



A COMPARATIVE STUDY OF EVALUATION OF THE EFFECT OF THE TALISADIYOGA WITH AND WITHOUT SADYOVAMANA KARMA IN THE PATIENTS OF TAMAKA SVASA (BRONCHIAL ASTHMA)

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ABSTRACT

Background: The oral medicaments listed in most ayurvedic classics for the treatment of tamaka svasa are talisadicurna and svasakuthar rasa as well as the sadyovamana karma is mentioned as main pañcakarma procedure. Tamaka svasa shares several similar characteristics with bronchial asthma. **Aim and Objective:** Determine the effect of various treatments on patients in both groups using changes in signs and symptoms, as well as PEFR and FEV1 in tamaka svasa (bronchial asthma). **Materials and Methods:** This was randomized, open labeled, uncontrolled, interventional study on tamaka svasa. Total 20 patient were selected for this comparative study and were divided in to two groups, each of 10 patients by using randomization method. In group A the oral medicament talisadiyoga is given and in group B the oral medicament talisadiyoga is given after performing sadyovamana karma for four weeks. **Observation and Results:** The descriptive paired 't' test indicates that both therapies are effective. Group B had a greater effect than group A in a two-sample t test and a one-way analysis of variance. In group A, the svasakasta, kasa, ghurghurakam, PEFR %, and FEV1 % improved by 55 %, 50 %, 60 %, 31.58 %, and 50 % respectively. In group B svasakasta, kasa, ghurghurakam, PEFR %, and FEV1 % improved by 78.95 %, 80 %, 78.95 %, 53.84 %, and 73.33 % respectively. **Discussion:** Talisadiyoga with sadyovamana karma is more effective in compare to talisadiyoga without sadyovamana karma. **Conclusion:** Both talisadiyoga with and without sadyovamana karma in the patients of tamaka svasa (bronchial asthma) is effective but talisadiyoga with sadyovamana karma is more effective.

KEYWORDS : Tamaka Svasa, Talisadiyoga, Sadyovamana Karma, Bronchial Asthma, PEFR%.

INTRODUCTION

Tamaka śvāsa is a disease caused by vitiation of *kapha* and *vāta* and it manifests as *prāṇavaha srotasa* disease¹. Tamaka śvāsa is a disease that is primarily characterized by *śvāsakṛcchātā* and *kāsa*. Bronchial asthma, a chronic inflammatory condition characterized by hyper responsiveness of the airways to a number of stimuli, shares many of the same characteristics as tamaka śvāsa.

In the recent Global Initiative for Asthma (GINA) guidelines asthma is characterized as "a chronic inflammatory condition of the airways in which many cells and cellular elements play a role." The chronic inflammation causes an increase in airway hyper responsiveness, which leads to frequent episodes of wheezing, breathlessness, chest tightness, and coughing, particularly at night or early in the morning².

Asthma prevalence is estimated to be between 3-38 percent in children and 2-12 percent in adults³. Patients with bronchial asthma are treated with beta agonists and corticosteroids for the rest of their lives. Patients can experience oropharyngeal candidiasis, hoarseness of speech, and pneumonia as a result of these medications⁴.

According to the *āyurvedic* principles of management of the disease, medicament which reduces *kapha doṣa* and pacify *vāta doṣa* can help in relieving signs and symptoms of tamaka śvāsa. Contents of *tālīśādi yoga* are having *kapha* reducing and *vāta* pacifying effects. *Caraka saṁhitā* has mentioned use of *sadyovamana karma* in the treatment of tamaka śvāsa which helps to eradicate aggravated *kapha doṣa* out of the body and provides relief in signs and symptoms of the disease. There are lots of studies done on the *śvāsa roga* as role of *śodhana cikitsā* in *śvāsa* and role of various types of *śamana cikitsā* in *śvāsa roga*. But here we are doing comparative study to evaluate the effectiveness of *śamana yoga*, *tālīśādi yoga* with or without *sadyovamana karma*.

Aim and Objectives:

Aim:

1. To find out the effect of the *tālīśādiyoga* in comparison with the effect of *talisadiyoga* after performing the *sadyovamana karma* in the patient of tamaka śvāsa (bronchial asthma).

Objectives:

1. To find out the changes in signs and symptoms of the tamaka śvāsa (bronchial asthma)
2. To find out the changes in peak expiratory flow rate (PEFR) and forced expiratory volume in one second (FEV₁) in the patients of tamaka śvāsa (bronchial asthma).

MATERIAL AND METHODS

Selection of Patients: Patient having tamaka śvāsa (bronchial

asthma) and fulfilling the inclusion criteria of tamaka śvāsa were selected from the O.P.D. and I.P.D. of the *kāyacikitsā* and *pañcakarma* of the P.D. Patel Ayurvedic hospital, Nadiad.

Study Design and Sample Size: This was randomized, open labeled, uncontrolled, interventional study on tamaka śvāsa. Total 20 patient were selected for and were divided in to two groups, each of 10 patients by using randomization method.

Ethics Committee Clearance and Consent:

As this was a clinical research, Institutional Ethics Committee (IEC) approval was taken prior to initiation of research work its Approval No: JSAM/IECHR/98/01-2019.

Diagnostic Criteria:

Diagnosis was done on the basis of the signs and symptoms of the tamaka śvāsa as well as bronchial asthma given in the classical textbooks. Like *śvāsakaṣṭa* (dyspnea), *kāsa* (coughing), *ghurghurakam* (wheezing).

1. Spirometry:

- a. Low Peak Expiratory Flow rate test (PEFR)
- b. Low Forced expiratory volume in one second (FEV₁)

2. X-ray Chest:

X-ray chest were carried out if it was needed to exclude any other pathology and for differential diagnosis.

Inclusion Criteria

1. Patients who fulfil the diagnostic criteria of tamaka śvāsa (bronchial asthma).
2. Patients having the age of 18 to 60 years of both the gender.
3. Uncomplicated cases with the clinical features of the tamaka śvāsa (bronchial asthma).
4. Vamana yoga patients.

Exclusion Criteria:

1. Patients with associated disease like cardiovascular disorder, hypertension, cancer, diabetes mellitus, AIDS, tuberculosis, kidney and liver disorders and other systemic disorder which may leads to the fatal condition to the patient.
2. Female patient having pregnancy and lactating mother.
3. Status asthmatics and acute severe exacerbation of asthma.
4. Patient contraindicated for the vamana karma.

Treatment Schedule:

Group 1:

1. Tālīśādiyoga without Sadyovamana Karma

Tālīśādiyoga includes *tālīśādi cūrṇa* + *śvāsakuṭhāra rasa*.

- *Mātrā:* Tālīśādi cūrṇa 2 gms and śvāsakuṭhāra rasa 250 mg.
- *Kāla:* Four times a day.

- Anupāna: Honey
- Root of administration: Oral
- Duration: Four weeks.

Group 2:

1. Tālīsādiyoga with Sadyovamana Karma

Vamana karma:

Whole body *abhyāṅga* with *nārāyaṇa taila* (*nārāyaṇa taila* mixed with *saindhava lavaṇa* was used for *abhyāṅga* on chest and back region) and *sarvāṅga bāshpasvedana* was performed on first and second days of hospitalization. On second day, after *abhyāṅga-svedana*, *sadyovamana karma* with *madanphala pippalī cūrṇa* was performed. The dose of *madanphala pippalī cūrṇa* was varied from 3gm to 6 gm according to the *bala* and *koṣṭha* of the patient. *Ākaṅthpāna* was done with only 500 to 600 ml *uṣṇodaka*.

Saṁsarjana krama and *annakāla* was decided as per the observation of the *vamana karma*.

1st day in the evening *mudga yuṣha* was given.

2nd day- on both time boiled *mudga* was given.

After the completion of the procedure *sadyovamana karma* the *tālīsādiyoga* was administered to the patient of *tamaka śvāsa* in the above manner which is described in the group 1.

Source of Drug Collection and Preparation:

Tālīsādiyoga (*tālīsādi cūrṇa* + *śvāsakuṭhāra rasa*) was prepared under the expert supervision from Sundar Āyurved Pharmacy of *rasaśāstra* and *bhaiṣajyakalpanā*, Post Graduate department of J.S. Āyurved Mahavidhyalaya Nadiad.

Criteria for Assessment:

All the patients were clinically assessed subjectively and objectively before and after treatment as follow:

Subjective Criteria [Table 1]

Objective assessment

- 1) Low Peak Expiratory Flow rate test (PEFR %)
- 2) Low Forced expiratory volume in one second (FEV₁ %)

Statistical Analysis

The unpaired 't' test will be used to test the hypothesis. $p < 0.05$ value is considered as statistically significant.

Observation:

In this chapter clinical observations of 20 patients are tabulated and analyzed statistically. Out of 20 patients two patients have discontinued the treatment due to non-medical reason, so results of therapy on 18 patients of *tamaka śvāsa* are tabulated and analyzed statistically along with value of PEFR% and FEV₁%.

The majority of the patients (45%) were between the ages of 30 to 40. The majority of the patients were Hindus (95%). The majority of females were housewives (40%). The vast majority of patients have completed secondary school. The majority of patients consumed *madhurarasayukta āhāra* exclusively. The majority of the patients were from the middle class (75%). According to this study, 90 % patient practiced *nirāmiṣaāhāra*. *Madhyama viniścita-bala* is used in the majority of patients. The majority of the patients (75%) had *vāta-pittaja prakṛti* (*śārīra*).

The majority of patients have been chronic for at least 6 months to a year. The majority of patients are hypersensitive to dust. Just three of the patients have a family history of the disorder. In the majority of cases, *pratiśyāya* was identified as *nidānārthakararoga*.

RESULTS

According to the paired 't' test, the reduction in the mean *śvāsakaṣṭa* score was statistically highly significant, with improvements of 55% and 78.95% in group A and group B, respectively. In groups A and B,

Table 1: Grade Score of Signs and Symptoms of Tamaka Śvāsa (Bronchial Asthma).

Sr. no.	Symptoms	Grade-0	Grade-1	Grade-2	Grade-3	Grade-4	Grade-5	Grade-6
1	Śvāsakaṣṭa	No śvāsakaṣṭa	Śvāsakaṣṭa only after exertion and subside without rest	Śvāsakaṣṭa without exertion but only at night	Śvāsakaṣṭa without exertion and need some medication	-	-	-
2	Kāsa	No kāsa	Mild kāsa not causing any distress	Kāsa causing slight distress	Severe kāsa causing chest pain	Kāsa during whole day and night with difficulty in speech	-	-

the *kāsa* reported 50% and 80% change, respectively, with $P \leq 0.01$ for group A and $P \leq 0.001$ for group B. In groups A and B, the *ghurghurakam* showed 60% and 78.95% improvement, respectively, with $P \leq 0.01$ for group A and $P \leq 0.001$ for group B. In both groups (group A and group B), the improvement in PEFR percent and FEV₁ percent after the treatment is statistically highly significant ($P \leq 0.001$) [Table 2].

When we compare both the treatment with unpaired 't' test $p < 0.05$ for *kāsa*, *ghurghurakam*, PEFR% and FEV₁% but $p > 0.05$ for *śvāsakaṣṭa*. [Table 3] Hence, in all the signs and symptoms of *tamaka śvāsa* significant difference between the two groups is observed. The patients of group B who consumes the *tālīsādiyoga* after performing the *sadyovamana karma* they have more result in compare to group A.

DISCUSSION

Tamaka śvāsa pathology begins with the aggravation of *kapha* and *vāta doṣa* due to specific etiological factors listed in ancient Āyurvedic texts. The obstruction of airways caused by aggravated *kapha* further aggravates *vāta* by obstructing its normal passage in the *prāṇavaha srotas*. The narrowing of air passages caused by aggravated *vāta doṣa* also leads to the obstruction of air passages already present due to vitiated *kapha*. The signs and symptoms of disease, such as, *śvāsakaṣṭa*, *kāsa* and rhonchi are caused by obstructed bronchial air passages. As a result, vitiated *kapha* and *vāta doṣa* both play a role in the pathogenesis of *Tamaka śvāsa*. As a result, treatment steps that eliminate vitiated *kapha doṣa* out of the body and pacify *vāta doṣa* will reduce airway obstruction as well as narrowing of the airways which eventually reversing the signs and symptoms of the disease. *Vamana* is a therapeutic technique that removes vitiated *kapha* from the body and is considered the most effective of all *kapha*-pacifying methods.

Tālīsādiyoga is a combination of *tālīsādicūrṇa* and *śvāsakuṭhāra rasa*, most of which have actions like *vāta-kaphahara* and *vātānulomana*. *Uṣṇa*, *tikṣṇa* and *sūkṣma guṇa*, *vāta-kaphahara* and *dīpana karma* helps in clearance of *srotorodha* and favor the natural *gati* of *prāṇavāyu*. *Vātānulomana* intervention will correct the *pratiloma-gati* of *vāta*, which is a clinical consequence of the disease.

CONCLUSION

Tamaka śvāsa can be cured if caught early enough; otherwise, it becomes *yāpya*. The *sadyovamana karma* suggested by *caraka saṁhitā* in the *tamaka śvāsa* management is simple and straightforward. Medicines containing *uṣṇa*, *tikṣṇa* and *sūkṣma guṇa*, *vāta-kaphahara* and *dīpana karma*, aid in the removal of *srotorodha*. Exposure to *raja*, *dhūma*, *śītāmbu*, *śītasthāna*, *śītavāyu* and other etiological factors for *tamaka śvāsa* are listed in classical āyurvedic texts as aggravating factors of the disease. Patients of *tamaka śvāsa* (bronchial asthma) who had been diagnosed for less than a year benefited the most from the care. *Tālīsādiyoga* with *sadyovamana karma* provided 78.95% relief in *śvāsakaṣṭa* which is highly significant with $p > 0.001$, whereas only *tālīsādiyoga* without *sadyovamana karma* only provides 55% relief in *śvāsakaṣṭa*. In *kāsa* 80% relief is observed in group B *tālīsādiyoga* with *sadyovamana karma* ($p < 0.001$), whereas only *tālīsādiyoga* gives 50% relief ($p < 0.01$). *Tālīsādiyoga* with *sadyovamana karma* provided 78.95% relief in *śvāsakaṣṭa* which is highly significant with $p < 0.001$, whereas only *tālīsādiyoga* without *sadyovamana karma* only provides 60% relief in rhonchi. Reduced rhonchi indicates decreased obstruction and increased patency of bronchial air passages (*prāṇavaha srotas*), which relieves the disease's cardinal symptoms of *śvāsakaṣṭa* and *kāsa*. As a result, it can be concluded that *sadyovamana karma* as described by *caraka saṁhitā* in the management of *tamaka śvāsa* is beneficial in controlling signs and symptoms, as well as improving lung capacity which is evidenced by an increase in PEFR% and FEV₁% in the patients of *tamaka śvāsa* (bronchial asthma). $P < 0.001$ indicates that the findings are statistically significant. During the entire study period, no adverse effects were observed.

3	Rhonchi	No rhonchi	Audible carefully on few parts of the chest	Easily audible on certain parts of the chest	Easily audible all over the chest	-	-	-
4	FEV1%	>80% predicted	66% to 80% predicted	50% to 65% predicted	<50% predicted	-	-	-
5	PFER%	>80% predicted	70% to 80% predicted	60% to 70% predicted	50% to 60% predicted	40% to 50% predicted	30% to 40% predicted	<30% predicted

Table 2: Effect of Treatment on Sign and Symptoms in the Patients of Group A and B

Symptoms	Gr.	n	Mean Score			% Relief	Paired 't' Test			
			BT	AT	BT-AT		SD	SE	't'	p
<i>Śvāsakaṣṭa</i>	A	9	2.22	1	1.22	55%	0.44	0.15	8.31	<0.001
	B	9	2.11	0.44	1.67	78.95%	0.5	0.17	10	<0.001
<i>Kāsa</i>	A	9	1.33	0.67	0.67	50%	0.5	0.17	4	<0.01
	B	9	2.22	0.44	1.78	80%	0.67	0.22	8	<0.001
<i>Ghurghurakam</i>	A	9	1.25	0.5	0.75	60%	0.46	0.16	4.58	<0.01
	B	8	2.11	0.44	1.67	78.95%	0.5	0.17	10	<0.001
PEFR	A	9	4.22	2.89	1.33	31.58%	0.71	0.23	5.66	<0.001
	B	9	4.33	2.0	2.33	53.84%	0.5	0.16	14	<0.001
FEV1	A	9	1.56	0.78	0.78	50%	0.44	0.15	5.29	<0.001
	B	9	1.67	0.44	1.22	73.33%	0.44	0.15	8.31	<0.001

Table 3: Testing of Hypothesis Through Two Sample t test

Sign and symptoms	Difference of Means		Variance		df	't' value	p value
	Group A	Group B	Group A	Group B			
<i>Śvāsakaṣṭa</i>	1.22	1.67	0.19	0.25	16	2.0	>0.05
<i>Kāsa</i>	0.66	1.77	0.25	0.44	16	4.0	<0.05
<i>Ghurghurakam</i>	0.75	1.67	0.21	0.25	15	3.90	<0.05
PEFR	1.33	2.33	0.5	0.25	16	3.46	<0.05
FEV1	0.78	1.22	0.19	1.22	16	2.13	<0.05

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