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Study to Evaluate the Preventive Effect of *Pratimarsha Nasya* and *Dhumapana* in *Tamaka Shwasa* w.s.r. to Seasonal Bronchial Asthma

Research Article

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Abstract

Asthma is one of the most prevalent chronic health conditions among children and adults. Due to increasing incidence and prevalence of Tamaka Shwasa (bronchial asthma) there is a need of prevention. In Ayurveda for management of Tamaka Shwasa medicines are available and for prevention some methods are available like Dhumapana, Vaman, Swedan, Virechan, Nasya (Pratimarshya Nasya) Karma. It may help to relive the complaints, and prevents further attack. So there is a need to find a suitable measure for this purpose. So effect of Pratimarsha Nasya and Dhumapana in prevention of Tamaka Shwasa (Seasonal Bronchial Asthma) is assessed in this study. Materials & Methods: An open Randomised clinical trial was carried out on 30 patients who were equally divided into two groups, between the ages of 18-60 years. The duration of treatment was 2 months. Clinical evaluation was done by assessment criteria, subjective and objective parameter. Results: Pratimarsha Nasya and Dhumapana are effective in decreased AEC and increased FVC, FEV1 in studied cases and showed significant results regarding subjective parameters in both groups.Discussion & Conclusion: It can be concluded that Pratimarsha nasya and Dhumapana can be used as effective and safe therapeutic procedure in the prevention of Tamaka Shwasa (Seasonal Bronchial Asthma).

Keywords: *Dhumapana, Pratimarsha Nasya*, *Tamaka Shwasa.*

Introduction

Ayurveda is the most ancient science of life. It is not only the science of life but also the philosophy of life. The first intend of *Ayurveda* is to maintain the healthy status of the people with the prevention of unborn diseases and second one is to treat the already arisen diseases(1). *Ayurveda* postulates the unique principles of *Tridosha*, *Dhatu* and *Mala* for homeostasis of the body. The living body can function normally, only when its *doshas, dhatus,* and *malas* are in a state of equilibrium Among all the systems in the human body, respiratory system is very important as the breathing strengthens or supports life physically or mentally. It helps in clearing the mind and calms the emotions by releasing the brisk flow of energy within us.

Respiratory system is the one which is more vulnerable to diseases, as it is in direct contact with external environment. Many of the inhaled substances produce a pathological stipulation of *pranavahasrotas* leading to the manifestation of the disease named as *Shwasa*. *Tamaka shwasa* is mentioned as one of the variety among *panchavidha shwasa.Tamaka Shwasa* is a *svatantra vyadhi* and having its own etiology, pathology and management. It is mentioned as chronic in nature and compared to bronchial asthma.

Vata and *kapha* are the two key pathological factors involved in the *samprapti* of *tamakashwasa.* The predominant morbidity of *vata* and *kapha dosha,* which stems out from the *pittasthana*, afflicts the *rasa dhatu* disturbing the function of *pranavahasrotas*. Then, it leads to the manifestation of *tamaka shwasa*(2).

Prevalence of Asthma

The Global Strategy for Asthma Management and Prevention Guidelines define Asthma as a chronic inflammatory disorder of the airways associated with increased airway hyper-responsiveness, recurrent episodes of wheezing, breathlessness, chest tightness, and coughing, particularly at night/early morning. Airway inflammation produces airflow limitation through acute broncho constriction, chronic mucus plug formation and airway wall swelling or remodelling(3). Asthma is one of the most prevalent chronic health conditions among children and adults. A genetic predisposition to asthma is recognized to be more common in the so called developed countries as compared to developing countries. It has been reported that 2-7% of Indians have asthma prevalence for hospitalizations and while considering Global scenario, fatal asthma has increased in the United States over the past 20 years. Each year approximately 470,000 hospital

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admissions and 5000 deaths in the United States are attributed to asthma. As stated by WHO 100–150 million of global populations are suffering from Bronchial Asthma, out of which 1/10th are Indians and the prevalence of Asthma is increasing everywhere. Current estimates suggest that 300 million people worldwide suffer from Asthma and an additional 100 million may be diagnosed with Asthma by 2025. According to the WHO by the year 2020 Asthma along with Chronic Obstructive Pulmonary Disease will become the third leading cause of death(4).

Mortality due to asthma is not comparable in size to the day-to-day effects of the disease. The social and economic burden associated to asthma is severe(5). In order to decrease these burdens, *Tamaka shwasa* demands distinct remedy. Thus, more and more research work is the need of the day either in bringing about a cure for this illness or else effective control.

The emergence of this disease as a public health problem indicates the need of prevention. In modern medical science various medicines are available for management but results are unsatisfactory and they have many adverse effect. So the prevention is the only alternative. In *Ayurveda* for management of *Tamaka Shwasa* medicines are available and for prevention some methods are available like *Dhumapana*, *Vaman*, *Swedan*, *Virechan*, *Nasya* (*Pratimarshya Nasya*) Karma (6). It may help to relive the complaints. So there is a need to find a suitable measure for this purpose. So effect of *Pratimarsha Nasya* and *Dhumapana* in prevention of *Tamaka Shwasa* (Seasonal Bronchial Asthma) is assessed in this study.

The sequential administration of *snehana*, *svedana*, *shodhana*, *shaman, brimhana* and *rasayan* line of treatment in a chronological order is explained in *Charaka samhita*(7). Among these different therapeutic procedures, *shaman* line of treatment plays an important role and it is easy and also effective. Plenty of research works have been carried out in relation to the *shamana* line of treatment in *Ayurveda*, To achieve *samyata* of vitiated *dosha*, is the main aim of treatment .To achieve this, *shodhana* and *shamana* therapies are described. But Shodhan cannot be applied in every individual. Hence, an attempt is made to know about the therapeutic effect of *Pratimarsha Nasya* and *Dhumapana* as a preventive procedure in *Tamaka shwasa.*

Two procedures taken for study were *pratimarsha nasya* and *dhumapana*. *Pratimarsha nasya* is given by *anu tail and dhumpana* is given by *Devdarvadi dhumavarti. Tamak shwasa is a Vata Kaphaja* disorder, so the drugs were selected which are *Vata Kapha shamak* and *Ushna*.

Anu tail contains *jeevanti, Devdaru, musta, daruharidra, tej patra, twak, ela, kantakari, nirgundi, bala, rasna* etc.Almost drugs of *anu tail are katu, laghu, snigdha, madhura, ushna* in nature. Due to *katu and ushna guna*, it pacifies *kapha* and due to its *snigdha* and *madhura guna*, it pacifies vata. And some drugs Due to tikta, madhura rasa, *sheeta veerya* and *madhura vipaka* it pacifies *pittta* .Hence *anu tail shows tridoshahara* property, but it is mainly affect on *vata and kapha dosha.*

So almost ingredients of *anu tail* are *vata kapha shamak , Vatanuloman and ushna* in nature. *Acharya charaka* says that those medicines which are *vata kapha shamak , vata anulomana* and *ushna* are effective in *shwasa.* So these medicines by clearing the airways give relief in *shwasa.* Hence *pratimarshya nasya* of *anu tail* is effective in *shwasa*.

The other drug *devdarvadi dhumavarti* contains *devdaru,bala,* and *jatamansi. Devdaru* is *tikta, snigdha, katu*, It resolves inflammation, so it resolves bronchial inflammation in asthma. It is *vata kapha shamak* and expectorant. It is good anti allergic hence it is effective in asthma. *Bala* has *snigdha, madhura,sheet* property and *vata pitta shamak. Jatamansi is tikta madhura rasa, sheet virya katu vipaka, vata pitta shamak and tridoshhara.*So all these drugs are effective *in tamaka shwasa.*These drugs when administered by *dhumapana* gives local effect to the bronchial wall relieving asthma more effectively.

Materials and Methods

Aims and Obejectives

- To evaluate the effect of *Pratimarsha Nasya* in prevention of *Tamaka Shwasa.*
- To evaluate the effect of *Dhumapana* in prevention of *Tamaka Shwasa.*
- To evaluate the comparative effect of *Pratimarsha nasya* and *Dhumapana* in prevention of *Tamaka Shwasa.*

Study design and duration

The study design was open clinical trial of over 30 cases of *Tamaka Shwasa* (Seasonal bronchial asthma).The patients were selected by random sampling method. The duration of treatment was 2 months. Patients were equally divided into two groups, each group contains 15 patients. *Pratimarsha Nasya* is given in group A and *Dhumapana* is given in group B.

Selection of cases-

Patient suffering from *Tamaka Shwasa* (Seasonal Bronchial Asthma) fulfilling the inclusion and diagnostic criteria were selected from O.P.D. & I.P.D of swasthavritta & yoga and kaya Chikitisa department, National institute of Ayurveda (NIA) Hospital, Jaipur, Rajasthan, 30 cases were selected for the present study.

Inclusion criteria

1. Age between 18 to 60 years
2. Irrespective of gender, religion and occupation.
3. Samples showing the classical sign and symptoms of *Tamaka Shwasa* (Seasonal Bronchial Asthma

Exclusion criteria

1. Other complicated respiratory disease.
2. Cardiac Complaints.
3. *Tamaka Shwasa* with other Systemic disorders.
4. Endocrine disorders like diabetes, Thyroid dysfunction etc.

Assessment criteria:

Assessment of severity & improvement of subjective parameters (breathlessness, cough, coryza, wheezing, chest tightness, dryness of mouth, sweating on forehead) & objective parameters (ESR, AEC, FVC, FEV1, FEV1/FVC, PEFR,) were assessed.

Subjective Criteria

1. Dyspnoea (*Shwasakrichatta*)

	B.T.	A.T.
Absence of Dyspnea	0	0
Occasionally < 2 Times / week	1	1
Very often > 2 Times/week	2	2
Always throughout a week	3	3

2.* Cough (*kasa)

	B.T.	A.T.
No Cough	0	0
Cough with no expectoration	1	1
Cough with easy expectoration	2	2
Cough with difficult expectoration	3	3

3.* Wheezing (*Ghurghurrak)

	B.T.	A.T.
No wheeze	0	0
Unilateral wheeze audible on auscultation	1	1
Bilateral wheeze audible on auscultation	2	2
Unilateral or bilateral wheeze audible without auscultation	3	3

4. Coryza *(Peenas)*

	B.T.	A.T.
No Coryza	0	0
Occasionally	1	1
Very often	2	2
Always (Daily)	3	3

5.* Chest tightness *(Parsva avgrihyate)

	B.T.	A.T.
No	0	0
Occasionally	1	1
Very Often	2	2
Always	3	3

6. Profuse sweating on fore head (*Lalaten Svidyata)*

	B.T.	A.T.
No	0	0
Occasionally	1	1
Very often	2	2
Always	3	3

7.* Dryness of mouth (*Vishuskaasyam)

	B.T.	A.T.
No	0	0
Occasionally	1	1
Very Often	2	2
Always	3	3

Objective criteria:

These are based on Laboratory investigations.

A) Blood Examination - Before & after clinical trial.

1. ESR (Erythrocyte Sedimentation Rate)
2. AEC (Absolute Eosinophil Count)

B) Spirometry - Before & After clinical trial.

1. FVC% (Forced vital capacity)
2. FEV1% (Forced expiratory volume)
3. FEV1/FVC ratio
4. PEFR % (Peak expiratory flow rate)

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Trial drug:

Group A. *Pratimarsha Nasya* - By *Anu Taila*

Anu Tail was prepared in the Pharmacy of National Institute of Ayurveda Jaipur. Tail was prepared according to method mentioned in *Ashtanga Hridya* by *Acharya Vagbhatta.*(8)

Dose : Two drops in each nostril, twice a day (morning and evening)

Duration : Two months

Route of Administration: Nasal route.

Procedure:

Patients were examined and explained about the Nasya briefly and the time chosen was morning and in the evening(8).

Nasya Karma:

Pradhana Karma:

- Patient made to lie down in supine position.
- The head of the patient is lowered (*Pravilambita*).
- Patient is asked to close his eyes.
- The tip of patient's nose was drawn upward by the left thumb.
- At the same time with the right hand instilled 2 drop of *Anu Tail* in both nostril, alternately and asked the patient to inhale deeply.

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Paschatkarma :

- Patient in lying position is asked to count up to 100 *matra* i.e. approximately 2 minutes.
- The patient was asked to expel out the drug which comes in oropharynx.

Group B. *Dhumapana* - By *Devdarvadi Dhumavarti*

Preparation of Dhumavarti:

Dhumavarti was prepared in the pharmacy of National Institute Ayurveda Jaipur. Dhumavarti was prepared according to method mentioned in *Shwasa chikitisa* in *Bhavaprakash Samhita* by *Acharya Bhavaprakash*(9).

Dose: Three puffs each in each nostril, three times continuously, twice a day (morning and evening after meal)(10).

Duration: Two months

Route and form of Administration: Nasal. Inhalation of the medicated smoke through nose and exhalation through mouth.(10)

Method of *Dhumapana:*

- To begin with the patient is thoroughly examined to confirm the indications as well as to rule out any of the contraindications.
- Then the patient is made to sit in a knee high chair with his body erect and looking forwards.
- He was asked to concentrate on the therapy and should not get distracted by external factors- like Sexual desire (*Kama),* Anger (*Krodha), Fear (Bhaya*) etc.
- Both the eyes should be closed during the procedure.
- For *dhumpana* chillum or pipe was used. It is straight conical pipe with end to end channel, made up of clay. While smoking, chillum should be placed in left hand .Chillum should be adjusted between index finger and middle finger. Traditionally wrap a piece of cloth at the mouth of the chillum which acts as a filter.
- The *Dhumavarti* should be soaked in ghee for a day or night.
- Then it should be inserted into the chillum (pipe)
- Lit with the fire and smoke is inhaled
- The right side of the nostril is closed by pressing with the right index finger
- Then the patient is asked to inhale the *Dhuma* through the left nostril.
- And then the patient is allowed to exhale the *Dhuma* only through the mouth.
- This is repeated for three times by one nostril.
- The same procedure should be applied to the opposite nostril by closing the left nostril with the left index finger and the smoke should be inhaled and expelled through the mouth.
- The procedure should be repeated for three times.
- During the procedure if the sputum comes out, the patient is asked to spit it out.
- After *Dhumapana,* the patient should be advised to take rest for several minutes and then allowed to do his routines.
- *Pathya apathya* was advised to the patient.

Follow up study

Patients were asked to attend the O.P.D in every 15 days for the follow up study.

Statistical analysis

- The information gathered on the basis of observation made about various parameters was subjected to statistical analysis in terms of Mean, Standard Deviation and Standard error (SE). All the results calculated by using software: GraphPad InStat 3.
- For nonparametric data **Wilcoxon matched-pairs signed ranks test** is used, while for parametric data **Paired't' Test** is used and results calculated in each group.

Observation and Results

Table No. 1 : Demographic profile

S. No.	Findings	Predominance	Percent
1.	Age	16-30 (young adults)	43.33% (13)
2.	Sex	Male	63.33% (19)
3.	Religion	Hindu	93.33% (28)
4.	Habitat	Urban	76.66% (23)
5.	Socio-economic status	Upper middle class	56.66% (17)
6.	Occupation	Service	40% (12)
7.	Family History	Absent	83.33% (25)
8.	Addiction	Tea/coffee	46.66% (14)
9.	Chronicity of disease	1-3 Year	56.66% (17)
10.	*Aharaja Nidana*	*Vishmashana*	73.33% (22)
11.	*Viharaja Nidana*	*Dhuma*	76.66% (23)

Table No. 2: Showing effect of therapy in all subjective parameters in group A. (Wilcoxon matched paired single ranked test)

Variable	Mean		Mean Diff.	% Relief	SD±	SE±	P	S
	BT	AT						
Shwasakrichatta (Dyspnoea)	1.53	0.73	0.80	52.28 %	0.676	0.174	P<0.001	H.S.
Kasa (Cough)	1.13	0.40	0.73	64.60 %	0.593	0.153	P<0.001	H.S.
Ghurghurrak (Wheezing)	1.00	0.53	0.46	46%	0.516	0.133	P<0.01	S.
Peenas (Coryza)	0.60	0.20	0.40	66.66 %	0.507	0.130	P<0.01	S.
Parsva avgrihyate (Chest tightness)	1.00	0.53	0.46	46	0.516	0.133	P <0.01	S.
Lalaten svidyata (Sweating on forehead)	1.06	0.46	0.60	56.60 %	0.828	0.213	P <0.01	S.
Vishuskaasyam (Dryness of mouth)	1.33	0.86	0.46	34.58	0.743	0.191	P< 0.1	N.S.

Table No. 3: Showing effect of therapy in all subjective parameters in group B. (Wilcoxon matched paired single ranked test)

Variable	Mean		MeanDiff.	% Relief	SD±	SE±	P	S
	BT	AT						
Shwasakrichatta (Dyspnoea)	1.46	0.93	0.53	36.30	0.639	0.165	P <0.01	S.
Kasa (Cough)	1.60	0.73	0.86	53.75	0.743	0.191	P <0.001	H.S.
Ghurghurrak (Wheezing)	1.06	0.66	0.40	37.73	0.507	0.130	P < 0.01	S.
Peenas (Coryza)	0.80	0.20	0.60	75	0.828	0.213	P <0.01	S.
Parsva avgrihyate (Chest tightness)	0.73	0.33	0.40	54.79	0.507	0.130	P <0.01	S.
Lalaten svidyata (Sweating on forehead)	0.93	0.46	0.46	49.46%	0.639	0.165	P<0.01	S.
Vishuskaasyam (Dryness of mouth)	0.93	0.66	0.26	27.95	0.457	0.118	P< 0.1	N.S.

Table No.4: Showing effect of therapy on Objective Parameters in Group A (Paired‘t’ Test)

Parameters	Mean		Diff	% Relief	SD±	SE±	T	P	S
	BT	AT							
ESR	19.46	18.93	0.53	2.73%	1.457	0.376	1.41	P> 0.01	N.S.
AEC	264.47	246.67	17.8	6.73%	29.20	7.541	2.36	P <0.01	S.
FVC	65.20	67.53	-2.33	3.57%	3.132	0.808	2.88	P<0.01	S.
FEV1	57.86	59.60	-1.74	3.00%	2.520	0.650	2.66	P< 0.01	S.
FEV1/FVC	93.60	95.93	-2.33	2.48%	5.627	1.453	1.60	P< 0.1	N.S.
PEFR	51.66	52.86	-1.2	2.32%	3.668	0.947	1.26	P<0.1	N.S.

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Table No.5: Showing effect of therapy on Objective Parameters in Group B. (Paired't' Test)

Parameters	Mean		Diff	% Relief	SD±	SE±	T	P	S
	BT	AT							
ESR	16.66	16.26	0.40	2.40	1.298	0.335	1.19	P> 0.01	N.S.
AEC	255.40	242.00	13.4	5.24	19.99	5.162	2.59	P <0.01	S.
FVC	60.00	61.20	-1.20	2	1.897	0.489	2.44	P< 0.01	S.
FEV1	63.40	64.86	-1.46	2.30	2.475	0.638	2.29	P< 0.01	S.
FEV1/FVC	98.93	100.80	- 1.87	1.89	4.086	1.055	1.76	<0.1	N.S.
PEFR	57.33	58.46	-1.13	1.97	2.850	0.735	1.54	<0.1	N.S.

N = 30 patients; **BT** - Before treatment; **AT**- After treatment; **SD** - Standard deviation; **SE** - Standard error **P** - P value; **S** - Significant; **NS** - Non significant; **HS** – Highly significant**.**

Discussion on Results

Group–A (*Pratimarsha Nasya*)

The effect of *Pratimarshya Nasya* Group on symptomatology provided highly significant (p<0.001) with Moderate Relief with 52.28% in *Shwasakrichatta* and with 64.60% in *Kasa*,

Statisticallysignificant(P<0.01) with Moderate relief with 66.66% in *Peenas* and with 56.60% in *Lalten svidyata* Mild Relief with 46% in *Ghurghurrak* and with 46% in *Parsva avgrihyate.*

Statisticallynonsignificant (p<0.1)with mild relief in 34.58% in *Vishuskaasyam*.

Group – B *(Dhumapana*)

The effect of *Dhumapana* Group on symptomatology provided highly significant (p<0.001) with Moderate Relief with 53.75% in *Kasa.*

Statistically significant (P<0.01) with Moderate relief 75% in *peenas,* 54.79% in *Parsva avgrihyate* and mild relief with 36.30% in *Shwasakrichatta,* 37.73% in *Ghurghurrak,*and *with* 49.46% in *Lalaten svidyata.*

Statisticallynon-significant (p<0.1) with Mild Relief with 27.95% in *Vishuskaasyam*.

Thus we may conclude that *Pratimarsha Nasya of Anu tail* is more effective on *Vata* and *Kafa Dosha* which provide better result in all signs and symptoms as compare to *Dhumapana,* whereas it was observed that *Dhumapana* is more effective in *Peenas* and *Parsva avgrihyate* as compare to *Pratimarsha Nasya.*

Effect of Trial on Objective Parameter

On the basis of both groups

Effect on ESR

ESR was decreased by 2.73% in Group A and 2.40% in Group B, which was Non significant (p<0.1) in both groups.

Effect on AEC

AEC was decreased by 6.73% in Group A and 5.24% in Group B, which was statisticallysignificant (p<0.01) in both groups.

Effect on Spirometry

FVC%

FVC was increased by 3.57% in Group A and 2% in Group B, which was statistically significant (p<0.01) in both groups.

FEV1%

FEV1 was increased by 3% in Group A and 2.30% in Group B, which was statistically significant (p<0.01) in both groups.

FEV1/FVC Ratio

FEV1/FVC Ratio was increased by 2.48% in Group A and 1.89% in Group B, which was statistically Nonsignificant(P<0.1) in both groups.

PEFR%

PEFR was increased by 2.32% in Group A and 1.97% in Group B, which was statistically Non significant(P<0.1) in both groups.

Discussion on Subjective Parameters

Effect on *Shwasakrichatta*

The result was found statistically highly significant in group A, and Significant in group B. When the *pranavahasrotas* is obstructed by the *kapha* it causes dysfunction of *pranavayu* leading to discomfort in breathing*, kapha-vattaghana* property of *Nasya (Anu taila*) reduces the elevated *kapha* and its *lekhana* property cleans the *srotas* allowing the path for the movement of *vayu.* Same as *Dhumapana* (*devdaru, bala, jatamansi*) has *kapha-vataghna* property and with its *katu vipaka ushna veerya & tikshna guna,* it reduces the symptom by doing *srotoshodhana*(11).

Effect on *Kasa*

The result was found statistically highly significant in the both group, Cough is a defense mechanism of *pranavahasrotas*, the presence of which is indicative of irritating *sleshma* in the *srotas*. The reduction in the cough implies its tenacious sputum is

liquefied by the medicine (*nasya and dhumapana*) and its expectoration is easy. The medication is also effective when it reduces production of sputum in the *srotas.*

Effect on *ghurghurrak* sound

The result was found statistically significant in both group. Increased *Kapha* situated in *Srotas (Kantha)* obstructs the airway causes wheezing sound. Most of the ingredients of both group possesses *Kapha Shamaka* and *Shothahara* properties with *Lekhana Guna*. Hence they are helpful in this symptom and When *Dhumapana* was taken stimulating expectoration, so its clear the airways and decrease wheezing(11).

Effect on *Peenas*

Peenas is a *kapha vata* predominance disease and most of the ingredients of nasya having *kaphavataaghna* property as its local effect of elimination of vitiated doshas from nasa marga and gives relief from *peenas*. Majority of ingredients of *Anutaila* show *Tikta Rasa* and *Laghu guna*, properties. These properties are very much in favour of clearing the *Srotas.*It dries up *Kelda* and purulent discharge. *Katu vipaka*, *Ushna Virya* and *Tikshna* properties of drugs of *dhumapana* exert *srotoshodhan* effect and produce *Draveekarana(Vilayana)* and *Chedana of* vitiated *Kapha*(11).

Effect on *parsva avgrihyate*

The result was found statistically significant in the both groups. pain in the chest and flank is due to vitiated *kapha.*Due to obstruction of air by mucous congestion in alveoli, if it is not expelled in time it obstruct the path of air in alveoli which is responsible for the phenomena of chest tightness. Drugs of both groups *has vataanuloman* and *kaphanisarak* property, so above result is derived(11).

Effect on *Lalaten svidyata*

The result was found statistically significant in both groups with mild relief. This might be due to the reason that asthmatic attack causes rapid respiration and hence exertion which in turn is the reason for sweating, and when difficulty in breathing subsides this symptom of sweating gets subsided automatically.

Effect on *Vishuskaasyam*

The result was found statistically insignificant in both groups. This might be due to the reason the property of the trial drug may be unable to pacify the symptom *vishuskaasyam.*

Discussion of Objective Parameter

Effect on ESR

There was no significant difference noticed in ESR during the course of whole treatment.

Effect on AEC

There was significant result found on AEC in both group. High eosinophil value suggests allergic condition and extrinsic type of asthma,Due to antihistaminic properties of drug and improvement in the immune system with the both drug reduction in AEC value is observed.

Effect on Spirometry

Spirometry measures the amount (volume) and speed or flow of air that can be inhaled and exhaled. It helps in detecting the narrowing or obstruction of airways. The most common measurements used are FVC, FEV1, FEV1/FVC ratio and PEFR. Improvement in the value suggest improvement in airway obstruction in alveoli and inflamed airway and broncho constriction in asthma improved. Due to expectorant, antispasmodic, and anti-inflammatory property of drug this significant result was observed.

Probable Action of Drug

Pratimarsha Nasya with *anu tail* and *dhumapana* includes the drugs having Antinflammatory, Antihistaminic,Antiallergic, bronchodilator and expectorant properties,which are effective and safe therapeutic procedures in the prevention of *Tamaka Shwasa* (Seasonal Bronchial Asthma).

Conclusion

Tamak Shwasa (Bronchial asthma) is most common health problem, occurs due to excessive pollution, overcrowding and industrialization as well as urbanization. It can be said that *Pratimarshya nasya* is more effective to control all parameters due to its highly *Vata-kaphahara and Vataanuloman* properties compare to *Dhumapana.*Thus it can be concluded that *Pratimarsha nasya and Dhumapana* are effective in reducing the severity of attack and can be used as effective and safe therapeutic procedure in the prevention of *Tamaka Shwasa* (Seasonal Bronchial Asthma).

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