



**A COMPARATIVE STUDY TO EVALUATE THE EFFICACY OF
SHRINGYADI CHURNA AND GUDUCHYADI KWATHA IN THE
MANAGEMENT OF TAMAKA SHWASA W.S.R. BRONCHIAL
ASTHMA**

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ABSTRACT

Tamaka Shwasa is a well known disease which has been affecting man kind since vedic times. On the basis of its etiopathogenesis and symptoms, disease *Tamaka Shwasa* can be considered analogous to Bronchial Asthma. Asthma remains one of the commonest breathing problem across the world, and is spreading at a fast rate in developing

countries like India. In India prevalence of Asthma has been found to be around 15 % in the majority of surveys. This might be due to the westernization which has brought a drastic change in the lifestyle of human beings. Increasing population, industrialization and deforestation are the contributing factors towards this chronic obstructive pulmonary disease. Asthma has become a challenging problem for the medical world now. In Modern medicine current management of asthma is by providing short term relief to the patient and not the long term relief. Also prolonged used of these drugs is not safe, as it has many adverse effects on human body. As the chronicity of the disease increases, drug dose dependency also increases which ultimately puts the patient into the vicious circle of 'dependency on drugs' that ultimately leads to the respiratory failure and loss of precious life. It is the need of the hour to have some safe & effective regime for the management of this troublesome disease *Tamaka Shwasa*. In Ayurveda detoxification of the body is done effectively and safely, without inducing any drug dependency by making use of various *shodhan* procedures and *shamana*

medications. Lots of research work has been done at very institutes of *ayurveda* by making use of various *ayurvedic* principles. Various *Shodhana* procedures, classical and self formulations has definitely been proven the efficacy of ayurvedic procedures and medications in the management of disease *Tamaka Shwasa*. Here also, classical formulation named *Shringyadi Churna* and *Guduchyadi Kwatha* mentioned in *Chakradatta.ch.12* has successfully been used for the management of the disease *Tamaka Shwasa*, which not only has provided the decrease in episodic recurrence but also gave the long term relief to the patient without inducing any drug dependency. **Aims and Objectives:** To evaluate the efficacy of *Shringyadi Churna* and *Guduchyadi Kwatha* in the management of *Tamaka Shwasa*. **Materials and Methods:** 60 Patients suffering from *Tamaka Shwasa* and attending the O.P.D. and I.P.D. of P.G. department of Kayachikitsa, Rishikul Campus Haridwar were selected randomly. Patients were investigated as per proforma prepared for the study. *In group I Shringyadi Churna* was given with *ushnodaka* as *anupana dravya*, *In group II only Guduchyadi Kwatha* was given and *in group III Shringyadi Churna* was given with *Guduchyadi Kwatha* as *anupana dravya* for total 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. **Results and Discussion:** The observation of the effect of therapy was encouraging and reduced recurrence significantly. Out of 60 patients 55 patients completed the trial, In group I 94.44% patients attained marked improvement whereas 5.55 % patients attained moderate improvement in the symptoms of *Tamaka Shwasa*. In group II, 64.70% patients attained marked improvement whereas 35.29% patients attained moderate improvement in the symptoms of *Tamaka Shwasa*. In group III 65% patients attained marked improvement in the symptoms whereas 35% patients attained complete remission of the symptoms of *Tamaka Shwasa*.

KEYWORDS: *Tamaka Shwasa*, Bronchial Asthma, *Ayurveda.*, *Shodhana*, *Shamana*, *Shringyadi Churna*, *Guduchyadi Kwatha*.

INTRODUCTION

Tamaka Shwasa is mainly a disease of *pranavaha srotas*^[1] and one among the five types of the disease *Shwasa*. *Tamaka Shwasa* is a disease where multi factorial causation is responsible for its development. Its *nidana* is mainly of two types: *Bahya* (Extrinsic) – like *raja*, *dhuma*, *vata* etc. & *Abhyantar* (Intrinsic) – *kapha* & *vata dosha* vitiation. *Acharya Charaka* has mentioned that *Tamaka Shwasa* is *kapha-vataja vikara* and site of its origin is

pitta sthana. “कफवातात्मकावेतोपित्तस्थानसमुद्भवः”^[2] *Tamaka Shwasa* in general is described as *yapya* (palliable) disease. However in individual with recent origin of disease, person of *pravaraabala* or both said to be *sadhya*.^[3]

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. 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.^[4] In spite of multidimensional development in the field of medical science, it still remained a challenge which is unconquered.

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 *vata* or which pacifies only *vata* should be used and preferred for the management of *Tamaka Shwasa*.^[7] At present time, management of *Tamaka Shwasa* by modern system of medicine 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 adopt 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 Hikkashwasachikitsaprakarana*^[8]: Contents of *Shringyadi Churna* are *Karkatshringi, Shati, Pushkarmula, Maricha, Shunthi, Pippali, Mustaka and Sharkara* in equal parts. Contents of *Guduchyadi Kwatha* are *Bilva, Agnimantha, Gambhari, Shyonaka, Patala, Guduchi* and *Vasa* in equal parts. All these drugs are having *Vatakaphahara, Ushna & Vatanulomaka* property which helps these drugs to participate in *samprapti- vighatana* thereby pacifying the symptoms of the disease *Tamaka Shwasa*.

So, for the present study, 60 patients of *Tamaka Shwasa* were selected on the basis of inclusion and exclusion criteria from the O.P.D & I.P.D of Rishikul Campus and were randomly divided into three groups. It is to be mention here those patients with condition of Status Asthmaticus has not been included for the present study because it is an emergency condition and need emergency treatment only. In Group I, 20 patients were given with *Shringyadi Churna* and *ushnodaka* as *anupana dravya*, In Group II *Guduchyadi Kwatha* was given and In Group III, *Shringyadi Churna* was given with *Guduchyadi Kwatha* as *anupana dravya*. Patients were assessed on the basis of subjective and objective parameters and trial was conducted for 60 days with assessment follow up of 15 days interval. After the evaluation of the trial, it has been proved that *Shringyadi Churna* with *Guduchyadi Kwatha* as *anupana dravya* was better, 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 evaluate the efficacy of *Shringyadi Churna* and *ushnodaka* as *anupana dravya* in the management of *Tamaka Shwasa*.
- To evaluate the efficacy of *Guduchyadi Kwatha* in the management of *Tamaka Shwasa*.
- To evaluate the efficacy of *Shringyadi Churna* and *Guduchyadi Kwatha* 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 60 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

The selected patients for trial were randomly divided into following 3 groups.

Group	No. of pt's	Drug	Dose	Duration
I	20	<i>ShringyadiChurna</i>	5 gm twice in a day with <i>ushnodaka</i> as <i>anupana dravya</i>	2 months
II	20	<i>GuduchyadiKashya</i>	40 ml twice in a day	2 months
III	20	<i>Shringyadi Churna + Guduchyadi Kashaya</i>	5 gm <i>churna</i> twice in a day with 40 ml <i>kwatha</i> as <i>anupana dravya</i>	2 months

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.
- ❖ Age 18-70 years.

Exclusion Criteria

- ❖ PEFr < 100 litre/min = Severe Exacerbation (Status Asthmaticus).
- ❖ Oxygen saturation < 90%
- ❖ 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.

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:

1. Frequency of *Shwasa Vega*

- 0 No attack during 15 days
- 1 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

2. Intensity and Duration of attack

- 0 No attack
- 1 Attack lasting 10 mins, resolution without medication.
- 2 Attack lasting ½ hour resolution without medication.
- 3 Attack lasting ½ hour resolution with *ushnopchara*.
- 4 Attack lasting more than ½ hour resolution only after medication.

3. 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

4. *Shwasakrichhata*

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

5. 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

6. Pinasa

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

7. Parshvashula

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

8. Ghurghurukam (Wheezing)

- 0 No Wheezing
- 1 Wheezing only at night
- 2 Wheezing at night and occasionally during day time
- 3 Wheezing throughout the day

9. Kaphanishthivana

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

10. 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.

11. 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.

ASSOCIATED SYMPTOMS**12. Aasinolabhatesaukhyam**

- 0 No aggravation of symptoms on lying position
- 1 Temporarily feels better in sitting posture
- 2 Sitting posture gives relief
- 3 Spontaneous sitting posture, can't sleep

13. Kanthodhvansanam

- 0 No *Kanthodhvansanam*
- 1 Occasional *Kanthodhvansanam*
- 2 Very often *Kanthodhvansanam*
- 3 Always *Kanthodhvansanam*

14. Shleshmavimokshantelabhatesukham

- 0 *Shleshmavimokshantelabhatesukham* easily without any effort
- 1 *Shleshmavimokshantelabhatesukham* with mild effort
- 2 *Shleshmavimokshantelabhatesukham* with moderate effort
- 3 *Shleshmavimokshantelabhatesukham* with severe effort.

15. Anidra

- 0 Sound sleep
- 1 Undisturbed late sleep
- 2 Sleep disturbed in late night and early morning
- 3 No sleep

16. Ushnenaabhinanditi

- 0 No particular
- 1 Likes if available
- 2 Always prefer

- 3 Can'ttake cold things

17. Vishushkasyata

- 0 No *Vishushkasyata*
- 1 Occasional *Vishushkasyata*
- 2 Very often *Vishushkasyata*
- 3 Always *Vishushkasyata*

The *Balawas* also assessed by the following scores.

18. Agni bala

- 0 Persisting of low appetite or frequently loosing appetite and unable to consume even low diet.
- 1 Presence of moderate appetite but delayed appearance of appetite in next meal hour.
- 2 Presence of moderate appetite and prompt appearance of appetite in next meal hour.
- 3 Takes full diet and also presence of proper appetite at the next meal hour.

19. Sharirika bala

- 0 Fatigue even at rest.
- 1 Fatigue on routine work.
- 2 Fatigue on over exertion.
- 3 No Fatigue even on over exertion.

20. Manasika bala

- 0 Gets mental disturbance even without significant cause.
- 1 Gets mental disturbance for mild causes.
- 2 Gets mental disturbance for moderate causes.
- 3 Rarely gets mental disturbance.

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 were fixed to each of the status.

Complete Remission	100% relief in signs and symptoms. No attack of <i>Shwasavega</i> during and after the treatment upto two 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, Unpaired 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 Unimprovement

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 60 patients of *Tamaka Shwasa* showed that maximum patients were belonging to the age group of 21-30 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 2 - 5 yrs and mostly don't do exercise except their routine work. Smoking 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*. *Viruddhashana* as *Aahara vidhi* and had shown more indulgence in *Madhura rasa*.
- *Pinasa* as *nidanarthkara roga*, excessive usage of *sheetambu* as *aaharaj nidana* and *dhuma* 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 *Avipaka* as *Annavaha sroto dushti lakshan*.
- Among Cardinal Symptoms *shwasakrichhata* and *Ghurghurukam* was present in 100% of the patients, *Kaphanishthivana* in 98.33% of the patients, *Kasa* in 96.66% of the patients, *Pinasa* in 95% of the patients and *Parshvashula* in 80% of the patients.
- Associated Symptoms reported were *Kanthodhwansanam* in 96.66% of the patients, *Anidra* in 91.66% of the patients, *Vishushkasyata* in 81.66% of the patients, *Aasino labhate saukhyam* & *Ushnena abhinanditi* each in 80% of the patient and *shleshma vimokshante labhate sukham* in 75% of the patients.
- Out of 60 patients, 55 patients completed the trial and following are the findings in terms of percentage relief on various symptoms and assessment parameters.

Effect of *Shringyadi Churna* on the cardinal symptoms of *Tamaka Shwasa*

No. of patients	Cardinal Symptoms	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
18	<i>Shwasakricchata</i>	3.4 \pm 0.7	2.06 \pm 0.80	1.11 \pm 0.75	0.67 \pm 0.89	0.39 \pm 0.84	88.49%	15.14	< 0.001
17	<i>Kasa</i>	2.3 \pm 0.9	1.22 \pm 0.76	0.44 \pm 1.13	0.33 \pm 1.02	0.22 \pm 1.02	90.44%	8.75	< 0.001
17	<i>Pinasa</i>	3.1 \pm 1.1	1.78 \pm 1.28	1.17 \pm 1.11	0.33 \pm 1.06	0.22 \pm 1.08	92.92%	11.36	< 0.001
13	<i>Parshvashula</i>	1.1 \pm 0.9	0.61 \pm 0.62	0.22 \pm 0.79	0.11 \pm 0.94	0.11 \pm 0.94	89.62%	4.27	< 0.001
18	<i>Ghurghurukam</i>	2.9 \pm 0.2	1.78 \pm 1.29	0.94 \pm 1.02	0.56 \pm 0.78	0.28 \pm 0.77	90.56%	14.75	< 0.001
18	<i>Kaphanishthivan</i>	2.6 \pm 0.8	1.72 \pm 0.70	1 \pm 0.70	0.44 \pm 0.83	0.22 \pm 0.77	91.40%	12.09	< 0.001

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% which was statistically highly significant ($p < 0.001$). The feature of *Ghurghurukam* was reduced up to 90.56% 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 up to 89.62% in 13 patients which was statistically highly significant ($p < 0.001$). The relief in *Shwasakrichhata* was 88.49% which was again statistically highly significant ($p < 0.001$).

Effect of *Shringyadi Churna* on the associated symptoms of *Tamaka Shwasa*

No. of patients	Associated Symptoms	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
13	<i>Asino labhate saukhyam</i>	1.89 \pm 1.32	1.39 \pm 0.62	0.89 \pm 0.91	0.56 \pm 1.06	0.33 \pm 1.19	82.44%	5.50	< 0.001
11	<i>Ushnena abhinanditi</i>	1.78 \pm 1.48	1.67 \pm 0.32	1.56 \pm 0.43	1.06 \pm 0.75	0.67 \pm 0.96	62.35%	4.89	< 0.001
12	<i>Shleshma vimokshante labhatesukham</i>	1.83 \pm 1.38	1 \pm 0.71	0.44 \pm 1.14	0.33 \pm 1.25	0.22 \pm 1.33	87.97%	5.12	< 0.001
18	<i>Kanthodhvansa</i>	2.22 \pm 0.81	1.39 \pm 0.98	0.89 \pm 0.91	0.5 \pm 0.75	0.33 \pm 0.83	85.13%	9.62	< 0.001
16	<i>Anidra</i>	2.11 \pm 0.96	1.56 \pm 0.51	0.94 \pm 0.62	0.5 \pm 0.89	0.33 \pm 1.00	84.36%	7.51	< 0.001
13	<i>Vishuskasyata</i>	1.06 \pm 0.80	0.83 \pm 0.43	0.56 \pm 0.51	0.22 \pm 0.62	0.17 \pm 0.68	84.20%	5.57	< 0.001

Associated Symptoms: In group I of 18 patients of *Tamaka Shwasa*, the symptom of *Shleshma Vimokshante Labhate Sukham* was relieved by 87.97% which was statistically highly significant ($p < 0.001$). The symptom of *Kanthodhvansa* was reduced by 85.13% which was statistically highly significant ($p < 0.001$). There was 84.36% relief in the feature of *Anidra* which was statistically highly significant ($p < 0.001$). There was 84.20% relief in the symptom of *Vishushkasyata* which was statistically highly significant ($p < 0.001$). The feature of *Aasino labhate saukhyam* was relieved upto 82.44% which was statistically highly significant ($p < 0.001$). The feature of *Ushnena abhinanditi* was relieved up to 62.35% which was statistically highly significant ($p < 0.001$).

Effect of *Guduchyadi Kwatha* on the cardinal symptoms of *Tamaka Shwasa*

No. of patients	Cardinal Symptoms	Mean Score \pm S.D					% Relief	T	P
		BT	A1	A2	A3	A4			
17	<i>Shwasakricchata</i>	3.53 \pm 0.8	2.18 \pm 0.69	1.64 \pm 0.7	1.23 \pm 0.69	0.88 \pm 0.78	75.07%	13.88	< 0.001
17	<i>Kasa</i>	2.7 \pm 0.47	1.35 \pm 0.78	0.65 \pm 0.56	0.53 \pm 0.5	0.35 \pm 0.6	86.92%	16	< 0.001
15	<i>Pinasa</i>	3 \pm 1.3	1.82 \pm 1.13	1.11 \pm 1.05	0.64 \pm 1.06	0.41 \pm 1.27	86.33%	8.35	< 0.001
13	<i>Parshvashula</i>	1.29 \pm 0.98	0.82 \pm 0.87	0.65 \pm 0.49	0.47 \pm 0.63	0.29 \pm 0.93	77.20%	4.41	< 0.001
17	<i>Ghurghurukam</i>	3.12 \pm 0.33	2 \pm 0.99	1.47 \pm 0.86	0.59 \pm 0.71	0.47 \pm 0.6	84.92%	18	< 0.001
17	<i>Kaphanishthivan</i>	2.59 \pm 0.71	1.65 \pm 0.75	1 \pm 1.00	0.82 \pm 0.85	0.47 \pm 1.05	81.85%	8.28	< 0.001

Cardinal Symptoms: In group II of 17 patients of *Tamaka Shwasa* the relief in *Kasa* was 86.92% which was statistically highly significant ($p < 0.001$). There was 86.33% relief in *Pinasa* which was statistically highly significant ($p < 0.001$). The feature of *Ghurghurukam* was reduced upto 84.92% which was statistically highly significant ($p < 0.001$). The relief in *kapha nishthivana* was 81.85% which was also statistically highly significant ($p < 0.001$). The reduction in *Parshvashula* was up to 77.20% which was statistically highly significant ($p < 0.001$). The main symptom *Shwasakrichhata* was relieved upto 75.07% which was statistically highly significant ($p < 0.001$).

Effect of Guduchyadi Kwatha on the associated symptoms of Tamaka Shwasa

No. of patients	Associated Symptoms	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
13	<i>Asino labhate saukhyam</i>	2.18 \pm 1.33	1.76 \pm 0.62	1.18 \pm 0.71	0.82 \pm 0.86	0.64 \pm 0.94	70.32%	6.68	< 0.001
14	<i>Ushnena abhinanditi</i>	2.18 \pm 1.13	2.12 \pm 0.24	1.65 \pm 0.57	1.35 \pm 0.53	1.06 \pm 0.7	51.46%	6.62	<0.001
13	<i>Shleshma vimokshante labhate sukham</i>	2.18 \pm 1.28	1.24 \pm 0.66	0.76 \pm 1.0	0.47 \pm 1.04	0.35 \pm 1.13	83.81%	6.64	< 0.001
17	<i>Kanthodhvansa</i>	1.88 \pm 0.7	1.47 \pm 0.62	1.06 \pm 0.73	0.70 \pm 0.63	0.64 \pm 0.75	65.58%	6.76	< 0.001
15	<i>Anidra</i>	2 \pm 0.1	1.59 \pm 0.51	1.06 \pm 0.56	0.82 \pm 0.63	0.58 \pm 0.79	70.5%	7.31	< 0.001
13	<i>Vishuskasyata</i>	1.18 \pm 0.81	1 \pm 0.39	0.76 \pm 0.51	0.59 \pm 0.5	0.41 \pm 0.66	65.16%	4.7	< 0.001

Associated Symptoms: In group II of 17 patients of *Tamaka Shwasa*, The symptom of *Shleshma Vimokshante Labhate Sukham* was relieved by 83.81% which was statistically highly significant ($p < 0.001$). There was 70.5% relief in *Anidra* which was statistically highly significant ($p < 0.001$). The feature of *Aasino Labhate Saukhyam* was relieved up to 70.32% which was statistically highly significant ($p < 0.001$). The symptom of *Kanthodhvansa* was reduced by 65.58% which was also statistically highly significant ($p < 0.001$). There was 65.16% relief in *Vishushkasyata* which was statistically highly significant ($p < 0.001$). The feature of *Ushnena Abhinanditi* was relieved up to 51.46% which was statistically highly significant ($p < 0.001$).

Effect of Shringyadi Churna & Guduchyadi Kwatha on the cardinal symptoms of Tamaka Shwasa

No. of patients	Cardinal Symptoms	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
20	<i>Shwasakricchata</i>	3.3 \pm 0.80	1.6 \pm 0.77	0.6 \pm 0.76	0.2 \pm 0.78	0.1 \pm 0.76	96.96%	19.10	< 0.001
19	<i>Kasa</i>	2.65 \pm 1.04	1.05 \pm 1.12	0.35 \pm 1.09	0.2 \pm 1.01	0.05 \pm 1.07	98.11%	10.86	< 0.001
20	<i>Pinasa</i>	3.3 \pm 0.57	0.7 \pm 1.00	0.35 \pm 0.97	0.2 \pm 1.15	0.15 \pm 1.12	95.45%	12.59	< 0.001
17	<i>Parshvashula</i>	1.5 \pm 0.95	0.4 \pm 0.99	0.3 \pm 1.03	0.15 \pm 1.06	0.1 \pm 1.02	93.33%	6.15	< 0.001
20	<i>Ghurghurukam</i>	2.85 \pm 0.87	0.65 \pm 0.96	0.35 \pm 0.84	0.1 \pm 0.56	0.1 \pm 0.56	96.49%	21.8	< 0.001
19	<i>Kapha nishthivan</i>	2.45 \pm 0.99	1.05 \pm 1.16	0.45 \pm 1.22	0.25 \pm 1.21	0.1 \pm 1.10	95.91%	9.48	< 0.001

Cardinal Symptoms: In group III of 20 patients of *Tamaka Shwasa*, There was 98.11% relief in *Kasa* which was statistically highly significant ($p < 0.001$). The main symptom *Shwaskrichhata* was relieved up to 96.96% which was statistically highly significant ($p < 0.001$). The symptom of *Ghurghurukam* was reduced up to 96.49% which was statistically highly significant ($p < 0.001$). There was relief in *Kapha Nishthivana* upto 95.91% which was statistically highly significant ($p < 0.001$). There was 95.45% relief in *Pinasa* which was statistically highly significant ($p < 0.001$). The reduction in *Parshvashula* was upto 93.33% which was statistically highly significant ($p < 0.001$).

Effect of Shringyadi Churna & Guduchyadi Kwatha on the associated symptoms of Tamaka Shwasa.

No. of patients	Associated Symptoms	Mean Score \pm S.D					% Relief	T	p
		BT	A1	A2	A3	A4			
17	Asino labhate saukhyam	2.25 \pm 1.21	1.45 \pm 0.53	0.65 \pm 1.07	0.2 \pm 1.15	0.15 \pm 1.17	93.33%	7.97	< 0.001
18	Ushnena abhinanditi	2.65 \pm 0.93	2.35 \pm 0.58	1.75 \pm 0.52	1.25 \pm 0.61	0.9 \pm 0.76	66.03%	10.23	< 0.001
16	Shleshma vimokshante labhatesukham	2.1 \pm 1.17	0.7 \pm 0.89	0.25 \pm 1.31	0.2 \pm 1.17	0.15 \pm 1.19	92.85%	7.28	< 0.001
18	Kanthodhvansa	2.15 \pm 1.04	0.85 \pm 1.04	0.4 \pm 1.04	0.1 \pm 1.3	0.1 \pm 1.29	95.34%	8.12	< 0.001
19	Anidra	2.25 \pm 0.72	1 \pm 0.53	0.35 \pm 0.66	0.25 \pm 0.67	0.2 \pm 0.7	91.11%	13	< 0.001
18	Vishuskasyata	1.65 \pm 0.81	0.7 \pm 0.70	0.25 \pm 0.84	0.15 \pm 0.90	0.1 \pm 0.83	93.95%	8.27	< 0.001

Associated Symptoms: In group III of 20 patients of *Tamaka Shwasa*, The symptom of *Kanthodhvansa* was reduced by 95.34% which was statistically highly significant ($p < 0.001$). There was 93.95 % relief in the symptom of *Vishushkasyata* which was statistically highly significant ($p < 0.001$). The feature of *Aasino Labhate Saukhyam* was relieved upto 93.33 % which was statistically highly significant ($p < 0.001$). The symptom of *Shleshma Vimokshante Labhate Sukham* was relieved by 92.85% which was statistically highly significant ($p < 0.001$). There was 91.11% relief in *Anidra* which was statistically highly significant ($p < 0.001$). The feature of *Ushnena Abhinanditi* was relieved up to 66.03% which was statistically highly significant ($p < 0.001$).

Total effect of each therapy on the cardinal symptoms in 55 patients of Tamaka Shwasa

Group	n	Mean score		% Relief	S.D (\pm)	S.E (\pm)	t	P
		BT	AT					
I	6	2.56	0.24	90.62%	0.7361	0.3005	7.74	< 0.001
II	6	2.70	0.47	82.59%	0.6359	0.2596	8.57	< 0.001
III	6	2.67	0.1	96.25%	0.6609	0.2698	9.54	< 0.001

Cardinal symptoms: In group III, the total relief in cardinal symptoms of *Tamaka Shwasa* was 96.25%, which was statistically highly significant ($p < 0.001$). In group I the total relief in cardinal symptoms obtained was 90.62% which was statistically highly significant ($p < 0.001$) whereas in group II the total relief in cardinal symptoms obtained was 82.59 % which was statistically highly significant ($p < 0.001$).

Total effect of each therapy on the associated symptoms in 55 patients of Tamaka Shwasa

Group	n	Mean score		% Relief	S.D (\pm)	S.E (\pm)	T	P
		BT	AT					
I	6	1.81	0.34	81.21%	0.3914	0.1598	9.21	< 0.001
II	6	1.93	0.61	68.39%	0.365	0.1492	8.85	< 0.001
III	6	2.17	0.27	87.55%	0.2154	0.088	21.69	< 0.001

Associated Symptoms: In group III, the total relief in associated symptoms of *Tamaka Shwasa* was 87.55 %, which was statistically highly significant ($p < 0.001$). In group I the total relief in associated symptoms obtained was 81.21% which was statistically highly significant ($p < 0.001$) whereas in group II the total relief in associated symptoms obtained was 68.39 % which was statistically highly significant ($p < 0.001$).

Effect of therapies on Number of emergency medicine taken

Group	N	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
I	18	1.8 \pm 1.34	0.5 \pm 1.14	0.22 \pm 1.19	0.22 \pm 1.19	0.22 \pm 1.19	87.97%	5.71	< 0.001
II	17	1.76 \pm 1.35	0.94 \pm 1.18	0.71 \pm 1.08	0.59 \pm 1.28	0.47 \pm 1.21	73.29%	4.4	< 0.001
III	20	1.95 \pm 1.60	0.35 \pm 1.33	0.25 \pm 1.47	0.2 \pm 1.5	0.15 \pm 1.5	92.30%	5.37	< 0.001

Emergency medicine taken: In group III number of emergency medicine taken was reduced up to 92.30 % which was statistically highly significant ($p < 0.001$). In group I the number of emergency medicine taken was reduced up to 87.97% which was statistically highly significant ($p < 0.001$). In group II the number of emergency medicine taken was reduced up to 73.29% which was statistically highly significant ($p < 0.001$).

Effect of therapies on the Intensity and duration of *Shwasa Vega*

Group	N	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
I	18	3.39 \pm 0.92	2.17 \pm 0.65	1.28 \pm 0.76	0.72 \pm 0.97	0.33 \pm 0.80	90.26%	16.15	< 0.001
II	17	3.47 \pm 0.8	2.53 \pm 0.75	1.76 \pm 0.92	0.94 \pm 0.87	0.70 \pm 0.90	79.68%	12.61	< 0.001
III	20	3.55 \pm 0.69	1.9 \pm 1.06	0.6 \pm 0.74	0.4 \pm 0.63	0.25 \pm 0.59	92.95%	24.70	< 0.001

Intensity & Duration of *Shwasa vega*: In group III the intensity & duration of attack was reduced by 92.95% which was statistically highly significant ($p < 0.001$). In group I the Intensity & duration of attack was reduced by 90.26% which was statistically highly significant ($p < 0.001$). In group II the intensity & duration of attack was reduced by 79.68 % which was statistically highly significant ($p < 0.001$).

Effect of therapies on the Frequency of *shwasa vega*

Group	N	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
I	18	4 \pm 0	2.28 \pm 1.01	1.44 \pm 1.04	1.06 \pm 1.06	0.61 \pm 0.5	84.75%	28.66	< 0.001
II	17	3.82 \pm 0.52	2.5 \pm 0.70	1.59 \pm 0.90	0.88 \pm 0.75	0.70 \pm 0.69	81.54%	18.45	< 0.001
III	20	3.9 \pm 0.31	2 \pm 0.86	0.6 \pm 0.65	0.45 \pm 0.69	0.25 \pm 0.59	93.58%	27.33	< 0.001

Frequency of *Shwasavega*: In group III the frequency of attack was reduced by 93.58 % which was statistically highly significant ($p < 0.001$). In group I the frequency of attack was reduced by 84.75% which was statistically highly significant ($p < 0.001$). In group II the frequency of attack was reduced by 81.54 % which was statistically highly significant ($p < 0.001$).

Effect of therapies on Rhonchi

Group	N	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
I	18	2.72 \pm 0.75	1.22 \pm 0.92	0.33 \pm 0.78	0.17 \pm 0.78	0.11 \pm 0.78	87.75%	14.24	< 0.001
II	17	2.94 \pm 0.24	1.76 \pm 0.53	0.94 \pm 0.79	0.76 \pm 0.88	0.58 \pm 0.61	79.93%	16	< 0.001
III	20	3 \pm 0	1 \pm 0.97	0.35 \pm 0.49	0.35 \pm 0.49	0.2 \pm 0.41	93.33%	29.89	< 0.001

Rhonchi: In group III the relief in rhonchi was 93.33% which was statistically highly significant ($p < 0.001$). In group I the relief in rhonchi was 87.75% which was statistically highly significant ($p < 0.001$) whereas in group II the relief in rhonchi was 79.93% which was statistically highly significant ($p < 0.001$).

Effect of therapies on crepitation

Group	N	Mean Score \pm S.D					% Relief	t	p
		BT	A1	A2	A3	A4			
I	18	1.05 \pm 1.26	0.39 \pm 0.84	0.28 \pm 0.94	0.22 \pm 0.98	0.16 \pm 1.07	83.96%	3.49	< 0.01
II	17	1.23 \pm 1.20	0.70 \pm 0.51	0.47 \pm 0.75	0.29 \pm 1.02	0.29 \pm 1.02	76.11%	3.77	< 0.01
III	20	0.7 \pm 0.86	0.35 \pm 0.49	0.2 \pm 0.69	0.15 \pm 0.69	0 \pm 0.87	100%	3.59	< 0.01

Crepitation: In group III the relief in crepitation was 100 % which was statistically significant ($p < 0.01$) whereas in group I the relief in crepitation was 83.96% which was statistically significant ($p < 0.01$). In group II there was significant improvement in crepitation 76.11% ($p < 0.01$).

Effect of therapies on SpO₂%

Group	N	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
I	18	96.05 \pm 0.80	97.83 \pm 0.87	97.88 \pm 0.85	98.11 \pm 0.99	98.16 \pm 0.96	2.19%	9.29	< 0.001
II	17	96.82 \pm 1.24	97.41 \pm 0.87	97.65 \pm 1.18	97.82 \pm 1.17	97.94 \pm 1.22	1.15%	3.78	< 0.01
III	20	95.6 \pm 0.75	97.2 \pm 1.30	97.45 \pm 1.08	97.5 \pm 0.94	98.05 \pm 0.84	2.56%	13.0	< 0.001

SpO₂%: In group III SpO₂% was increased by 2.56 % which was statistically highly significant ($p < 0.001$). In group I percentage increase in SpO₂% was 2.19 % which was

statistically highly significant ($p < 0.001$). In group II percentage relief in $SpO_2\%$ was 1.15 % which was statistically significant ($p < 0.01$).

Effect of therapies on the Peak expiratory flow rate of 55 patients of *Tamaka Shwasa*

Group	N	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
I	18	267.22 \pm 1 94.47	283.89 \pm 1 2.36	301.67 \pm 1 9.47	338.89 \pm 3 1.66	346.11 \pm 2 6.54	29.52%	12.61	< 0.001
II	17	228.82 \pm 6 8.90	257.06 \pm 2 0.68	267.06 \pm 2 1.28	275.88 \pm 2 2.01	278.82 \pm 2 3.97	21.85%	8.59	< 0.001
III	20	265.5 \pm 11 5.87	286.5 \pm 23. 20	301.5 \pm 25. 46	324.5 \pm 35. 72	358 \pm 47.7 8	34.83%	8.65	< 0.001

Peak Expiratory Flow Rate: In group III there was an increase in PEFR by 34.83 % which was statistically highly significant ($p < 0.001$). In group I there was an increase in PEFR by 29.52 % which was statistically highly significant ($p < 0.001$). In group II there was an increase in PEFR by 21.85 % which was statistically highly significant ($p < 0.001$).

Effect of therapies on Breath holding time on 55 patients of *Tamaka Shwasa*

Group	N	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
I	18	35 \pm 11.5	41.67 \pm 5.94	51.11 \pm 6.08	57.22 \pm 5.48	60.56 \pm 7.04	73%	15.38	< 0.001
II	17	25.29 \pm 5.14	31.76 \pm 4.92	35.29 \pm 5	37.06 \pm 6.36	39.41 \pm 5.07	55.81%	11.47	< 0.001
III	20	29.5 \pm 8.87	33 \pm 4.95	41 \pm 3.75	47.5 \pm 6.02	54 \pm 6.11	83.05%	17.91	< 0.001

Breath Holding Time: In group III there was an increase in B.H.T by 83.05% which was statistically highly significant ($p < 0.001$). In group I there was an increase in B.H.T by 73% which was statistically highly significant ($p < 0.001$). In group II there was an increase in B.H.T By 55.81% which was statistically highly significant ($p < 0.001$).

Effect of therapies on the Chest expansion of 55 patients of *Tamaka Shwasa*

Group	N	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
I	18	4.29 \pm 1.36	4.75 \pm 0.36	5.19 \pm 0.52	5.61 \pm 0.66	5.9 \pm 0.86	37.52%	7.97	< 0.001
II	17	4.45 \pm 1.39	4.90 \pm 0.29	5.32 \pm 0.28	5.56 \pm 0.34	5.87 \pm 0.38	31.91%	15.46	< 0.001
III	20	4.2 \pm 1.47	4.65 \pm 0.33	5.22 \pm 0.69	5.65 \pm 0.80	6.48 \pm 0.73	54.28%	13.89	< 0.001

Chest Expansion: In group III there was an increase in chest expansion by 54.28% which was statistically highly significant ($p < 0.001$). In group I there was an increase in chest expansion by 37.52 % which was statistically highly significant ($p < 0.001$) whereas in group

II there was an increase in chest expansion by 31.91% which was statistically highly significant ($p < 0.001$).

Effect of therapies on the Biophysical parameter (Respiratory Rate)

Group	Mean Score \pm S.D					% Relief	t	p
	BT	A1	A2	A3	A4			
I	22.35 \pm 1.8	19.12 \pm 1.92	18.58 \pm 1.95	17.41 \pm 2.09	17.06 \pm 1.75	23.71%	12.40	< 0.001
II	22.88 \pm 1.34	19.66 \pm 1.73	18.83 \pm 1.39	18.5 \pm 1.64	17.88 \pm 1.90	21.85%	11.10	< 0.001
III	23.05 \pm 1.35	19.6 \pm 1.57	18.95 \pm 1.41	18.7 \pm 1.34	16.85 \pm 1.81	27.11%	15.29	< 0.001

Biophysical parameter: In group III the Respiratory rate was decreased by 27.11% which was statistically highly significant ($p < 0.001$). In group I the Respiratory rate was decreased by 23.71% which was statistically highly significant ($p < 0.001$) while in group II the Respiratory rate was decreased by 21.85% which was statistically highly significant ($p < 0.001$).

Effect of *Shringyadi Churna* on the haematocrit values of 18 patients of *Tamaka Shwasa*

Parameters	Mean Score \pm S.D					% Relief	t	p
	BT	A1	A2	A3	A4			
ESR	16.5 \pm 8.44	12.77 \pm 3.19	10.17 \pm 4.78	8.39 \pm 5.79	7.44 \pm 6.91	54.90%	5.55	< 0.001
AEC	328.05 \pm 117.65	278.33 \pm 44.08	252.89 \pm 70.83	236.56 \pm 74.98	220.06 \pm 82.24	32.91%	5.57	< 0.001

Haematocrit Values: In group I the level of ESR was reduced by 54.90% which was statistically highly significant ($p < 0.001$). The level of AEC was reduced by 32.91% which was statistically highly significant ($p < 0.001$).

Effect of *Guduchyadi Kashaya* on the haematocrit values of 17 patients of *Tamaka Shwasa*.

Parameters	Mean Score \pm S.D					% Relief	t	p
	BT	A1	A2	A3	A4			
ESR	21.70 \pm 10.75	15.05 \pm 5.64	12.59 \pm 7.74	14.65 \pm 7.54	10.47 \pm 8.32	51.75%	5.56	< 0.001
AEC	373.64 \pm 149.89	315.18 \pm 112.28	263.65 \pm 120.83	245.18 \pm 135.6	234.47 \pm 146.23	37.24%	3.92	< 0.001

Values: In group II the level of ESR was reduced by 51.75% which was statistically highly significant ($p < 0.001$). The level of AEC was reduced by 37.24% which was statistically highly significant ($p < 0.001$).

Effect of *Shringyadi Churna* and *Guduchyadi Kashaya* on the haematocrit values of 20 patients of *Tamaka Shwasa*.

Parameters	Mean Score \pm S.D					% Relief	t	p
	BT	A1	A2	A3	A4			
ESR	33 \pm 23.03	23.65 \pm 10.76	19.45 \pm 12.20	17.6 \pm 14.21	11.7 \pm 17.59	64.54%	5.412	< 0.001
AEC	352.6 \pm 165.5	234.5 \pm 184.36	195.7 \pm 153.09	230.25 \pm 156.34	167.9 \pm 176.54	52.38%	4.68	< 0.001

Haematocrit Values: In group III the level of ESR was reduced by 64.54% which was statistically highly significant ($p < 0.001$). The level of AEC was reduced by 52.38% which was statistically highly Significant ($p < 0.001$).

Effect of therapies on *Agni Bala*

Group	n	Mean Score \pm S.D					% Relief	t	P
		BT	A1	A2	A3	A4			
I	18	1.33 \pm 0.97	1.66 \pm 0.48	2.11 \pm 0.64	2.16 \pm 0.61	2.33 \pm 0.90	75.18%	4.67	< 0.001
II	17	1.41 \pm 0.51	1.41 \pm 0	1.70 \pm 0.47	2.12 \pm 0.47	2.29 \pm 0.33	62.57%	10.95	< 0.001
III	20	1.35 \pm 0.75	1.6 \pm 0.42	2.25 \pm 0.46	2.4 \pm 0.52	2.65 \pm 0.58	96.29%	9.98	< 0.001

***Agni Bala*:** In group III *Agni Bala* was increased by 96.29% which was statistically highly significant ($p < 0.001$). In group I *Agni Bala* was increased by 75.18% which was statistically highly significant ($p < 0.001$) while in group II *Agni Bala* was increased by 62.57% which was statistically highly significant ($p < 0.001$).

Effect of therapies ON *Sharirika Bala*

Group	N	Mean Score \pm S.D					% Improvement	t	p
		BT	A1	A2	A3	A4			
I	18	1.05 \pm 0.73	1.22 \pm 0.38	1.78 \pm 0.46	2.11 \pm 0.54	2.5 \pm 0.51	136.90%	11.99	< 0.001
II	17	1.06 \pm 0.43	1.06 \pm 0	1.41 \pm 0.49	1.65 \pm 0.51	1.94 \pm 0.33	83.33%	10.95	< 0.001
III	20	0.75 \pm 0.85	1.25 \pm 0.51	1.9 \pm 0.50	2.2 \pm 0.51	2.35 \pm 0.68	213.33%	10.46	< 0.001

***SharirikaBala*:** In group III *Sharirika Bala* was increased by 213.33% which was statistically highly significant ($p < 0.001$). In group I *SharirikaBala* was increased by 136.90% which was statistically highly significant ($p < 0.001$) while in group II *Sharirika Bala* was increased by 83.33% which was statistically highly significant ($p < 0.001$).

Effect of therapies on *Manasa Bala*

Group	N	Mean Score \pm S.D					% Relief	t	p
		BT	A1	A2	A3	A4			
I	18	1.5 \pm 0.86	1.66 \pm 0.38	1.77 \pm 0.46	2.05 \pm 0.61	2.27 \pm 0.87	51.33%	3.75	< 0.001
II	17	1.24 \pm 0.75	1.41 \pm 0.39	1.65 \pm 0.51	1.82 \pm 0.51	1.82 \pm 0.51	47.96%	4.78	< 0.001
III	20	1.25 \pm 1.07	1.35 \pm 0.32	1.6 \pm 0.5	1.9 \pm 0.68	2.2 \pm 0.70	76%	6.02	< 0.001

Manasa Bala: In group III *ManasaBala* was increased by 76% which was statistically highly significant ($p < 0.001$) while in group I *Manasa Bala* was increased by 51.33% which was statistically highly significant ($p < 0.001$). In group II *Manasa Bala* was increased by 47.96 % which was statistically highly significant ($p < 0.001$).

Intergroup comparison on symptoms in 55 cases

Sr.No.	Symptoms	Inter group comparison using unpaired t test (BT - AT)		
		Gr. I vs Gr. II	Gr.Ivs Gr. III	Gr. II vsGr.III
1.	<i>Shwasakricchata</i>	t = 1.28 p > 0.05 NS	t = 0.58 p > 0.05 NS	t = 2.16 p < 0.01 S
2.	<i>Kasa</i>	t = 0.84 p > 0.05 NS	t = 1.45 p > 0.05 NS	t = 3.73 p < 0.001 HS
3.	<i>Pinasa</i>	t = 0.75 p > 0.05 NS	t = 0.74 p > 0.05 NS	t = 1.44 p > 0.05 NS
4.	<i>Parshvashula</i>	t = 0.17 p > 0.05 NS	t = 1.44 p > 0.05 NS	t = 1.25 p > 0.05 NS
5.	<i>Ghurghurukam</i>	t = 0.08 p > 0.05 NS	t = 0.38 p > 0.05 NS	t = 0.54 p > 0.05 NS
6.	<i>Kaphanishthivana</i>	t = 0.69 p > 0.05 NS	t = 0.54 p > 0.05 NS	t = 0.66 p > 0.05 NS
7.	<i>Aasinolabhatesaukhyam</i>	t = 0.07 p > 0.05 NS	t = 1.41 p > 0.05 NS	t = 1.61 p > 0.05 NS
8.	<i>Kanthodhvansanam</i>	t = 2.43 p < 0.01 S	t = 0.51 p > 0.05 NS	t = 2.58 p < 0.01 S
9.	<i>Shleshmavimokshantelabhatesukham</i>	t = 0.51 p > 0.05 NS	t = 0.83 p > 0.05 NS	t = 0.33 p > 0.05 NS
10.	<i>Anidra</i>	t = 1.19 p > 0.05 NS	t = 0.98 p > 0.05 NS	t = 2.62 p < 0.01 S
11.	<i>Vishushkasyata</i>	t = 0.55 p > 0.05 NS	t = 2.68 p < 0.01 S	t = 3.15 p < 0.001 HS
12.	<i>Ushnenaabhinanditi</i>	t = 0.02 p > 0.05 NS	t = 2.17 p < 0.01 S	t = 2.44 p < 0.01 S

On symptom of *Shwasakrichhata*, significant value was observed on comparison between Group II vs Group III. Statistically insignificant improvement was observed in symptom of *shwasakrichhata* between group I vs group II and group I vs group III.

On symptom of *Kasa* highly significant value was observed on comparison between group II vs group III. Statistically insignificant improvement was observed in symptom of *Kasa* between group I vs group II and group I vs group III.

On symptom of *Kanthodhvansa*, significant value was observed on comparison between group I vs group II, group II vs group III and insignificant value on comparison between group I vs group III.

On symptom of *Anidra* significant value was observed on comparison between group II vs group III and insignificant value was observed on comparison between group I vs group II, group I vs group III.

On symptom of *Vishushkasyata* highly significant value was observed on comparison between group II vs group III. While significant value was obtained for comparison between group I vs group III and insignificant value was obtained for comparison between group I vs group II.

On symptom of *Ushnenaabhinanditi*, significant value was observed on comparison between group I vs group III, group II vs group III and insignificant value on comparison between group I vs group II.

For symptoms of *Pinasa*, *Parshvashula*, *Ghurghurukam*, *Kaphanishthivana*, *Asino labhate saukhyam*, *Shleshma vimokshnte labhate sukham*, insignificant result was observed on comparison between group I vs group II, group I vs group III, group II vs group III.

Intergroup comparison on various assessment parameters

Parameters	Inter group comparison using unpaired t test (BT – AT)		
	Gr. I vs Gr. II	Gr.Ivs Gr. III	Gr. II vsGr.III
Crepitation	t = 0.15 p> 0.05 NS	t = 0.59 p> 0.05 NS	t = 0.77 p> 0.05 NS
Rhonchi	t = 1.09 p> 0.05 NS	t = 0.95 p> 0.05 NS	t = 2.66 p< 0.01 S
No.of emergency medicine taken	t = 0.78 p> 0.05 NS	t = 0.43 p> 0.05 NS	t = 1.12 p> 0.05 NS
Intensity and duration of attack	t = 1.008 p> 0.05 NS	t = 1.032 p> 0.05 NS	t = 2.08 p< 0.01 S
Frequency of attack	t = 1.32 p> 0.05 NS	t = 1.46 p> 0.05 NS	t = 2.52 p< 0.01 S
PEFR	t = 3.37 p< 0.001 HS	t = 1.08 p> 0.05 NS	t = 3.35 p< 0.001 HS
Chest Expansion	t = 0.89 p> 0.05 NS	t = 2.56 p< 0.01 S	t = 4.46 p< 0.001 HS
BHT	t = 5.48 p< 0.001 HS	t = 0.49 p> 0.05 NS	t = 5.59 p< 0.001 HS
SpO ₂ %	t = 2.68 p< 0.01 S	t = 1.17 p> 0.05 NS	t = 3.94 p< 0.001 HS

On Rhonchi, significant improvement was observed on comparison between group II vs group III and insignificant improvement was observed on comparing group I vs group II and group I vs group III.

On Intensity and duration of attack significant improvement was observed on comparison between group II vs group III and insignificant improvement was observed on comparison between group I vs group II and group I vs group III.

On Frequency of Attack significant improvement was observed on comparison between group II vs group III and insignificant improvement was observed on comparison between group I vs group II and group I vs group III.

On PEFr highly significant improvement was observed on comparison between group I vs Group II and Group II vs Group III. and Insignificant values were obtained on comparison between group I vs group III.

On Chest expansion highly significant improvement was observed on comparison between group II vs group III. Significant improvement was observed on comparison between group I vs group III and insignificant value was obtained on comparison between group I vs group II. On BHT highly significant improvement was observed on comparison between group I vs group II and group II vs group III. Insignificant value was obtained on comparison between group I vs group III.

On SpO₂ % highly significant value was obtained on comparison between group II vs group III. Significant value was observed on comparison between group I vs group II. Insignificant value was observed on comparison between group I vs group III.

For symptoms of Crepitation and No. of Emergency medicine taken insignificant result was observed on comparison between group I vs group II, group I vs group III, group II vs group III.

Inter group comparison on Agni-Sharirika-Manasa bala

Parameters	Inter group comparison using unpaired ttest (BT – AT)		
	Gr. I vs Gr. II	Gr.Ivs Gr. III	Gr. II vsGr.III
<i>Agni Bala</i>	t = 0.50 p> 0.05 NS	t = 1.23 p> 0.05 NS	t = 2.65 p< 0.01 S
<i>SharirikaBala</i>	t = 3.83 p< 0.001 HS	t = 0.79 p> 0.05 NS	t = 3.96 p< 0.001 HS
<i>ManasikaBala</i>	t = 0.77 p> 0.05 NS	t = 0.68 p> 0.05 NS	t = 1.79 p> 0.05 NS

On *Agni Bala* significant value was observed on comparison between group II vs group III. Insignificant value was observed on comparison between group I vs group II, group I vs group I vs group III.

On *Sharirika Bala* highly significant improvement was observed on comparison between group I vs group II and group II vs group III. Insignificant improvement was observed on comparison between group I vs group III.

On *ManasikaBala* Insignificant improvement was observed on comparison between Group I vs group II, group I vs group III and group II vs group III.

OVERALL EFFECT OF THERAPIES ON 55 PATIENTS OF TAMAKASHWASA

STATUS	Group I		Group II		Group III	
	No.	%	No.	%	No.	%
Complete remission	0	0	0	0	3	15%
Markedly improved	17	94.44%	11	64.70%	16	80%
Moderately improved	1	5.55%	6	35.29%	1	5%
Mildly improved	0	0	0	0	0	0
Unchanged	0	0	0	0	0	0

In group I, 17 patients i.e.94.44 % patients attained marked improvement whereas 1 patient i.e. 5.55 % attained moderate improvenent in the symptoms of *TamakaShwasa*.

In group II, 11 patients i.e. 64.70 % attained marked improvement whereas 6 patients i.e. 35.29% patients attained moderate improvement in the symptoms of *TamakaShwasa*.

In group III, 13 patients i.e. 65% patients attained marked improvement in the symptoms whereas 7 patients i.e. 35% attained complete remission of the symptoms of *TamakaShwasa*.

FOLLOW- UP WISE DISTRIBUTION OF PATIENTS

Group	Follow up of patients on completion of trial after 2 months	No. of patients reported to have recurrence of the disease <i>Tamaka Shwasa</i>
I	10	1
II	12	4
III	10	0

Out of 55 patients, 32 patients came for follow up i.e. two months after the completion of the trial, out of them 1 patient was from group I and 4 patients were from group II, complained the recurrence of the disease. There were no recurrence of the symptoms as reported by the patients of group III after 2 months of follow up.

The distribution of the contents of *Shringyadi Churna* and *Guduchyadi Kwatha* has brought the above results which clearly indicates statistically that, on many symptoms and assessment parameters combination has shown admirable results. This data ascertains the effectiveness of traditional yoga *Shringyadi churna* along with *Guduchyadi Kwatha* 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 *annavaha srotasa* and should provide *dipana- pachana, vatanulomana, vatakaphahara* property. Here *Karkatshringi* is *kapha nissaraka-kaphaghna* and *katu paushtika* in nature. *Pushkarmula* is *kaphavata shamaka ushna virya* and *katu paushtika* in nature having *dipana-pachana and vatanulomana guna*. *Shati* is *kapha-vata shamaka ushna virya* and having the property of *dipana –rochana* and *shool prashamana*. *Shunthi* is *kaphaghna* and *ushnavirya*. *Maricha* is having *kaphagna* and *kapha nissaraka 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 *agni guna* of these drugs helps in the *pachana* of *ama* in the body. Also *kaphaghna* and *kapha nissaraaka 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 *kupita vata* 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 *kaphanashak & kaphanissaraka aushadh*.

Guduchyadi Kwatha

Most of the contents of *Guduchyadi Kwatha* are having *Katu, Tikta Rasa, Ushna Virya, Katu vipaka* and *Kapha-vatghna* property which seems to be quite effective in antagonizing the *Shwasa roga, which is Kapha-vata pradhana* disease. Quick absorption of the *kwatha* from *aamashaya* due to its *Vikasi* and *Vyavayi guna* also contribute to the quick implementation of its action.

Here *Vasa* possess the property of *kapha nissaraka & kaphaghna*. *Guduchi* is *kaphghna Vrishya & rasayana*. *Bilwa* is *kaphavata shamak ushna virya* having *pachana* and *balya guna*. *Agnimanth* is *kaphaghna, dipana-pachana* and *anulomana*. *Shyonaka* is *kaphaghna, dipana-pachana, katupaustika, shothahara & vedanasthapana*. *Patala* is *tridoshshamak & ushna virya*. *Gambhari* is *balya, sandhaniye, rasayana & vedana sthapana*. All these drugs act on the *pranavaha-udakavaha* and *annavaha srotas* and helps in relieving the symptoms. The elimination of *kapha* will release the obstruction and free flow flow *pranavayu* will be revealed in the form of improvement. Here inhalation of the vapours which comes during the preparation of decoction will work locally on the upper & lower respiratory tract thereby increasing the circulation of blood, relieve in inflammation thereby in broncho-constriction and ultimately the broncho-dilatation which will bring free flow of *pranavayu*.

The pharmacological studies already reported on the individual drugs, also favours the effectiveness of various contents of *Shringyadi Churna* and *Guduchyadi Kwatha* in disease Bronchial Asthma as given below^[9]

Anti-allergic: *Guduchi, Karkatshringi, Shati*

Anti-inflammatory: *Guduchi, Maricha, Pippali, Shunthi, Bilwa, Karaktshringi, Pushakarmula, Shyonaka, Agnimantha, Patala, Gambhari.*

Anti-spasmodic :*Vasa, Karkatshringi, Shati, Bilwa, Shyonaka, Pippali, Maricha*

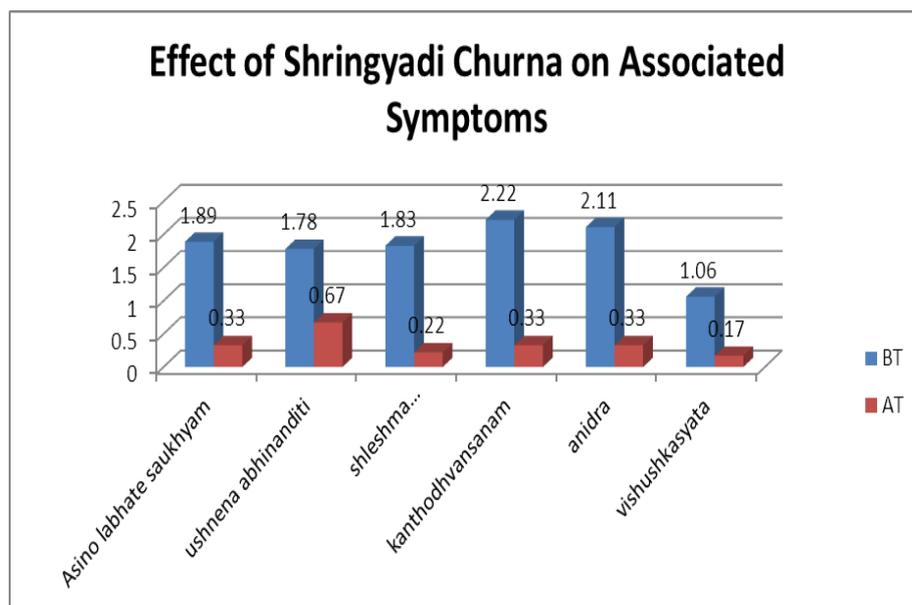
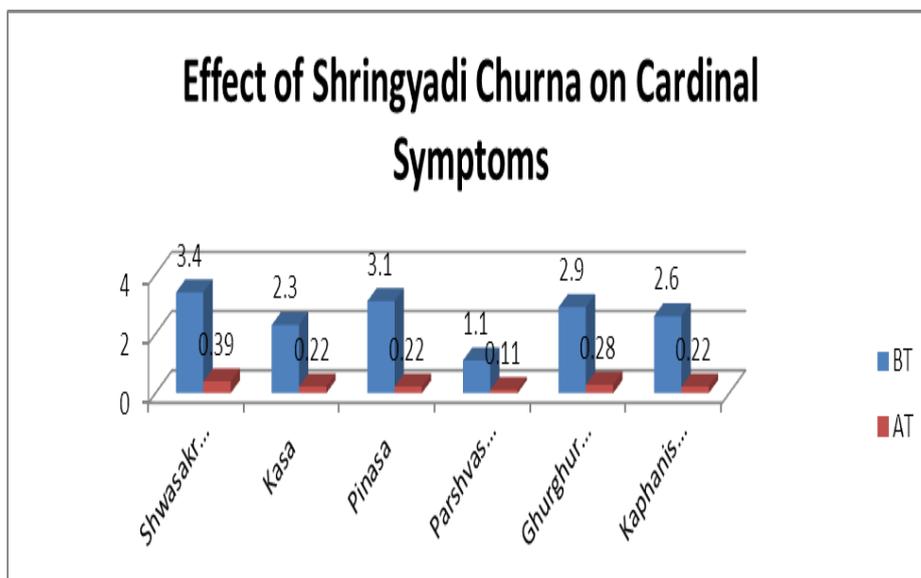
Bronchodilator :*Vasa, Pippali, Shati, Pushkarmula*

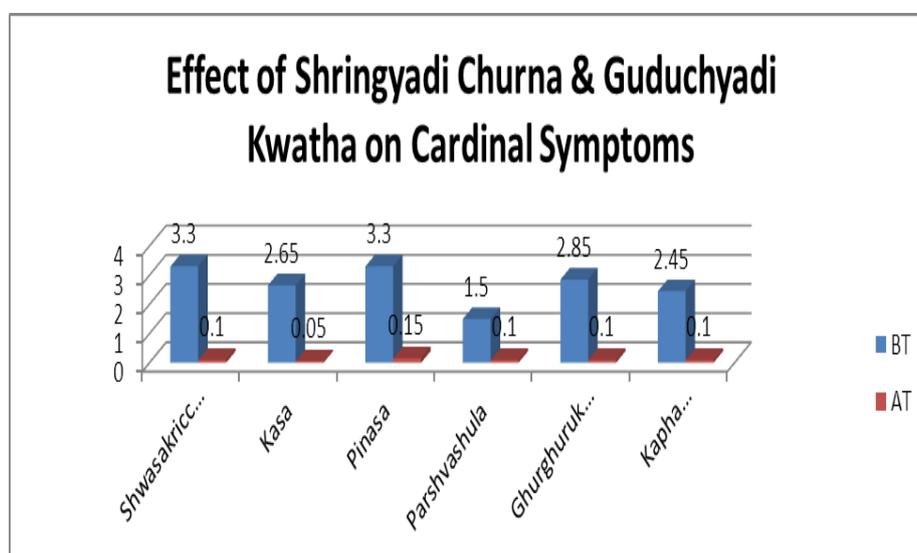
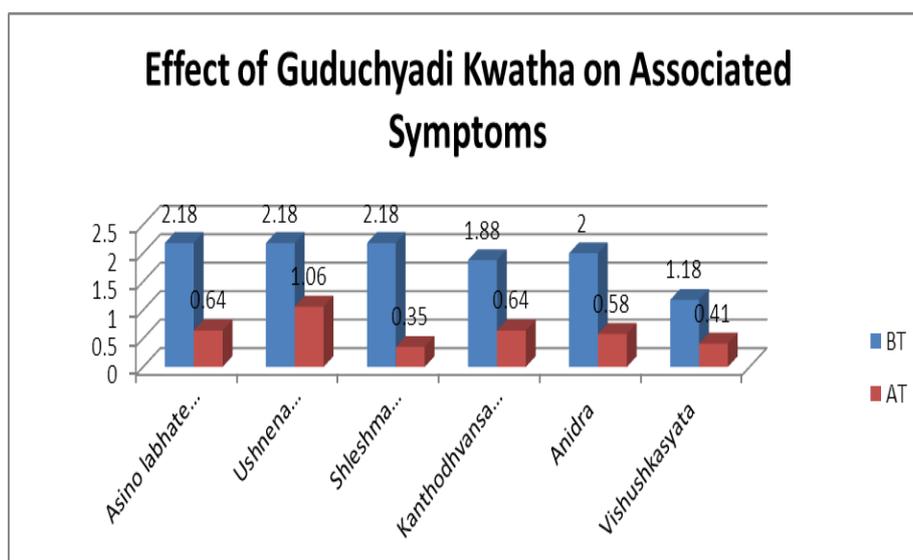
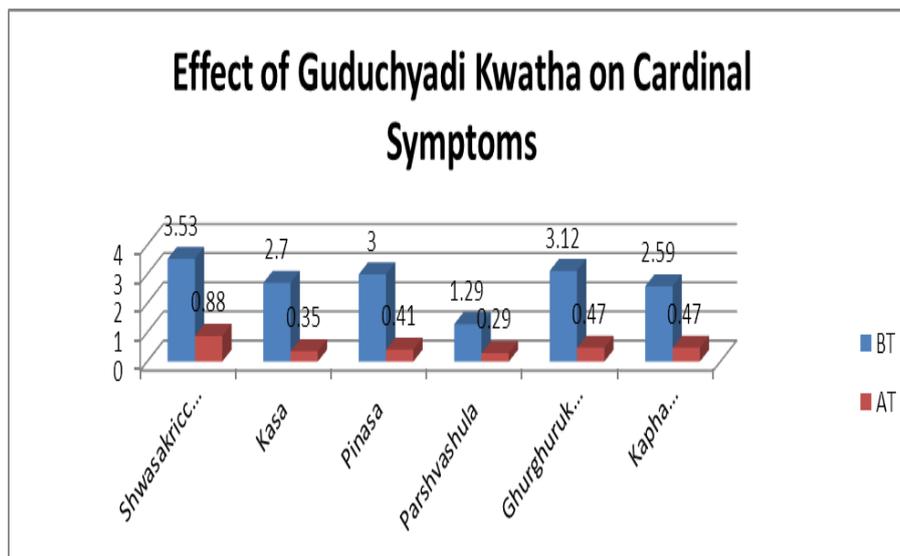
Expectorant :*Vasa, Karkatshringi, Shati, Patala*

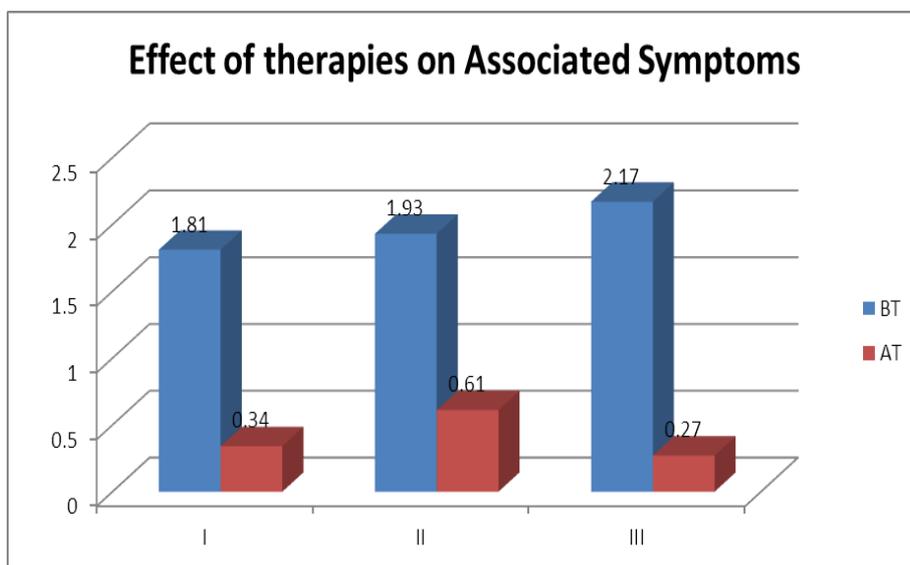
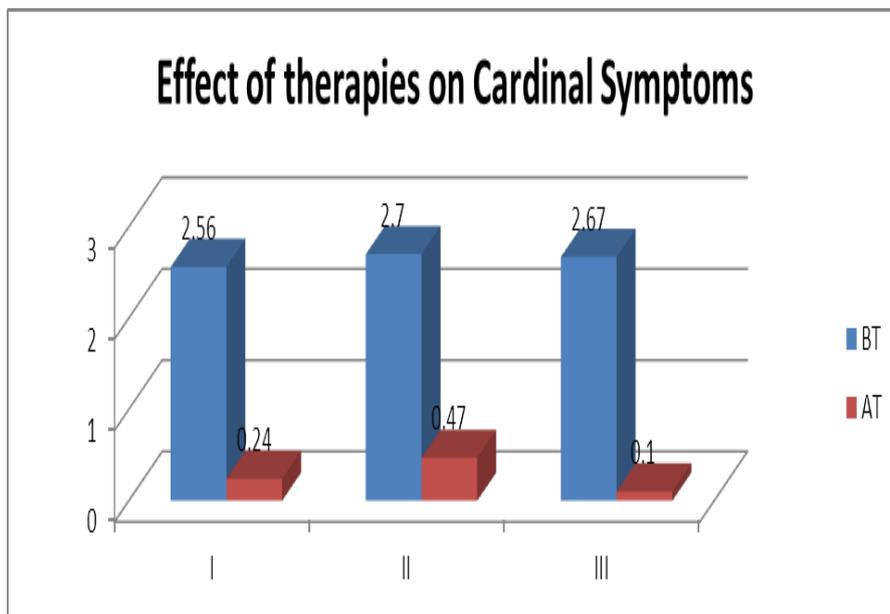
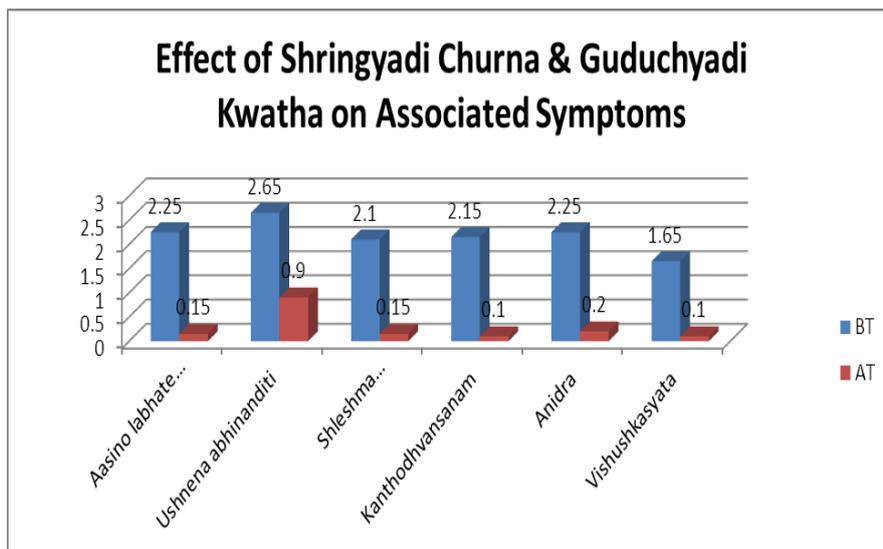
Immunomodulator :*Pippali, Guduchi*

Anti-Oxidant :*Shunthi, Maricha*

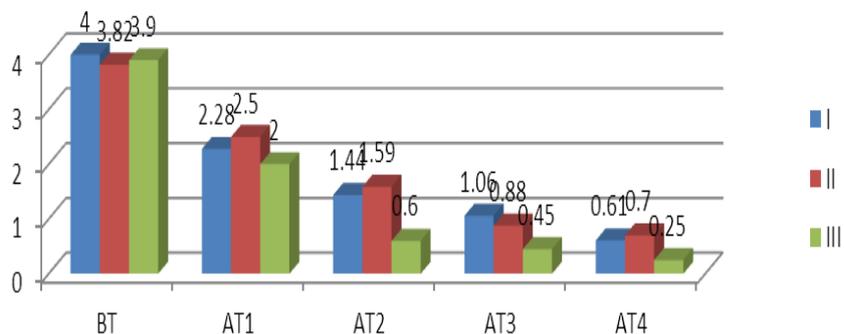
Ushnodaka: The water which is reduced to 1/8th part or 1/2 part or simply boiled water is known as Ushnodaka. They are laghu (light), Accha (clear) and sudha (neat). They are able to eliminate Kapha, Vayu and Meda. They are Deepana and Vastishodhana.^[10] They can be administer in Parsvasoola, Pinasa, 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.



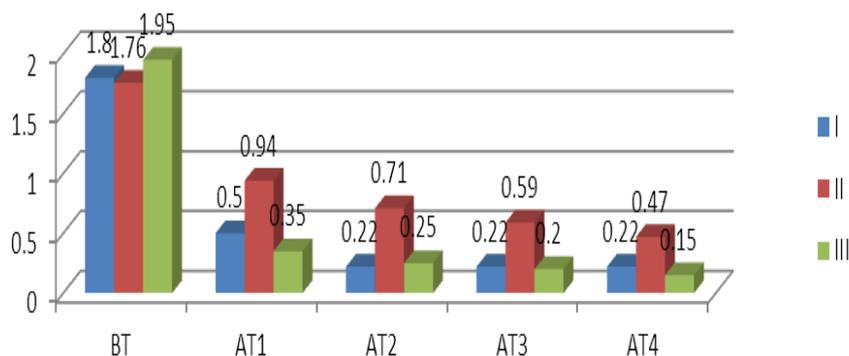




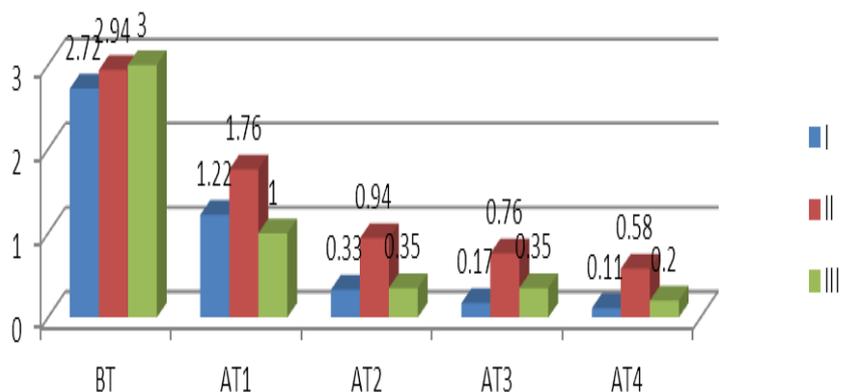
Effect of therapies on Frequency of Shwasa Vega

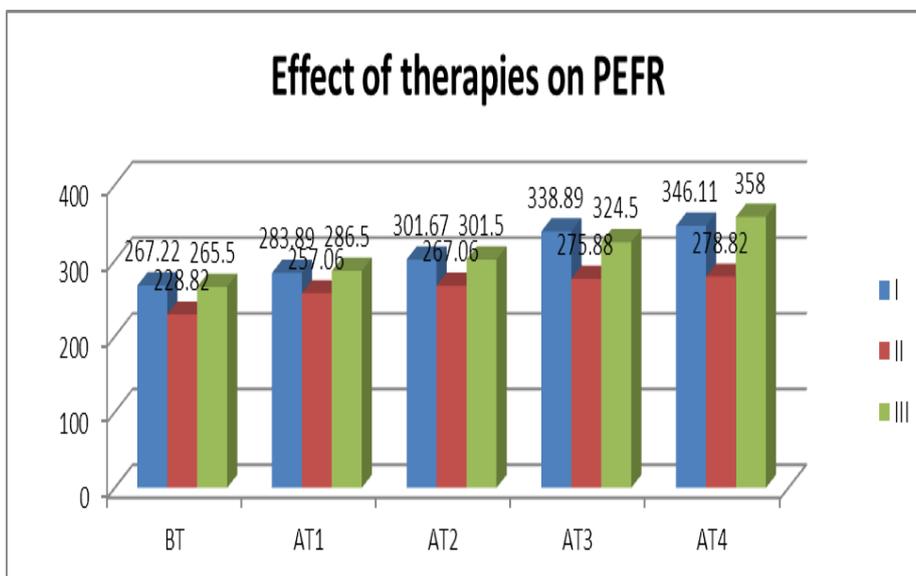
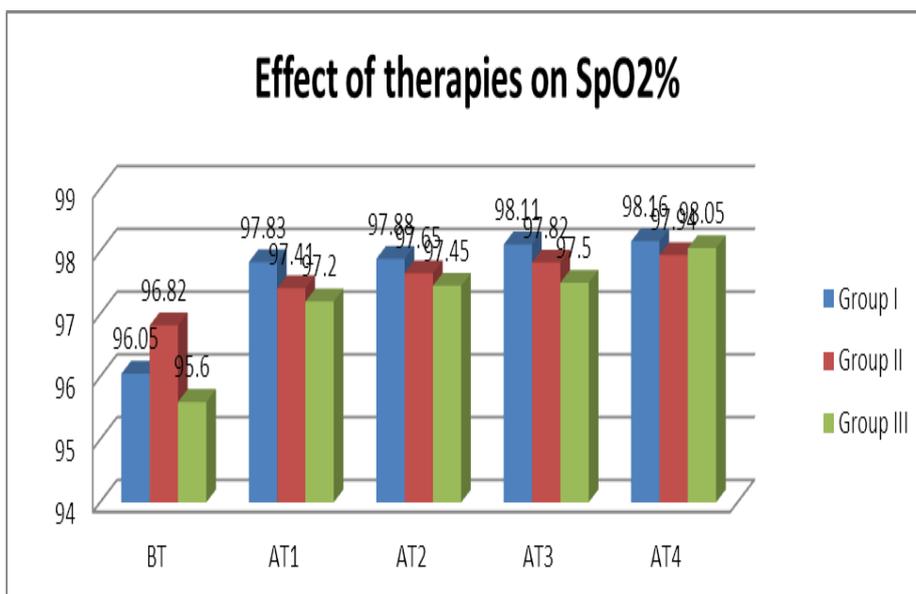
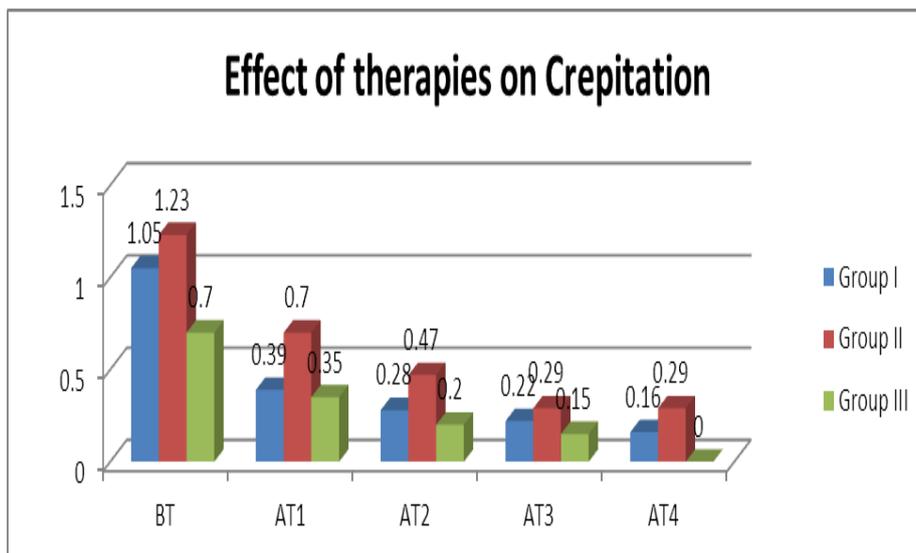


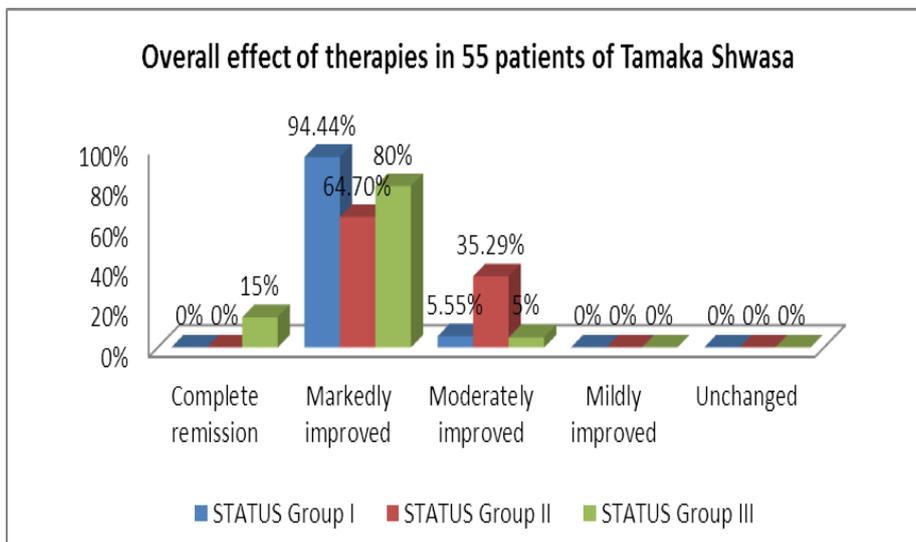
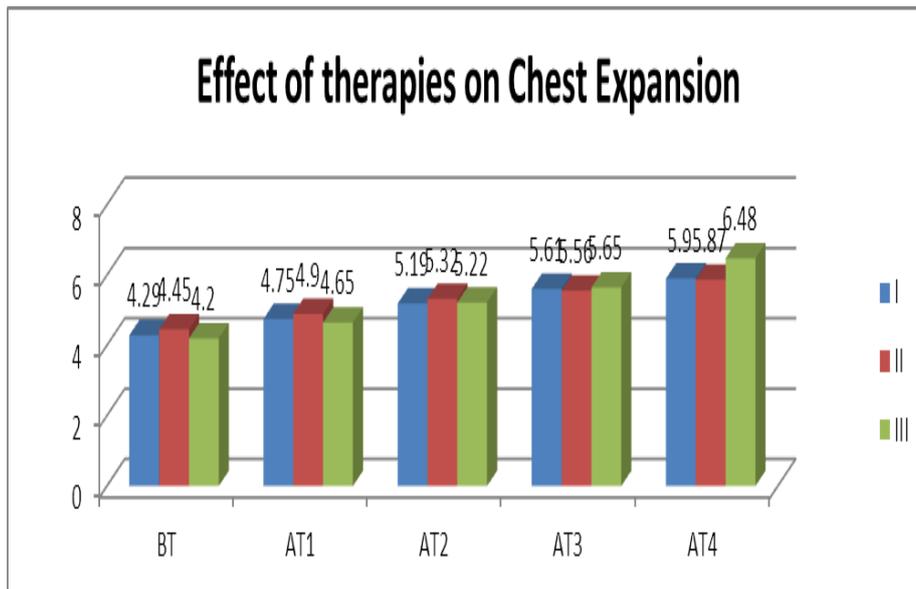
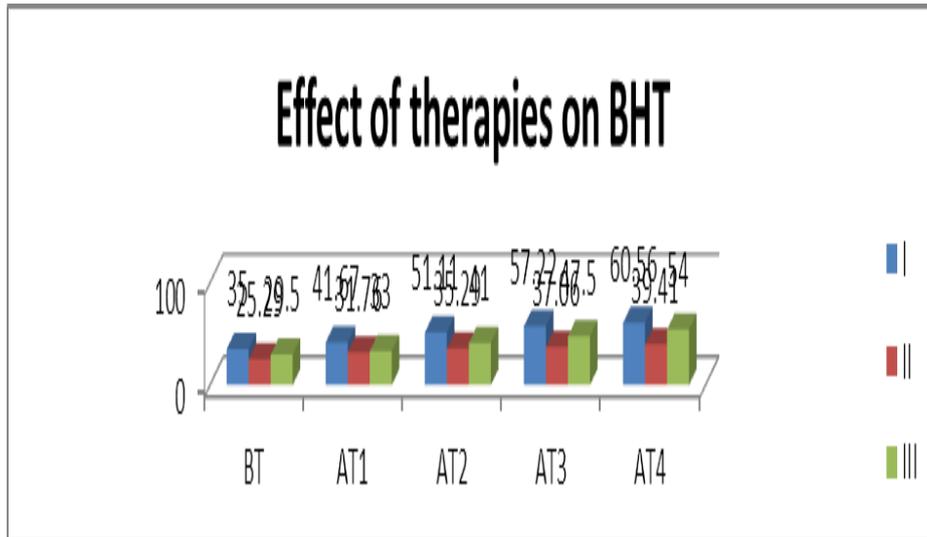
Effect of therapies on No. of Emergency medicine taken



Effect of therapies on Rhonchi







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 *Guduchyadi Kwatha as anupana dravya*, is such a drug here.
4. Results of this work has undoubtedly established the importance of *Shringyadi Churna* & *Guduchyadi Kwatha* 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* and *Guduchyadi Kwatha* in the management of *Tamaka Shwasa*.

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