Clinical Research

Evaluation of the role of *Nithyavirechana* and *Nayopayam* kashaya in *Tamaka Shwasa*

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Abstract

Man has been in steady attempt to find the solutions for the life-threatening and distressing disorders, which afflict the human race. One of such condition is "Tamaka Shwasa," which is recognized by the name bronchial asthma in contemporary discipline, wherein episodic attacks are the characteristic features, leaving the patient in pathetic situation. Therefore management of this acute respiratory condition is the long mission in the medical society of all types. There is abundance of medicines explained for Tamaka Shwasa in Ayurveda, and it is mentioned that combined Shodhana and Shamana therapy is more effective. Hence the present study is designed to evaluate the role of Nithyavirechana followed by Shamana in the form of Nayopayam kashaya in patients of Tamaka Shwasa. This was a single blind clinical study with pre-test and post-test design where in 20 patients suffering from Tamaka Shwasa of either sex between the age group of 16 and 60 years were subjected to the trial. These patients were treated with Nithyavirechana with Eranda thaila (castor oil) followed by oral administration of Navopayam kashaya in a dose of 50 ml twice a day. The therapeutic effect of the treatment was assessed based on specific subjective and objective parameters. Results obtained were analyzed for the statistical significance by adapting paired 't' test. Statistical analysis established that Eranda thaila and Nayopayam kashaya are highly effective in counteracting the symptoms of Tamaka Shwasa.

Key words: Bronchial asthma, eranda thail, nayopayam kashaya, nithyavirechana, tamaka shwasa

Introduction

Breathing is the task of Pranavaha srothas, which is an unavoidable factor for the continued existence of human beings. The exclusive sign of life, "respiration" is affected in the disease Tamaka Shwasa, causing an impediment to the function of respiratory system. The structure of respiration, which has been compared with a beautiful bird, having two wings to represent the organ of breathing, the trunk to indicate the heart, and neck indicating the windpipe. In a poetic way, the disease Tamaka Shwasa can be well thought out as the cry or moan of this pretty bird striving for air. If not treated in time, this disease enforces the patient to be restricted to bed. This is the usual end result of the illness. The presentation of Tamaka Shwasa is peculiar in this stare. It is a pittasthana samudbhava^[1] Pranavaha Sroto Vikara; in which Avarudha marga of Pranavayu^[2] due to morbid Kapha is the principle pathology involved. The vitiated Doshas afflicts Rasa Dhatu, involves Pranavaha srotas and produces the illness. Bronchial asthma is

Address for correspondence: Dr. Shyam Prasad, Ph.D. Scholar, Dept. of Kayachikitsa, IPGT & RA, Gujarat Ayurved University, Jamnagar - 361 008, Gujarat, India. E-mail: getshyampm@yahoo.co.in the name of this illness in the territory of contemporary science. As is stated, this disease is common both in children as well as adults. Clinical presentation of the illness is never confusing and therefore the diagnosis is easy and straightforward. It is recognized to be more common in the so-called developed countries as compared to developing countries. It has been reported that 1% of Indians have asthma. In contrast to this, approximately 15% of adults and 7.1 to 10% of children in the United States and Australia have this disorder. Many among the asthmatics need daily medication. The doctrines and practice of any medicinal scheme does not claim effective treatment that can abolish this illness from its root. In spite of the extensive research works being conducted throughout the world, the life of the patient of Tamaka Shwasa is still a pitiable one. There is a need for evolving a more effective treatment, which may relieve the human sufferings. Sequential administration of the Snehana, Swedana, Shodhana, Dhumapana, Shamana and Rasayana line of treatment forms the complete treatment of Tamaka Shwasa as expounded in the Ayurvedic literature. In addition to this, hundreds of medical combinations are mentioned in the classics for the treatment of Tamaka Shwasa and are claimed to be effective. But very few of such medical measures are proved by the method of randomized clinical trial. Hence there is a dire requirement of exploring the efficacy of remaining therapeutic measures.

Nithyavirechana^[3] and Nayopayam kashaya^[4] are the two such therapeutic measures mentioned in the classics, the efficacies of which are still to be proved by modern research parameters. By looking at the individual herbal constituents and their pharmacological action as mentioned in the Ayurvedic literature, it appears that this combination should be very effective in combating the attack of *Tamaka Shwasa*. But the proof of the treatment is in its outcome. Therefore the present research work was planned to evaluate the therapeutic effect of *Nithyavirechana* and *Nayopaya kashaya* in patients suffering from *Tamaka Shwasa*.

Materials and Methods

Source of data

20 patients diagnosed as Tamaka Shwasa were taken irrespective of sex, religion, occupation, etc, for the study from IPD of S.D.M. Ayurveda Hospital, Udupi.

Inclusion criteria

Patients with pratyatma Lakshana of *Tamaka shwasa* with age between 16 and 70 years were selected.

Exclusion criteria

The patients with *Tamaka Shwasa* associated with complications like emphysema and corpulmonale, severe attack of Tamaka Shwasa, those suffering from other systemic disorders, and on steroid treatment were excluded.

Investigations

Blood: hemoglobin%, total count, differential count, erythrocyte sedimentation rate and pulmonary function test were carried out.

Study design

This was a single blind clinical study with pre-test and posttest design where in 20 patients suffering from *Tamaka Shwasa* of either sex between the age group of 16 and 60 years were selected for the study. A special proforma was prepared with all points of history taking, physical signs and laboratory investigations to confirm the diagnosis as mentioned in our classics as well as allied sciences. These patients were subjected to *Nithyavirechana* by *Eranda thaila* and oral administration *Nayopayam kashaya*.

Interventions

For first 7 days---*Nithyavirechana* with *Eranda thaila* in a dose of 15-30 ml (depending up on the koshta) once a day in empty stomach. Along with this, oral administration of *Nayopayam kashaya* in a dose of 50 ml twice a day for 28 days starting from first day. Patient was advised to follow the *pathya aharavihara*.

Drug

The trial drugs of this study *Eranda thaila* and *Nayopayam kashaya* were procured from natural habitat of Udupi district, Karnataka and were processed at SDM Ayurveda pharmacy Udupi. *Bala (Sida cardifolia), Jeeraka (Cumminum cyminum),* and *Shunthi (Zingiber officinale Rosc)* are the ingredients of *Nayopayam kashaya* and were taken in a proportion of 10:2:2.

Criteria of assessment

Adopting the scoring method, symptoms of the illness like breathlessness, cough, sputum, etc and physical signs like respiratory rate, heart rate, expansion of chest as well as peak flow parameter reading were taken as assessment criteria in this study. Patients were observed for change in the severity of symptoms on 7th, 14th, 21st, and 28th day of treatment. Results were analyzed by adapting the paired t test.

Severity of tamaka shwasa

- 1. Mild intermittent
- Symptoms symptoms <2 times a week.
- Asymptomatic and normal peak expiratory flow between exacerbations, brief exacerbation (few hours to few days), and intensity may vary.
- Night time symptoms < 2 times a month.
- Lung function peak expiratory volume 60% to 80% predicted, Peak expiratory flow variability>20%

2. Mild persistent

- Symptoms symptoms > 2 times a week but < 1 time a day, exacerbation may affect activity.
- Night time symptoms > 2 times a month
- Lung function Peak expiratory volume 80% predicted Peak expiratory flow variability 20% to 30%.
- 3. Moderate persistent
- Symptoms daily symptoms, daily use of inhaled short acting beta2 agonist, exacerbations affects activity, exacerbations>2 times a week, may last for few days.
- Lung functions peak expiratory volume 60% to 80% predicted, peak expiratory flow variability > 30%.
- 4. Severe persistent
- Continual symptoms, limited.
- Physical activity affected with frequent exacerbation.
- Night-time symptoms frequent.
- Lung function peak expiratory volume < 60% of predicted, peak expiratory flow variability > 30%

Breathlessness

- 1. Mild breathlessness with activity.
- 2. Moderate with talking.
- 3. Severe at rest.
- 4. Impending respiratory failure breathlessness at rest.

Speech

- 1. Mild sentences.
- 2. Moderate phrases.
- 3. Severe words.
- 4. Impending respiratory failure mute.

Cough

- 1. Morning bouts or after exercise do not disturb work.
- 2. Continuous cough during day and morning disturbing work.
- 3. Continuous day morning and night cough disturbs activity.
- 4. Continuous day, night and sleep and activity disturbed.

Sputum

- 1. Less than 2.5 ml/day.
- 2. 2.5 ml to 1.5 ml/day
- 2. 15 to 25 ml/day
- 4. > 25 ml/day.

Body position

- 1. Mild able to recline.
- 2. Moderate prefers sitting.
- 3. Severe unable to recline.
- 4. Impending respiratory failure unable to recline.

Respiratory rate

- 1. Mild >10/min
- 2. Moderate >20/min
- 3. Severe after $> 30/\min$
- 4. Impending respiratory failure > 30/min

Labored breathing

- 1. Mild usually no use of accessory muscles.
- 2. Moderate commonly use of accessory respiratory muscles.
- 3. Severe usually use of accessory respiratory muscles.
- 4. Impending respiratory failure paradoxical thoracoabdominal movement.

Breath sounds

- 1. Mild moderate wheezing at mid to end expiration.
- 2. Moderate loud wheeze through out expiration.
- 3. Severe loud inspiration and expiratory wheezes.
- 4. Impending respiratory failure little air movement without wheezes (silent chest).

Heart rate

- 1. Mild 100 /min
- 2. Moderate 100-120 /min.
- 3. Severe > 120 /min
- 4. Impending respiratory failure relative bradycardia.

Mental status

- 1. Mild may be agitated.
- 2. Moderate usually agitated.
- 3. Severe always agitated.
- 4. Impending respiratory failure confused or drowsy.

Assessment of overall effect

For assessing the overall effect of the treatment and the total scores of criteria of assessment of Tamaka Shwasa after the treatment was considered. As per the reduction in the total scores, the overall effect is calculated as under:

Complete remission - total score is 0 after the treatment.

Moderate remission - reduction in more than 60% of the initial score.

Average remission - reduction in score between 30 and 60%.

Unchanged - reduction less than 30% of the initial score.

Observations

General description of patients

The present study includes the patients belonged to the age group of 16 to 60 years excluding children. The study includes maximum number of patients in the age group of 56 to 60 years. The possible cause for increased incidence in this age group may be because of reaction with high exposure toward the changing external environment and mental factors which is related to their day to day activities. The reduction in physical strength in relation to the older age may also contribute this type of clinical incidence. The illness does not show any predilection for sex, as in the present cluster of samples taken for the study, 55% of the patients were females. This only indicates a sampling variation due to the small size of the sample.

The 70% of the patients recorded in this study were married. Once again it is known that marriage has no relation with the causation or predisposition to the illness Tamaka Shwasa. It may be possible that the responsibility of running family was one of the causes for patients who may cause more stress and irregularity of diet. The 95% of the patients in this sample were Hindus. The high incidence of illness in Hindus in this study cannot predict anything because it is the demographic area that plays major role in it. Though the illness is most common in urban dwellers, the present study shows higher incidence about 95% in rural people. This only reflects predominance of rural population in this part of locality. Concerning the socioeconomic status of patients, 65% of patients belonged to middle class and another 35% were of lower class. Inadequate health care and polluted environment may be contributory in the causation of illness. Many of the patients were engaged in fishing, wood works, etc and have high risk of exposure to dust, which is known to produce asthmatic type of symptoms. Most of the females in the study were housewives, who demonstrated the history of smoke exposure and habit of day sleeping. All this reflects the role of Kaphakara nidana and Vyanjaka nidana in the etiopathogenesis of Tamaka Shwasa. Though the smoking has incriminatory effect on the respiratory system, badly affecting its defense mechanism, only 10% of patients registered in the study showed addiction to cigarette or beedi smoking. Since this addiction is common in males and the sample taken for the study showed predominance of females, so the incidence of smoking was low in the study. The 55% of the patients registered in this study had mixed dietary habit. Vegetarian, non-vegetarian, or mixed dietary habit has no role in predisposing the illness Tamaka Shwasa. Even though maximum number of patients showed mixed diet, this preponderance is only reflective of dietary habit of the population of costal area from which the current cluster of sample selected.

PittaKapha Prakruti was observed in a maximum of 60% of the patients. The 25% of the patients showed Vata pitta Prakruti and 15% of VataKapha Prakruti. None of the patients showed Sama Prakruti and Ekadoshaja Prakruti in this study. The analysis of the Atura Bala revealed that 100% of patients had Madhyamasara. And Madhyama Samhanana was recorded in 85% of the patients. Acharya Charaka opines that when the disease runs for a long duration it leads to Dhatu Kshaya and this phenomenon was not reflected in the present study. The reason would be the short duration of the illness in this group of patients. Madhyama Satva was observed in 95% of patients as the physical and emotional stress is the known precipitating factors for causation of the disease. All the patients included in the study showed Madhyama Satmya and this reflects the abnormal food habits of the present study group. And it also suggests that people with practice of less than three Rasa are more prone to diseases. 85% of patient had Madhyama Vyayama shakti. Probably, it may be due to nature of the disease, as paroxysmal attacks in this disease makes person unable to do heavy works.

About the state of Agni, 55% of patients showed Mandagni, 5% of patients showed Teekshnagni, 5% Vishamagni, and 35% Of

patients showed Samagni. Mandagni is the usual process in the patient suffering from Tamaka Shwasa. The same is true in this group also. In other words to say, Mandagni which is considered as the root cause for most of the illnesses showed its upper hand in the current study also. As Pittasthana is involved in the pathogenesis of Tamaka Shwasa the state of Agni does reflect the same to a larger extent in this study. In the present study the sample showed that 45% of patients had Madhyama Koshta, 30% and 25% of patients were belonging to Krura and Mrudu Koshta, respectively. The type of variation in Agni and Koshta may be due to individual variation in terms of nature and food habits.

Results and Discussion

The effect of the therapy on clinical features and objective parameters in the selected population of study is shown in Table 1.

Effect on severity

Reduction in the severity of the illness was recorded in all the patients treated with Nithyavirechana and Nayopaya kashaya. Improvement shows statistically highly significant (P < 0.001). The difference in mean was 1.40 after the completion of treatment course. It was the observed fact that the reduction in severity is directly proportional to the duration of illness. It is also detected that the patients who showed mild to moderate severity before the treatment had high-quality improvement after the administration of current regimen.

Effect on breathlessness

The symptom breathlessness was reduced from 2.20 to 0.65. A difference in means after the treatment was 1.55. The reduction in the mean dyspnea score in the present study populace was statistically highly significant as assessed by the paired 't' test. So this study shows reduction in the obstruction to the passage of Pranavayu, results in reduction in Prana vilomata. This observation proves that the obstruction to the passage of Pranavayu is reduced by the treatment and hence reduction in Prana Vilomata. The drugs like Eranda thaila, Bala and Jeeraka have a definite therapeutic effect in this regard.

Effect on speech

An evaluation of the speech showed high-quality improvement in the symptom. The difference in mean score of speech was 1.45 to 0.30. Further to say, ability to speak continuously in a sentence depends upon the ventilation capacities. As the ventilation capacity reduces, the speech will be reduced to single words. In the present study as speech shows an improvement, it implies that ventilation capacities have increased subsequent to treatment. This increase in the ability of the patient to speak after the treatment indicates improvement in the ventilation function of the lungs. In other words, airway resistance, Pranavilomata is corrected by the medication. This is only possible by the removal of obstruction in the Pranavaha srotas. Improvement shows statistically highly significant (P < 0.001) result.

Effect on cough

Noticeable remission in severity of cough was observed in patients treated with Nithyavirechana and Nayopaya kashaya where the mean difference was 0.85 after the treatment. Cough is a defense mechanism of the Pranavaha srotas. The existence of which is indicative of irritating Sleshma in the Srotas. The medicines administered when expels this sputum or reduces production of the sputum in the Srotas, then only the diminution of the cough is possible. In the above patients the reduction in the cough implies the ability of medicine to liquefy the tenacious sputum and expectorating it out. The medication is also effective in reducing the production of sputum in the Pranavaha srotas. This upgrading in cough in the present study group proves the Kapha Vilayana, Kapha Nissarana and Kasaghna therapeutic effect of the medicines. The constituents like Shunthi and Jeeraka present in the combination probably show this effect.

Effect on sputum

The amount of sputum reduced in patients treated with Nithyavirechana and Nayopaya kashaya. The mean sputum score has shown a reduction by 1.10 and the change observed before and after the treatment is statistically highly significant. The reduction in the amount of sputum is indicative of reduced secretion of Sleshma in the Pranavaha srotas. Kapha Vilayana

Table 1: Effect of therapy on subjective and objective parameters							
Parameter	Mean score		Mean (Diff)	SD	SEM	t	P value
			score				
	BT	AT					
Severity	2.10	0.70	1.40	0.88	0.19	7.09	< 0.001
Breathlessness	2.20	0.65	1.15	0.75	0.17	9.13	<0.001
Cough	1.20	0.35	0.85	0.67	0.15	5.66	<0.001
Speech	1.45	0.30	1.15	0.81	0.18	6.32	<0.001
Sputum	1.30	0.20	1.10	0.71	0.16	6.85	<0.001
Body position	1.35	0.20	1.15	0.81	0.18	6.32	<0.001
Respiratory rate	1.80	0.45	1.35	0.67	0.15	5.67	<0.001
Expansion of Chest	2.75	3.65	0.90	1.13	0.25	-5.59	<0.001
Labored Breathing	1.15	0.15	1.00	0.64	0.14	6.89	<0.001
Breath sounds	1.50	0.15	1.35	0.58	0.13	10.23	<0.001
Heart rate	0.25	0.05	0.20	0.52	0.17	1.71	=0.104
Mental status	0.85	0.15	0.70	0.73	0.16	4.72	<0.001
PEF value (L/min)	265.0	475.0	210.0	146.8	32.82	-4.41	<0.001

and the *Kapha* Nissarana therapeutic effect of the medicine may be proved by this reduction in the amount of sputum after the treatment.

Effect on body position

Paramount positive response was observed in the body position of the patients during the attack of the breathlessness in the present study group. There was marked improvement in the body position from 1.35 to 0.20. These show statistically highly significant improvement (P<0.001). The assessment of body position pinpoints the severity of the illness. In severe attacks of *Tamaka Shwasa* the patient will not be able to recline. The step up seen during the course of treatment indicates reduction in the airway obstruction as well as improved ventilation.

Effect on respiratory rate

In all the patients of *Tamaka Shwasa* the respiratory rate proportionately increases as the severity of the illness increases. As seen earlier, severity of the *Tamaka Shwasa* has reduced markedly after the treatment. The reduction in the respiratory rate is also corroborative evidence of the same. A difference in mean score of rate of respiration was 1.35. Statistical analysis shows that these changes are not by chance (P < 0.001).

Effect on expansion of chest

The mean score of expansion of the chest increased by 1.42 cm. An increase in the expansion of the chest implies improvement in the ventilatory function of the respiratory system. Reduction in the airway resistance after the treatment is the basic cause for such a change.

Effect on labored breathing

The effort required for the breathing after the treatment has shown marked drop in the present study. The mean score of labored breathing has reduced from the initial score of 1.15to 0.15 after the treatment. These improvements are highly statistically considerable as revealed by the paired 't' test. Decreased airway opposition after the treatment has influenced the effort required for breathing. This shows correction of *Pranavilomata*.

Effect on breath sounds

The effect of *Nithyavirechana* and *Nayopaya kashaya* has therapeutic effects like *Sroto -mardavata*, *Kapha vilayana*, and *Kapha nissaraka*. These therapeutic effects reduce the airway resistance. This in turn is reflected in the form of reduced added sounds during respiration. This effect is proved in this study as the mean score for labored breathing shows marked reduction after the treatment. These changes observed after the treatment are found to be statistically highly significant.

Effect on heart rate

The heart rate has shown a definite reduction after the treatment. The change that occurred with the treatment is not great enough to exclude the possibility that the difference is due to chance (P = 0.104). Heart rate is directly proportional to the severity of the *Tamaka Shwasa*. Impact of the sickness on the root of *Pranavaha srothas*, i.e. *Hridaya* is pointed out by the heart rate. Heart rates returning to normal, subsequent to the treatment provide evidence for the clearance of *Hridaya upashoshana* effect of illness.

Effect on mental state

There was improvement in the mental status of the patients after the treatment. The study shows improvement in the score from 0.85 before treatment to 0.15 after the treatment. The change that occurred with the treatment is not great enough to exclude the possibility that the difference is due to chance (P < 0.001). The medicine specified in the present study group almost certainly does not contain any such component that may influence the mind. But reduction in the severity of the illness after the treatment is probably the cause for the improvement of the mental status in patients of *Tamaka Shwasa*.

Peak flow meter evaluation

The peak expiratory flow value shows marked improvement after the completion of the treatment. The initial mean score was 265 (L/min) and is increased in to 475 (L/min) subsequent to the treatment. These improvements shows the reduction of airway resistance corroborating the results observed in the signs and symptoms of *Tamaka Shwasa*. It reflects the upgrading in the functional status of *Pranavaha srothas*.

The overall effects of *Nithyavirechana* and *Nayopayam kashaya* indicate that 30% of patient showed complete remittance of the disease, 60% of patient showed moderate remission, whereas 10% of patients showed average remission, while none had the persistence of illness.

Probable mode of action

The over said surveillance point out that patient have revealed improvement in all the criteria of evaluation of Tamaka Shwasa. Stiffness of the Pranavaha srotas, accumulation of Sleshma leading to Prana vilomata is the basis of pathology of Tamaka Shwasa. As per the literature, Doshas sweltering out from Pittasthana can be most excellently removed by Virechana Karma. The therapeutic effect of Eranda thaila like Vathanulomana (reversal of Vilomagathi of Vayu) makes Vata to move in its normal passage in turn clears the air passages also; and at the same time the effects like Srotomardava, Kaphavilayana, Kaphanissarana, Kasaghna, etc which are attributed to Nayopaya kashaya which clear the air passage and also widens them. Eranda thaila has got the action of mitigating Kapha and Vata thereby counteracts the Pradhanya Samprapti of Tamaka Shwasa. The constituents of Nayopayam kashaya like Bala and Jeeraka helps in bringing back the movement of Vata in to normalcy. Bala has also got the quality of Brimhana and Rasayana, thereby improves the health and amplify the function of Pranavaha srotas. At the same time Shunthi helps in attaining the actions like Kaphavilayana, Kaphanissarana, and Kasagnata. Thus it is obvious that, the medicines administered in the present study have shown all the therapeutic effects which are necessarily to be administrated in Tamaka Shwasa and in that logic, this will be a good suggestive treatment of this disorder.

Ricinoleic acid present in the *Eranda thaila* irritates the bowel to cause purgation. The gut is considered as a major seat of Histamine, the fundamental cause for airway resistance. The Ethyle accetate a chemical constituent of the drug *Bala*, has got an anti-inflammatory action, where as the previously done research works has proved the Anti-spasmodic action(Histamine induced) of Methanol content of the drug *Jeeraka*.^[5] It is also established that the hot water extract of *Shunthi* may

decrease the formation of prostaglandins and leucotrins which are believed to be the initiators of pathogenesis of Bronchial asthma. Gingerole an another constituent of this drug possesses antitussive action. Consequently, it can be concluded that the airway resistance caused due to inflammatory process, bronchial spasm and excessive mucus production can be best treated by the use of *Eranda thaila* and *Nayopayam kashaya*. Here in the present study, the Peak expiratory flow rate evaluation of the lung confirms the rectification of *Prana vilomata*.

Conclusion

Subsequent to methodical analysis, it may be concluded that *Nithyavirechana* and *Nayopaya kashaya* is effective in the management of *Tamaka Shvasa* when *Doshas* are in morbid stage; and it can be adopted at any time when the patient needs. The *Kapha Vatahara* drug used in the present study

shows marvelous effect on *Tamaka Shwasa*. In the overall assessment it was seen that 30% of patients had complete relief, 60% patients had moderate relief, and 10% of patients had average relief. If one follows *Rasayana* therapy after this, surely there will be absolute remission of the illness.

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हिन्दी सारांश

तमक श्वास में नित्य विरेचन तथा नयोपायम कषाय का चिकित्सकीय अध्ययन

श्यामप्रसाद एम. अन्जु पी. रामचन्द्रन जी. श्रीनिवास आचार्य श्रीलता कामथ टी.

मनुष्य हमेशा जीवनघातक तथा तनावकारक समस्याओं के समाधान की दिशा में प्रयत्नशील रहा है। उनमें से एक प्रमुख अवस्था तमक श्वास है जिसको आधुनिक चिकित्सा में ब्रोंकीअल अस्थमा के नाम से जाना जाता है। इसका वेगस्वरूप में आना प्रमुख लक्षण है जो मनुष्य को दयनीय स्थिति में पहुँचा देता है। इस समस्या की गंभीरता के कारण ही चिकित्सकों ने इसकी चिकित्सा को प्राथमिकता दी है। आयुर्वेद में शोधन तथा शमन दोनों प्रकार की चिकित्सा का वर्णन तमक श्वास के लिये किया गया है। इस गवेष्णा के लिये नित्य विरेचन तथा नयोपायम कषाय को शमन के रूप में लिया गया। यह सिंगल ब्लाइन्ड चिकित्सकीय अध्ययन है। इसमें २० रूग्णों को जो तमक श्वास से पीड़ित हों तथा १६–६० वर्ष की वय मर्यादा में हों लिया गया। इन आतुरों को नित्य विरेचन एरण्ड तैल से देने के पश्चात नयोपायम कषाय ५० मि.ली. दो बार दिया गया। औषधि के प्रभाव का विश्लेषण अंकशास्त्र केपेयर्ड टी टेस्ट द्वारा किया गया। प्राप्त परिणामों के आधार पर यह निष्कर्ष निकाला जा सकता है कि एरण्ड तैल से नित्य विरेचन तथा नयोपायम कषाय तमकश्वास के लक्षणों की निवृत्ति में अत्यधिक प्रभावशाली है।