0 No Kasa
- 1 Kasavega sometimes but is not troublesome
- 2 Troublesome Kasa, but do not disturb the sleep

3 Very troublesome Kasa, does not even allow to sleep

Pinasa

- 0 No pinasa
- 1 Pinasa along with attack
- 2 Pinasa even without attack
- 3 Pinasa always persisting

Parshvashula

- 0 No Parshvashula
- 1 Parshvashula along with the attack
- 2 Very often Parshvashula even without attack
- 3 Always Parshvashula

Ghurghurukam(Wheezing)

0 No Wheezing

1 Wheezing only at night

2 Wheezing at night and occasionally during day time

3 Wheezing throughout the day

Kaphanishthivana

- 0 No kaphanishthivan
- 1 Occasional kaphanishthivan
- 2 Very often kaphanishthivan
- 3 Always kaphanishthivan

Rhonchi

0 Absence of Rhonchi on normal breathing & deep breathing.

1 Absent on normal breathing but few rhonchi on forced breathing.

2 A few scattered bilateral rhonchi on normal / deep breathing.

3 Innumerable high pitched bilateral rhonchi on normal / deep breathing.

Crepitation

0 Absence of crepitation on normal breathing & deep breathing

1 Absent on normal breathing but few crepts on forced breathing.

2 A few scattered bilateral crepts on normal / deep breathing

3 Innumerable high pitched bilateral crepts on normal / deep breathing.

Follow up study: After the completion of the treatment, the follow up study was done after two months to note the recovery of attacks and symptoms.

Criteria for the total effect of the therapy: To assess the total effect of the therapy, the following criteria wer	e
fixed to each of the status.	

Complete Remission	100% relief in signs and symptoms. No attack of Shwasavega during and after the		
	treatmentuptotwo months of follow up.		
Markedly Improved	More than 75% relief in signs and symptoms, with the frequency and intensity of		
	attack reduced to 75% of the initial one.		
Moderately Improved	50% to 75% relief in signs and symptoms, with the frequency and intensity of		
	attack reduced to 50% of the initial one.		
Mildly Improved	25% to 50% relief in signs and symptoms, with the frequency and intensity of		
	attack reduced to 25% of the initial one.		
Unchanged	Less than 25% relief in signs and symptoms, with no change in the frequency and		
	intensity of attack.		

Statistical Analysis: The information collected on the basis of observation made during the treatment are analyzed on a statistical criteria in terms of mean score (X), standard deviation (S.D.),Standard error (S.E.), Paired t test was carried at the level of 0.05,0.01,0.001, of p level thus the obtained results were interpreted as:

P>0.05 Un-improvement

P<0.05 Improvement

P< 0.01 Significant Improvement

P<0.001 Highly significant

To, more specifically quantify the percentage of improvement in each patient, this was also calculated using the formula (BT - AT) * 100 / BT.

RESULTS AND DISCUSSION

The observations made on 20 patients of *Tamaka Shwasa* showed that maximum patients were belonging to the age group of 21-30 and 51-60 yrs, were male, were married, of Hindu religion, belong to urban habitat, were serving in some services and were from lower middle class. In most of the patients Bowel habit was regular, Sleep pattern was disturbed. Maximum number of patients showed positive family history, Extrinsic type of Asthma, with chronicity of 6-10 yrs and mostly don't do exercise except their routine work. Tobacco

chewing was present as addiction in maximum patients and aggravation of attacks occurs more in winters. In maximum patients Moderate persistent asthma was present with PEFR b/w 151-250 L/min. Maximum patients have vata-kaphaj as Deha prakriti and Tamasa as Manasa prakriti, Madhyam Sara, Sanhanana, Satmya & Vyayama Shakti and Avara Satva, Abhyavharan Shakti & Jaran Shakti. Vishamashana as Aahara vidhi and had shown more indulgence in Madhura rasa.

Pinasa as nidanarthkara roga, excessive usage of sheetambu and sheetsthana as viharaja nidana was found to be the etiological factor in maximum patients. In most of the patients Sashabdashwasa was present as Pranavaha srotodushti lakshana, Oshthashosha as Udakvaha srotodushti lakshana and Annanabhilasha as Annavaha sroto dushti lakshan.

Among Cardinal Symptoms 18 patients reported the symptom of *Shwasakrichhata, Ghurghurukam.*& *Kaphanishthivana.* 17 patients reported the presence of *Kasa* and *Pinasa and* only 13 patients reported the presence of *Parshvashula.* Out of 20 patients, 18 patients completed the trial and following are the findings in term of % relief on various symptoms and assessment parameters.

No. of patients	Cardinal Symptoms	Mean Score ± S.D					% Relief	t	Р
1		BT	Al	A2	A3	A4			
18	Shwasakricchata	3.4 ± 0.7	2.06 ± 0.80	1.11±0.75	0.67±0.89	0.39±0.84	88.49%	15.14	< 0.001
17	Kasa	2.3 ± 0.9	1.22±0.76	0.44±1.13	0.33±1.02	0.22 ± 1.02	90.44%	8.75	< 0.001
17	Pinasa	3.1 ± 1.1	1.78 ± 1.28	1.17 ± 1.11	0.33±1.06	0.22 ± 1.08	92.92%	11.36	< 0.001
13	Parshvashula	1.1 ± 0.9	0.61±0.62	0.22±0.79	0.11±0.94	0.11±0.94	89.62%	4.27	< 0.001
18	Ghurghurukam	2.9 ± 0.2	1.78±1.29	$0.94{\pm}1.02$	0.56±0.78	0.28±0.77	90.56%	14.75	< 0.001
18	Kaphanishthivan	2.6 ± 0.8	1.72±0.70	1±0.70	0.44±0.83	0.22±0.77	91.40%	12.09	< 0.001

Effect of Shringyadi Churna on the Cardinal symptoms of Tamaka Shwasa

Cardinal Symptoms: In 18 patients of *Tamaka Shwasa* there was 92.92% relief in *Pinasa* which was Highly significant (p < 0.001). The relief in *Kapha*nishthivana was 91.40% in 17 patients which was statistically Highly significant (p < 0.001). The feature of *Ghurghurukam* was reduced upto 90.56% in 18 patients which was statistically Highly significant(p < 0.001). The relief in *kasa* was 90.44% in 17 patients which was statistically Highly significant (p< 0.001). *Parshvashula* was reduced upto 89.62% in 13 patients which was statistically Highly significant (p< 0.001). The relief in *shwasakrichhata* was 88.49% in 18 patients which was statistically Highly significant (p< 0.001).

Assessment	sment Mean Score ± S.D					%	t	Р	
Parameters	Ν	BT	A1	A2	A3	A4	Relief		
No. of emergency medicine taken	18	1.8±1.34	0.5±1.14	0.22±1.19	0.22±1.19	0.22±1. 19	87.97%	5.71	< 0.001
Intensity & duration of attack	18	3.39±0.92	2.17±0.65	1.28±0.76	0.72±0.97	0.33±0. 80	90.26%	16.15	< 0.001
Frequency of Shwasa vega	18	4 ± 0	2.28±1.01	1.44±1.04	1.06±1.06	0.61±0. 5	84.75%	28.6	< 0.001
Rhonchi	18	2.72±0.75	1.22±0.92	0.33±0.78	0.17±0.78	0.11±0. 78	87.75%	14.24	< 0.001
Crepitation	18	1.05±1.26	0.39±0.84	0.28±0.94	0.22±0.98	0.16±1. 07	83.96%	3.49	< 0.01
SpO _{2%}	18	96.05±0.80	97.83±0.87	97.88±0.8 5	98.11±0.9 9	98.16±0 .96	2.19%	9.29	< 0.001
PEFR(L/min)	18	267.22±194. 47	283.89±12.3 6	301.67±19 .47	338.89±31 .66	346.11± 26.54	29.52%	12.61	< 0.001
Chest expansion (cms.)	18	4.29±1.36	4.75±0.36	5.19±0.52	5.61±0.66	5.9±0.8 6	37.52%	7.97	< 0.001
Breath holding time (/min)	18	35±11.5	41.67±5.94	51.11±6.0 8	57.22±5.4 8	60.56±7 .04	73%	15.38	< 0.001
Respiratory Rate	18	22.35±1.8	19.12±1.92	18.58±1.9 5	17.41±2.0 9	17.06±1 .75	23.71%	12.40	< 0.001
ESR	18	16.5±8.44	12.77±3.19	10.17±4.7 8	8.39±5.79	7.44±6. 91	54.90%	5.55	< 0.001
AEC	18	328.05±117. 65	278.33±44.0 8	252.89±70 .83	236.56±74 .98	220.06± 82.24	32.91%	5.57	< 0.001

Effect of Shringyadi Churna on various assessment parameters

Above table reveals that in 18 patients of *Tamaka* Shwasa Highly Significant (p < 0.001) result was obtained on various assessment parameters except crepitation where significant result (p < 0.01) is obtained after using Shringyadi Churna & Ushnodaka as anupana dravya. The Number of Emergency medicine taken was reduced upto 87.97%. The Intensity & duration of attack was reduced by 90.26%. The frequency of attack was reduced by 84.75%. The relief in Rhonchi was 87.75%.

SpO₂% was increased by 2.19 %. There was an increase in PEFR by 29.52 %. The relief in Crepitation was 83.96 %. There was an increase in B.H.T by 73 %. There was an increase in chest expansion by 37.52 %. Among Biophysical parameter: The Respiratory rate was decreased by 23.71 %. Among Haematocrit values: The level of ESR was reduced by 54.90 %. The level of AEC was reduced by 32.91 %.

OVERALL EFFECT OF THERAIT ON 18TATIENTS OF TAWAKASH WASA						
Status →	Complete	Markedly	Moderately	Mildly	Unchanged	
	remission	improved	improved	improved		
No. of patients	0	17	1	0	0	
_						
%	0%	94.44%	5.55%	0	0	

Kimmi et al., World J Pharm Sci 2015; 3(11): 2249-2255 OVEDALL EFFECT OF THEDADY ON 18 DATIENTS OF TAMAKA SHWASA

Among 18 patients, 17 patients i.e. 94.44 % patients attained Marked Improvement whereas 1

patient i.e. 5.55 % attained Moderate Improvenent in the symptoms of *Tamaka Shwasa*.

FOLLOW- UP WISE DISTRIBUTION OF PATIENTS

Follow up of patients on completion of trial after 2 months	No. of patients reported to have recurrence of the disease <i>TamakaShwasa</i>
10	1

Out of 18 patients, only 10 patients came for follow up and only 1 of them reported the recurrence of the disease after 2 months of the completion of the trial. The distribution of the contents of *Shringyadi Churna* has brought the above result which clearly indicates statistically that, on many symptoms and assessment parameters it has shown admirable results. This data ascertains the effectiveness of traditional yoga *Shringyadi churna* along with *Ushnodaka as anupana dravya in the management of Tamaka Shwasa*.

The **probable mode of Action** of the drug can be discerned from the results.

Shringyadi Churna:

The shamana yoga in Tamaka Shwasa is expected to work on prana-udaka and annavahasrotasa and should provide dipana- pachana, vatanulomana, vatakaphahara property. Here Karkatshringi is kaphanissaraka-kaphaghna and katupaushtika in nature. Pushkarmula is kaphavata shamaka ushna virya and katupaushtika in nature having dipanapachana and vatanulomana guna. Shati is kaphavata shamaka ushna virya and having the property of dipana -rochana and shool prashamana. Shunthi is kaphaghna and ushnavirya. Maricha is having kaphagna and kaphanissaraka guna. Pippali is kaphavata shamaka and agnivardhini. Sharkara is sheet virya, balya and poshaka in nature. All these Characteristics made these drugs to act on prana - udaka and annavaha srotasa so that the samprati vighatana occurs in a systemic manner starting from the aamashaya where the dipana-pachana and agniguna of these drugs helps in the pachana of ama in the body. Also kaphaghna and kaphanissaraaka guna will helps in the removing of blocked channels of the body i.e. srotorodha will be cured and vatanulomana will be achieved so that the kupitavata will attain its samyaka state and there will be relief in the symptoms of Tamaka Shwasa. Balya guna of these medicines on the other hand will prevent the prakopa of vayu which may occur due to

continuous use of *kapahnashak & kaphanissaraka aushadh*. The pharmacological studies already reported on the individual drugs, also favours the effectiveness of various contents of *Shringyadi Churna* in disease Bronchial Asthma as given below^[9]

Anti-allergic: Karkatshringi, Shati Anti-inflammatory: Maricha, Pippali, Shunthi, Karaktshringi, Pushakarmula Anti-spasmodic: Vasa, Karkatshringi, Shati, Pippali, Maricha Bronchodilator: Pippali, Shati, Pushkarmula Expectorant: Karkatshringi, Shati Immunomodulatory: Pippali Anti-Oxidant: Shunthi, Maricha

Ushnodaka: The water which is reduced to 1/8th part or ½ part or simply bolied water is known as Ushnodaka. They are laghu (light), Accha (clear) and sudha (neat).They are able to eliminate Kapha, Vayu and Meda. They are Deepana and Vastishodhana.^[10] They can be administer in Parsvasoola, Pinasa, Adhmana, Hikka, Trushna, Svasa, Sula,etc

Ushnodaka act as a vehicle and by virtue of its *ushna, aam-pacahana, diapana, vatanulomana, kapha* and *meda nashaka guna* participates in the *samprapti vighatana* and also provides the better drug absorption & assimilation.

CONCLUSION

In nut shell it can be concluded that:

1. In present era, the most common etiological factors for *Tamaka Shwasa* are derived from Polluted Environment, unhealthy dietary habits and familial disposition as evident from the study.

2. The etiological factors are affecting the *Agni* and *Pranavaha-Udakvaha* -*Annavahasrotas*.

3. Admirable results has been obtained by the usage of the drug which clears the srotovarodha by optimizing the agni. *Shringyadi Churna and Ushnodaka as anupana dravya*, is such a drug here.

4. Results of this work have undoubtedly established the importance of *Shringyadi Churna & Ushnodaka* as *anupana dravya* in the management of *Tamaka Shwasa*. In future, researchers may try to study the efficacy of the drug by increasing the follow up period so that the absence of recurrence

of the disease can be ascertained for more duration. It can be concluded that the study scientifically proves the efficacy of traditionally practiced *Shringyadi Churna* in the management of *Tamaka Shwasa*.

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