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# Clinical efficacy of *Kasakartari Gutika* in the management of *Kasa* in *Tamaka Shwasa* w.s.r. to Bronchial Asthma

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## ABSTRACT

**Background:** The disease *Kasa* and *Tamaka Shwasa* mentioned by *Acharya Charaka* separately, both the disease are originating from *Pranavaha Srotas* and can damage *Pranavaha Srotas* permanently. Especially in *Tamaka Shwasa Vyadhi*, *Kasa* is very common as a prominent symptom. In fact patient gets more deteriorated after onset of *Kasa Vega* and fills better when it gets subside. Though *Tamaka Shwasa Vyadhi* is *Pitta Samudbhava*, *Kapha* and *Vata* are always predominant factors. The *Strotorodha* made by *Styana Kapha* provoke *Vayu* excessively and result into *Kasa Vega* as symptom. According to Ayurveda the contain of *Kasakartari Gutika* is act as *Kasa-shwashar* property and hence for present study *Kasakartari Gutika* was selected as trial drug for treating the patient of *Kasa* in *Tamaka Shwasa*. **Aim:** To study the efficacy of '*Kasakartari Gutika*' in the management of *Kasa* in *Tamaka Shwasa* w.s.r. to Bronchial Asthma. **Material and Methods:** Total 30 patients of *Kasa* in *Tamaka Shwasa* from OPD and IPD unit of Dr. M. N. Agashe Hospital, Satara, were selected and treated with *Kasakartari Gutika* 1gm B.D. for the duration of 2 month. **Result:** Maximum 81.81% relief was observed in *Kshudhamandya* and 80.64% relief was observed in *Ayasenshwasa* and 77.5% relief was observed in *Kasa*. **Conclusion:** The compound formulation '*Kasakartari Gutika*' was found as an effective remedy for *Kasa* in *Tamaka Shwasa*. The parameters like *Kasa*, *Ayasenshwasa* and *Kshudhamandya* shows that they are highly significant result.

**Key words:** *Tamaka Shwasa*, *Kasa*, *Bronchial Asthma*, *Kasakartari Gutika*.

## INTRODUCTION

*Panchmahabhuta* i.e. 5 basic element in the universe together constitutes formation of our body. These basic elements are *Aakasha*, *Vayu*, *Teja*, *Jala* and *Prithvi* which together forms *Srushti* and further to

evolution of man through this elements. According to Ayurveda, *Panchmahabhuta* plays an important role in overall health of human being. Any imbalance of one or more *Mahabhuta* is related to diseased condition of human being.

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Out of this *Panchmahabhuta*, *Vayu Mahabhuta* is essential to keep us alive. Air is major constituent of atmosphere. Respiration is vital phenomenon of life. Each and every person from his birth to death requires respiration which is vital sign of life. Healthy respiration offers life longevity and energy to perform our daily routine. The purpose of Ayurveda is to ensure healthier and longer life to humanity.

With the explosion of the knowledge in the 21<sup>st</sup> century a new concept of multi factorial causes of the disease has arisen due to changing pattern of lifestyle, urbanization, over growth of industrialization and

auto mobilization, living standards, demography factors. All of the above increase causative factors of *Pranava Srotas* like toxic gases, vehicle smoke, cigarette smoking, dust, allergen, pollutant, and stress. These factors are responsible for disease of *Pranava Srotas* like *Kasa*, *Shwasa*, *Pratishaya* and *Hikka* in remarkable number now a day. This causes are given in *Sushruta Uttartantra*.<sup>[1]</sup>

Respiratory is the process from the first breath of new born till the last breath which is the sign of life. Any disturbance in the process leads to *Shwasa Roga*.

The disease *Kasa* and *Tamaka Shwasa* mentioned by *Acharya Charaka* separately, both the disease are originating from *Pranava Srotas* and can damage *Pranava Srotas* permanently.

In general the onset of disease *Kasa* has been taken by population very casually. Most of the time *Kasa* and *Tamaka Shwasa Vyadhi* are found togetherly i.e. *Kasa* in *Tamaka Shwasa*. Especially in *Tamaka Shwasa Vyadhi*, *Kasa* is very common as a prominent symptom. In fact patient gets more deteriorated after onset of *Kasa Vega* and feels better when it gets subsided.

Though *Tamaka Shwasa Vyadhi* is *Pitta Samudbhava*, *Kapha* and *Vayu* are always predominant factors. The *Strotorodha* made by 'Styana-Kapha', provokes *Vayu* excessively and result into *Kasa Vega* as symptom.

*Acharya Charaka* has mentioned that patient of *Tamaka Shwasa* get relief, when he expels the *Kapha*.<sup>[2]</sup>

Though the symptom *Kasa* is for betterment of patient most of the time it becomes troublesome and as per our science it results into big diseases like *Urashula*, *Urakshata* and haemoptysis etc. As per modern science cough along with wheezing and dyspnoea are variable symptoms in Bronchial Asthma. Many times cough becomes worst and patient typically becomes restless because he fails to expectorate increased tenacious mucus production. In initial stage, it is said to be curable, but the chronicity sets, it becomes *Yapya* i.e. management is the last resort.

In our clinical practice to combat this condition of *Pranava Srotas*, we use the general principle.<sup>[3]</sup>

It means in *Pranava Srotas* all diseases are treated like *Shwasa*. In modern science on emergency condition of this disease they have found instant relieving therapy. It becomes very popular all over the world. Among them different types of steroidal management is one.

As we discussed earlier this disease needs long term management, by the time the dose of steroid is increased in response to control chronicity and long term using of steroid causes number of side effects, which reflect in number of diseases in the patient. So it is really needed to find a safe, easier, less complicating, cost effective treatment.

The detail description of *Kasa* and *Shwasa Roga* and its treatment is given in *Kasa* and *Shwasa Chikitsa Adhayaya* separately and if not treated properly it will result into *Rajyakshma*.<sup>[4]</sup>

Considering *Tamaka Shwasa Vyadhi* and *Kasa* their *Hetu*, *Vyadhi Adhistan* and *Chikitsa* are similar.<sup>[5]</sup>

By observing the previous patients record, it has been found that almost 50% to 60% patients are suffering from respiratory diseases and *Tamaka Shwasa* and *Kasa* are very common among them. So we have decided, to combat the dominating symptom *Kasa* in *Tamaka Shwasa Vyadhi* with herbal formulation '*Kasakartari Gutika*' scientifically.

## OBJECTIVES OF THE STUDY

To study the efficacy of *Kasakartari Gutika* in the Management of *Kasa* in *Tamaka Shwasa* with special reference to Bronchial Asthma.

## MATERIALS AND METHODS

### Materials

**Patients:** Total 30 patients of *Kasa* in *Tamaka Shwasa* from OPD and IPD Unit of Dr. M. N. Agashe Hospital, Satara, were selected irrespective of their sex and religion.

**Drug:** For the present study '*Kasakartari Gutika*' will be used for the management of *Kasa* in *Tamaka Shwasa*. The details of the formulation and method of preparation are as follows.<sup>[6]</sup>

**Table 1: Details of ingredients of Kasakartari Gutika**

SN	Drug	Latin Name	Part used	Quantity
1.	Vanga	Stannum	Bhasma	1 Part
2.	Krushna (Pippali)	Piper longum	Phala (fruit)	2 Part
3.	Haritaki	Terminalia Chebula	Phala (fruit)	3 Part
4.	Yavkshara	Hordeum Vulgare	Kshar	4 Part
5.	Bharangi	Clerpdendrum Serratum	Mula (root)	5 Part
6.	Khadira	Achacia Catechu	Sara	15 Part
Bhavana Dravya = Babul Kwath				

**Case record form:** A special case performa was prepared for the assessment of disease and evaluation of efficacy of the *Kasakartari Gutika* which includes scoring and gradation of disease symptoms. Also informed consent form was attached with it and due consent was taken from each patient before their enrollment into clinical study.

### Methodology

1. Preparation of drug
2. Standardization of drug
3. Clinical study

**Study design:** Single arm open clinical trial

### Method of preparation of Kasakartari Gutika

1. All *Choornas* are taken in appropriate quantity will be mixed in *Khalwa*.
2. Mixing process will continue up to fine mixing of all *Dravyas*.
3. *Vidhivat Bhavana* of *Babul Kwatha* will be given to the mixture of *Choornas*.
4. *Guti* will be made of 500mg by using authentic method as per mentioned in Ayurvedic classics.

5. Standardization of *Guti* will be done from authentic source prior to commencement of the clinical trial.

### Criteria for diagnosis

Patient having *Tamaka Shwasa* with predominant symptom as;

- Cough dry or wet.
- Dyspnea.
- Wheezing sound.
- Difficult expectoration.

### Inclusion Criteria

1. Adult male or female, Aged between 20 to 60 year.
2. A case of *Kasa* in *Tamaka Shwasa* having no other major illnesses.

### Exclusion Criteria

1. Age below 20 and above 60 year.
2. Patients suffering from structural lung disease like Tuberculosis, Smoker's bronchitis, ILD, COPD, Pneumonia.
3. Patient suffering from CCF, DM, IHD, Stroke and HIV Infection.
4. Pregnant and lactating women.
5. Patients having complications of bronchial Asthma like Pneumothorax etc.

### Groups of management

All the selected patients will be allocated to single group which was treated by '*Kasakartari Gutika*' and hence; it is a single arm open clinical trial.

**Table 2: Details of drug administration**

Drug	<i>Kasakartari Gutika</i>
Form of drug	<i>Gutika</i> (tablet)
Dose	500 mg - 2 tablets B.I.D.
<i>Sevan Kala</i>	<i>Bhuktapaschata</i> (After meal) twice a day
<i>Anupana</i>	<i>Koshnajala</i> (warm water)

Follow up	After every 15 days. Total 4 follow ups
Duration	2 month
Diet	As per <i>Pathyakara Ahara</i> mentioned in Ayurvedic texts.

### Assessment Criteria

To assess the subjective features of *Kasa* in *Tamaka Shwasa* the clinical symptomatology was graded on the basis of severity and duration.

### Subjective Criteria

#### *Kasa* (cough)

Grade	<i>Kasa</i>
0	Absent
1	1 to 5 episodes in every three hours.
2	5 to 10 episodes in every three hours.
3	More than 10 episodes in every three hours.

#### *Kshudhamandya* (Loss of Appetite)

Grade	Hunger after taking food in hours
0	Patient feeling complete digestion and hunger after 3 hour of taking meal.
1	Patient feeling hunger after 4-7 hour of taking meal
2	Patient feeling hunger after 8-11 hour of taking meal
3	No feeling of hunger even after 12 hour of taking meal

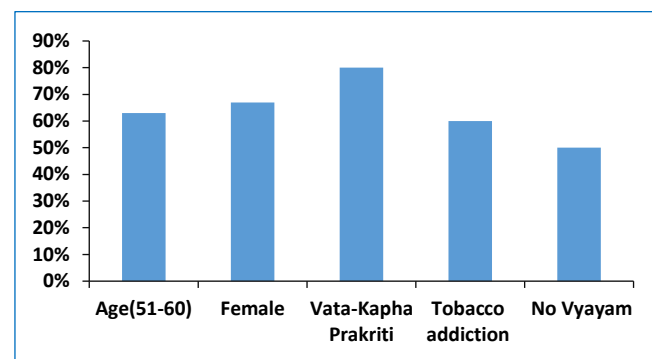
#### *Aayasenshwas* (Breathlessness)

Grade		
0	None	Not trouble by shortness of breath on level or uphill.
1	Mild	Troubled by shortness of breath on level or uphill.
2	Moderate	Walk slower than person of same age.
3	Severe	Stop after walking 100 yard or after few minute on level ground.
4	Very severe	Too breathless to leave the house breathless on dressing or undressing

### OBSERVATIONS

In the present study 63% patients were from the age group of 51-60 years. Females were 67%, 57% patients were housewife. Socio-economically 87% patients were from middle class. 83% patients were habituated to mixed (vegetarian and non vegetarian) type diet. Family history was found positive in 20% patients.

**Chart 1: General observation in 30 patients of *Kasa* in *Tamaka Shwasa*.**



Among the patients of *Kasa* in *Tamaka Shwasa* 80% were having dominance of *Vata-Kapha* in *Sharira Prakriti* whereas *Rajasika Prakriti* was found in 87% patients. 47% patients were having *Mandagni* (poor digestive fire) while *Koshta* (bowel nature) was *Madhyama* in 53% patients. 77% patients were having *Madhyama Jaranshakti* (digestive capacity). Tobacco addiction was found in 60% patients. Disturbed sleep was found in 53% patients. 50% patients were not doing any kind of *Vyayama* (exercise).

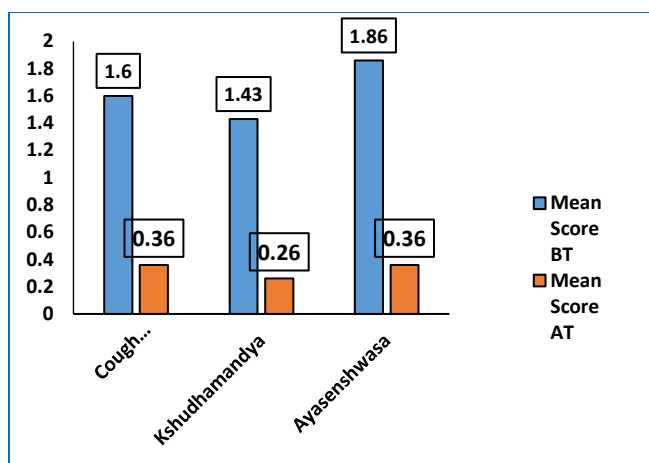
### RESULTS

**Table 3: Effect of *Kasakartari Gutika* on subjective parameters.**

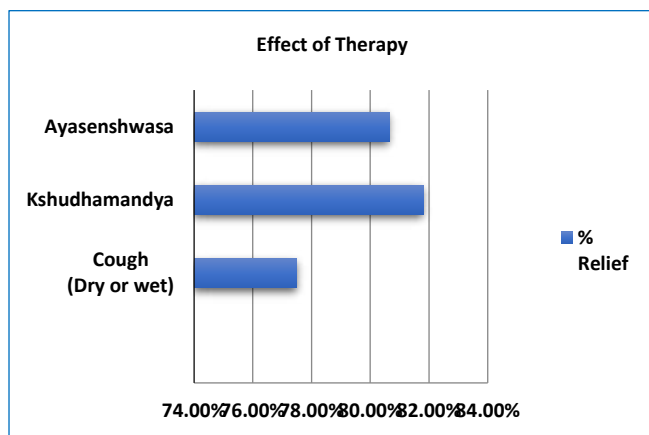
Parameter	n	Mean score		Mean Diff	% relief	S.D	t	p
		B.T	A.T					
<i>Kasa</i>	30	1.06	0.36	1.24	77.5%	0.4983	11.88	p<0.001
<i>Kshudhamandya</i>	30	1.43	0.26	1.17	81.8%	0.5683	12.04	p<0.001
<i>Aayasenshwas</i>	30	1.86	0.36	1.50	80.6%	0.7761	12.04	p<0.001

The above table shows that maximum 81.81% relief was observed in *Kshudhamandya* (loss of appetite) and 80.64% relief was observed in *Ayasenshwasa* (Breathlessness) and 77.5% relief was observed in *Kasa* (Cough). These all three parameter shows that they are highly significant result.

**Chart 2: Results of Kasakartri Gutika on various parameters of Kasa in Tamaka Shwasa.**



**Chart 3: Effect of Therapy**

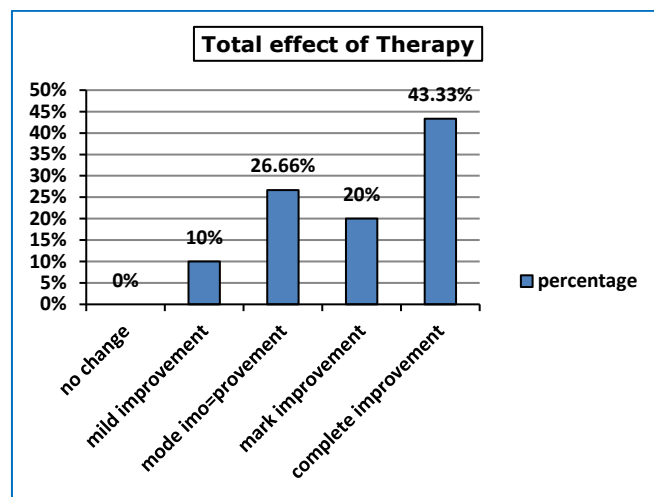


**Table 4: Showing distribution of 30 patient of Kasa in Tamaka Shwasa according to total effect of therapy.**

Category	No. of patients	Percentage
No Change	0	0%
Mild improvement	3	10%
Moderate improvement	8	26.66%
Marked improvement	6	20%
Complete cure	13	43.33%

In the present clinical trial 43.33% patient got complete relief from the sign and symptoms of the disease, whereas 26.66% patients got moderate improvement. Marked improvement was observed in 20% patients and 10% patients got mild improvement.

**Chart 4: Total effect of therapy**



**DISCUSSION**

*Panchamahabhuta* i.e *Prithvi, Aap, Teja, Vayu* and *Aakash* together form our body. According to *Ayurveda, Panchamahabhuta* plays important role in overall health of human being. Any imbalance of one or more *Mahabhuta* is related to diseased condition of human being. Out of this *Panchmahabhuta, Vayu Mahabhuta* is essential to keep us a live. These *Vayu* become vitiated due to some causative factor so produces the disease of *Pranavaha Srotas*.

*Acharya Charaka* separately mentioned *Kasa* and *Tamaka Shwasa Vyadhi* which are originating from *Pranavaha Srotas*. *Tamaka Shwasa Vyadhi* is *Pitta Samudbhava, Kapha* and *Vata* are always predominant factor. The *Strotorodha* made by '*Styana - Kapha*', provoke *Vayu* excessively and result into *Kasa Vega* as symptom.

As per modern science cough along with wheezing sound, dyspnoea, loss of appetite are variable symptom of *Bronchial Asthama*.

In initial stage, it is said to be curable, but the chronicity sets, it become *Yapya*. In modern science

the treatment modifies are very costly and evoke drug dependence as well as adverse effect.

To decrease the recurrence of episode and avoiding adverse effects Ayurvedic preparation having *Vata-Kapha Shamaka* and *Vatanulomka* properties which can improve the quality of life.

In the present study, maximum 63% patients were from the age group of 51 to 60 years. After that 17% patients were from the age group of 41 to 50 years followed by 10% patients from 20 to 30 years and 31 to 40 years each. Cough in asthma mostly occur in childhood and old age, with peak onset 20-30 years, but it can develop at any age. Ayurvedic text have told *Kasa* and *Tamaka Shwasa* are *Vata-Kaphaj Vyadhi*. This is evident from above data as *Kasa* in *Tamak Shwasa* is more prevalent in age group which was *Vata-Kapha Pradhana*. The probable cause for increasing incidence in age group 51 - 60 years are more because of low immune response with predominance of *Vata* and *Srotas Vaigunya* which leads to occurrence of this disease. In the present limited clinical study 33 % patients were male where as females were 77 %. The female to male ratio of *Kasa* in *Tamaka Shwasa* patients observed in this study was found nearly 2:1. According to modern text book, During puberty and there after, more in females than male develop Asthma. So the prevalence of adult Asthma becomes higher in females than males. In the present study 93% patients were of Hindu religion whereas 7% patients were of Muslim religion. It only shows the dominancy of Hindu people in particular area; otherwise there may be no role of religion in this disease. The current study depicts that maximum i.e. patients were housewife followed by 57% patients doing service and 17 % and 23% were retired from their service and 3% patients were Businessmen. Being a housewife, females are more in number because of their sedentary habits, *Diwaswapa*, *Vegavarodha* and exposure to cold water, dust.

In the present study 87 % patients were married whereas 10% were widow and 3% patients were unmarried. It may be due to the fact that married people have their liabilities towards their families and

hence may feel stressed at times which may be a causative factor in them. In the present study maximum 47% were uneducated, patients were from primary class followed by 27% from graduates. 23% patients were having secondary and higher secondary education each. The above figures are showing that the uneducated people are more in number which indicates their negligence towards disease. Socio-economically 87% patients were from middle class followed by 3% patients from higher and 7% from lower middle class. Only 3% patients were from poor category. The disease *Kasa* does not vary as such in different socio-economic classes but, the hospital from which the patient are selected, being a governmental hospital is mostly visited by the middle class and lower middle class people. Hence, low no of patient from higher socio-economic class was enrolled in present study. 83% patients were taking the mixed kind of food whereas 17% patients were consuming pure vegetarian diet. Most of the patients were taking *Sheeta*, *Snigdha* and *Madhura Ahara* which are said to be the main *Dushya* of *Kasa* in *Tamaka Shwasa*. In the present study 50% patients were not doing any kind of exercise. Only 40% patients were doing mild exercise and 10% are doing moderate exercise, from this unexercised patient have increase their Kapha by sitting at one place only so they are more prone to *Kasa* in *Tamaka Shwasa*.

Among all the patients of *Kasa* in *Tamaka Shwasa* it was found that 30% patients were having *Alpa Swedapravritti* while *Samyak Swedapravritti* was also found in 63% patients and *Atisweda Pravritti* found in 7% patients. Among all the patients of *Kasa* in *Tamaka Shwasa*, 60% patients had an addiction of tobacco while 17% patients were addicted to smoking and 23% have no addiction. Tobacco chewing and smoking are well known causative factors of Bronchial Asthma. 37% patients were having the food at fixed time interval while 63% patients didn't have any fixed time interval of food. This changing time interval causes indigestion of food which is responsible of vitiation of *Vata* and *Pitta Dosha*. The majority of patient 47% were having *Mandagni*, while 30% having *Vishmagni* and 23% having *Sama Agni*. *Mandagni*

indicated the predominance of *Kapha Dosh* which is chief cause of *Kasa* in *Tamaka Shwasa*. *Vishmagni* reflects the vitiation of *Vata Dosh*. In present study 53% were of *Madhyam Koshtha*, 37% were of *Mrudu Koshtha* and 10% were of *Krura Koshtha*. *Madhyam Koshtha* indicated the predominance of *Kapha Dosh* which is the chief cause of *Tamaka Shwasa*. *Krura Koshtha* reflects the vitiation of *Vata Dosh*.

Overall data suggest that 80% were of *Vata-Kapha Prakriti*, 13% were from *Pitta-Kapha Prakriti* and 7% are from *Tridoshaja Prakriti*. This signifies that the role of *Vata-Kapha Prakriti* which is prone to this *Kasa* in *Tamaka Shwasa Vyadhi* where *Vata* and *Kapha Dosh* plays the vital role in the pathogenesis. Causative factors like *Sheetajala Sevana* 70%, *Ratrijagaran* 77%, *Diwaswapa* 70%, *Viruddha Ahara* 80%, *Vyasana* 73%, *Dadhisevana* 57%, *Rajadhumavata* 30% were found in patient.

**Discussion on results:** 77.5 % relief was observed in *Kasa* followed by 81.81% relief was observed in *Kshudhamandya* and 80.64% relief was observed in *Aayasenshwasa*.

Statistically the above parameters showed highly significant results. The *Vyadhi Kasa* in *Tamaka Shwasa* is formed due to vitiated *Vata-Kapha Dosh*. The drug '*Kasakartari Gutika*' contain *Abhaya*, *Bharangi*, *Pippali*, *Khadira*, *Babbula*<sup>[7]</sup> these all drug have *Katu*, *Tikta*, *Ushna*, *Vata-Kaphahara* property. Due to these property cough in Asthma were lowered, also due to *Katu Tikta* and *Ushna Virya* they are *Deepaniya*, *Pachaneeya*, so the symptom *Kshudhamandya* was lowered.

## CONCLUSION

The etiological factors of *Kasa* in *Tamaka Shwasa* explained in *Samhitas* are met even today. *Kasa*, *Kshudhamandya*, *Aayasenshwasa* are more common symptoms found in patients of *Tamaka Shwasa*. *Kasa* in *Tamaka Shwasa* is mostly found in young and old age and middle class patients. Females found to be more prone for *Tamaka Shwasa* in the present limited study especially housewives. Most of the patients were consuming mixed kind of diet and having

changing time of food intake. The disease was found in maximum patients who were not doing regular exercise, More addiction of tobacco chewing and smoking. Irregular sleep pattern ( i.e. *Diwaswapa* and *Ratraojagaran*) was found in maximum patients. Anxiety and stress are also found as a cause of the disease. After the administration of *Kasakartari Gutika*, the symptom *Kasa* showed 77.5% relief while *Kshudhamandya* showed 81.81% relief and *Aayasenshwasa* showed 80.64% relief. These parameters also showed statistically highly significant results. Due to carelessness of causative factors, Relapsing nature of the disease was observed in few cases after the cessation of trial drug; hence long term therapy is required for the the disease, in Ayurvedic Samhita also stated that *Tamaka Shwasa* is *Yapya*. The drug '*Kasakartari Gutika*' didn't showed any adverse reaction and hence can be considered as safe.

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