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A Clinical Study to understand the Role of *Ayurvedic* Regimen in the Management of *Tamaka Shwasa* (Bronchial Asthma).

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ABSTRACT

Respiratory tract disorders represent a challenge to the public health. The most common diseases of Respiratory tract are Asthma, Allergic Rhinitis and Bronchitis etc. People of all ages throughout the world are affected by chronic airway disorder that, when uncontrolled, can place severe limitations on daily life and is sometimes fatal.

Thirty patients with features of Bronchial Asthma (*Tamaka Shwasa*) underwent treatment with standard *Ayurvedic* prescription for duration of 12 weeks with suitable provisions of emergency medications. In this study, improvement was seen in Duration of Shwasakasthata, Frequency of Shwasakasthata, Reduction in taking no. of emergency medicine, *Pinasa*, *Kaphashtheevana*, Cough, *Ghurghuraka*, Orthopnea, *Parshvashula*, *Lalate Sweda*, Result on PEFr, AEC, Oxyhemoglobin saturation and chest expansion. There was no side effect observed during the study with the prescription given. So, it can be concluded that *Ayurvedic* regimes can be opted as long term management of Bronchial Asthma but its beneficial effects needs to be studied in more details on large sample size.



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KEYWORDS

Bronchial Asthma, TamakaShwasa, Ayurvedic regimes



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INTRODUCTION

Asthma is a significant burden, not only in terms of health care costs but also of lost productivity and reduced participation in family life¹. The prevalence of Asthma is predicted to increase rapidly in the coming years². With the projected increase in the proportion of the world's population that is urban from 45% to 59% in 2025, the WHO estimates that there are between 15 and 20 million people with Asthma in India³.

Asthma is one of the most common reasons for emergency department visits and hospitalization. Modern medicine also considers Asthma as a manageable disease and it is incurable⁴. Asthma is an episodic disease, with acute exacerbations interspersed with symptom-free periods⁵. These episodes may be triggered by such things as exposure to an environmental stimulant such as an allergen, environmental tobacco smoke, cold or warm air, perfume, pet dander, moist air, exercise or exertion, or emotional stress⁴. Typically, most attacks are short-lived, lasting minutes to hours, and clinically the patient seems to recover completely after an attack. However, there can be a phase in which the patient experiences some degree of airway obstruction daily⁵. Bronchodilators give temporary relief and have side effects. The present study is

aimed at finding the efficacy of an *Ayurvedic* conventional regimen and providing more relief with lesser side effects to the patients of Bronchial Asthma.

MATERIALS AND METHODS

The study was conducted at the *Swasthavrutta* department of Gujarat *Ayurved* University in Jamnagar town, Gujarat. A clinical trial, controlled prospective study was conducted on 30 patients by intervening into *Ayurvedic* preparations.

Study Design:

a. *Selection of Drug and dose:*

- *Sitopaladi Churna, Vasa Churna, Bharangi Churna, Yashtimadhu Churna* mixed in equal amount and given 2 times a day at empty stomach.
- *Lavangadi Vati* 250 mg three times a day.
- *Shivakshara Pachna* 2 gm, *Shankha Bhasma* 250 mg given two times a day after meal.
- *Shulahara Taila* 10 ml once a day.
- *Bashpswedana* once daily.

b. *Type of Study:* Single Blind

c. *Duration of Study:* 90 days

d. *Assessment:* Done at interval of 15 days.

Inclusion criteria:

- Belong to age group 24 – 60 years.



▪ Had the sign and symptoms of Bronchial Asthma (*Tamaka Shwasa*) as given below:

- *Shwasa Kashtata* – Breathlessness
 - *Kasa* - Coughing
 - *Parshvashula* - Pain in flanks
 - *Ghurghurakam* - Wheezing
 - Feeling of Chest tightness/ compression
- Uncomplicated cases of Bronchial Asthma.
- Chronicity less than 10 years.
- Willing and able to participate as well as understanding and affirming to sign a written consent for the treatment schedule of the concerned study.

Exclusion criteria:

Patient falling under the following criteria will be excluded from the study:

- Age below 24 years and above 60 years.
- Patients who were having Thrombosis, Stroke, and other severe abnormalities like Cardiac disease, Renal disorders, AIDS, Endocrine disorders like Diabetes Mellitus, Thyroidism etc.

▪ Other complicated respiratory disease i.e. Swine Flu, Tuberculosis, COPD etc. and had any organic lesion such as tumour or any anatomical defect in the airways are excluded from the study.

The study was approved by scientific committee of ACYER and the ethical committee of University and according to the guidelines of MDNIY some changes are being incorporated.

Participants were given information about the study objective, voluntary participation and told to their treatment. They were also told about the activities that are going to be practiced and were also informed as they could withdraw from participation at any stage. Those who signed the consent form participated in the study.

OBSERVATION AND RESULTS

Thirty patients who fulfilled the inclusion criteria and signed the consent were taken for the study. All the patients completed the trial as per schedule.

General Observations

Table 1 Effect on Chief Complaints

No.	Chief complaints	Mean		% of imp.	S.D	S.E	Df	t	P
		BT	AT						
1	<i>Shwasakashtata</i> (Frequency)	02.37	01	57.75	0.67	0.12	29	11.19	< 0.001
2	<i>Shwasakashtata</i> Duration of attack	02.17	0.9	58.46	0.98	0.18	29	07.08	< 0.001
3	No. of emergency medicine taken	01.95	0.62	68.09	0.92	0.18	23	07.12	< 0.001
4	<i>Kasa</i> (Coughing)	01.80	0.88	51.00	0.74	0.14	25	06.32	< 0.001



5	<i>KaphaSthivanam</i> (Expectoration)	01.82	0.96	47.05	0.93	0.17	27	04.86	< 0.001
6	<i>Ghurghurkam</i> (Wheezing)	02.17	0.86	60.00	0.79	0.14	29	08.96	< 0.001
7	<i>AsinoLabhateSaukhyam</i>	0.02	0.61	69.64	0.78	0.14	27	09.37	< 0.001
8	<i>Pinasa</i> (Rhinitis)	01.6	0.92	42.50	0.85	0.17	24	03.98	< 0.001
9	Chest tightness	01.76	0.52	70.45	0.88	0.18	24	07.05	< 0.001
10	<i>Parshvashula</i> (Pain in flanks)	01.77	0.77	56.41	0.69	0.15	21	06.80	< 0.001
11	<i>LalateSweda</i> (Perspiration on fore head)	01.65	0.65	60.60	0.65	0.15	19	06.89	< 0.001
12	<i>Bhrama</i> (Giddiness)	01.61	0.67	58.62	0.94	0.22	17	04.27	< 0.001

Table 2 Effect on *DoshaDusti*

<i>DoshaDusti</i>	Mean Score		% of Relief	S.D (±)	S.E (±)	'df'	t	P
	B.T.	A.T.						
<i>VataDushti</i>	5.30	3.0	43.39	01.26	0.23	29	09.97	<0.001
<i>Pitta Dushti</i>	03.29	01.40	57.30	01.12	0.21	26	08.75	<0.001
<i>KaphaDushti</i>	08.73	4.4	49.61	01.68	0.30	29	14.05	<0.001

Table 3 Effect on *SrotasDusti*

<i>SrotasDusti</i>	Mean Score		% of Relief	S.D (±)	S.E (±)	'df'	T	P
	B.T.	A.T.						
<i>Pranavaha</i>	18.90	08.50	55.03	06.07	01.11	29	09.40	< 0.001
<i>Udakavaha</i>	02.07	01.00	51.61	01.22	0.32	14	03.38	< 0.010
<i>Annavaha</i>	02.68	01.14	57.63	01.47	0.31	21	04.93	< 0.001
<i>Rasavaha</i>	02.74	01.30	52.38	00.78	0.17	22	08.73	< 0.001
<i>Raktavaha</i>	02.58	01.00	61.22	00.77	0.18	18	08.96	< 0.001
<i>Mamsavaha</i>	02.44	01.77	27.27	01.28	0.30	17	02.20	< 0.050
<i>Medavaha</i>	02.58	01.88	27.27	01.04	0.25	16	02.78	< 0.010
<i>Asthivaha</i>	02.72	01.94	28.57	01.31	0.31	17	02.52	< 0.050
<i>Majjavaha</i>	02.25	02.00	11.11	00.46	0.16	07	01.53	> 0.050
<i>Purishvaha</i>	02.65	01.10	58.49	00.10	0.22	19	06.94	< 0.001
<i>Shukravaha</i>	00.00	00.00	0.00	00.00	0.00	00	0.00	-
<i>Svedavaha</i>	02.31	00.92	60.00	00.65	0.18	12	07.68	< 0.001
<i>Mutravaha</i>	02.20	01.60	27.27	01.52	0.68	04	0.88	> 0.050

Table 4 Effect on haematological values

Investigation (n-14)	Mean values		Mean D.F.	% change	S.D.	S.E.	't'	P	
	BT	AT							
Hbgms%	10.86	11.07	29	01.84	00.51	00.09	02.11	<0.05	
TLC	1001	9136	29	08.69	485.05	88.55	09.82	<0.001	
DLC	N	69.93	63.90	29	08.62	03.30	00.60	09.99	<0.001
	L	25.00	31.53	29	25.79	03.24	00.59	10.91	<0.001
	E	03.70	03.10	29	16.21	0.85	00.16	03.84	<0.001
	M	01.30	01.50	29	15.38	0.61	00.11	01.80	>0.05
	B	00.00	00.00	29	00.00	0.00	00.00	00.00	-
ESR	06.07	03.70	29	39.01	03.20	00.58	04.05	<0.001	
IgE	317.6	304.4	29	04.15	142.54	26.02	0.50	>0.05	

Table 5 Effect on PEFR, SPO₂, AEC

Parameters	Mean score		'df'	% imp.	S.D.	S.E.	't'	P
	B.T.	A.T.						
PEFR	01.67	01.95	29	16.49	0.94	0.17	01.61	>0.05
SPO ₂	97.33	97.83	29	00.51	0.79	0.14	03.46	<0.010



AEC	376.0	287.4	29	23.57	93.09	16.99	05.21	<0.001
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Table 6 Effect on spirometric parameters of patients of *TamakaShwasa*

Investigation (n-5)	Mean values		D.F.	% change	S.D.	S.E.	't'	P
	B.T.	A.T.						
FVC(L)	01.15	01.48	29	28.49	0.67	00.12	02.67	>0.05
FEV1 (%)	44.11	49.68	29	12.64	20.75	03.78	01.47	>0.05
SVC(L)	01.67	01.82	29	09.29	00.67	00.12	01.26	>0.05
MVV(L)	31.92	30.83	29	03.42	11.15	02.03	00.53	>0.05

Table 7 Effect on Weight reduction, BMI, Waist/Hip ratio

Parameters	Mean Score		% of Relief	S.D.	S.E.	'df'	't'	P
	B.T.	A.T.						
Weight reduction	61.23	61.73	00.82	01.59	0.29	29	01.72	>0.05
BMI	24.80	24.99	00.75	00.63	00.11	29	01.63	>0.05
Waist/Hip ratio	0.96	0.95	0.13	0.03	0.00	29	00.26	>0.05

Table 8 Effect of therapy on chest expansion

Chest Expansion	Mean Score		% of Relief	S.D.	S.E.	'df'	't'	P
	B.T.	A.T.						
L.M.(Axilla)	03.82	05.03	31.88	02.10	00.38	29	03.17	<0.010
L.M.(Nipple)	03.90	05.53	41.88	02.37	00.43	29	03.77	<0.001
L.M.(Xiphoid)	03.15	04.63	47.09	01.91	00.35	29	04.24	<0.001

Table 9 Effect on ACQ, X-Ray finding

Parameters	Mean Score		% of Relief	S.D.	S.E.	'df'	't'	P
	B.T.	A.T.						
ACQ	16.90	10.20	39.64	03.48	00.63	29	10.52	<0.001
X-Ray	1.0	1.0	0	-	-	6	-	-

Table 10 Total effect of therapy

Result	No. of Patients	%
Complete Remission $\geq 75\%$	01	03.33
Marked Improvement $\geq 50\%$	05	16.66
Moderate Improvement $\geq 25\%$	09	30.00
No Improvement $< 25\%$	15	50.00

PHARMACODYNAMIC PROPERTIES OF REGIMENS:

1) *CHURNA*:

Table 11 Pharmacodynamics of *Churna*⁶

Drug	Rasa	Guna	Virya	Vipaka	Doshagnata	Karma
<i>Sitopala Churna</i>	<i>Madhura</i>	<i>Guru, Snigdha</i>	<i>Sheeta</i>	<i>Madhu</i>	<i>Raktapittashamak</i>	<i>Trishna</i> <i>shamaka</i>
<i>Vanshalochana Churna</i> { <i>Bambusa arundinacea</i> }	<i>Madhura,</i> <i>Kashaya</i>	<i>Ruksha, Laghu,</i> <i>Tikshna</i>	<i>Sheeta</i>	<i>Madhu</i>	<i>Kaphapittashama</i> <i>na</i>	<i>Deepana,</i> <i>Pachana,</i> <i>Kapha</i> <i>nihsaraka,</i> <i>Swashara</i>
<i>Pippalimula churna</i> { <i>Piper longum</i> Linn.}	<i>Katu</i>	<i>Laghu,</i> <i>Ruksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha-</i> <i>VataShamaka</i>	<i>Kasahara,</i>
<i>ElaChurna</i> { <i>Elettaria</i> <i>cardamomum</i> Linn.}	<i>Katu,</i> <i>Madhura</i>	<i>Laghu,</i> <i>Ruksha</i>	<i>Sheeta</i>	<i>Madhu</i>	<i>Tridoshara</i> <i>ra</i>	<i>Kapha</i> <i>nihsaraka,</i> <i>Aruchi</i> <i>nashana,</i> <i>Deepana</i>
<i>TvakChurna</i> { <i>Cinnamomum</i> <i>zeylanicum</i> Blume.}	<i>KatuTikta,</i> <i>Madhura</i>	<i>Laghu,</i> <i>Ruksha,</i> <i>Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha-Vata</i> <i>Shamaka</i>	<i>Shlesmahar</i> <i>a, Deepana,</i> <i>Pachana</i>



<i>Vasa Churna</i> { <i>Adhatoda vasica</i> Nees}	<i>Tikta,</i> <i>Kasaya</i>	<i>Laghu, Ruksha</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kapha-</i> <i>pittashamaka</i>	<i>Chhedana</i>
<i>Bharangi Churna</i> { <i>Clerodendrum</i> <i>serratum</i> Linn.}	<i>Katu,</i> <i>tikta,</i> <i>Kashaya</i>	<i>Laghu, Ruksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vatakaphahara</i>	<i>Deepana,</i> <i>Pachana,</i> <i>Swashara</i>
<i>Yashtimadhu</i> <i>Churna</i> { <i>Glycyrrhiza</i> <i>glabra</i> Linn}	<i>Madhura</i>	<i>Guru, Snigdha</i>	<i>Sheeta</i>	<i>Madhu</i> <i>ra</i>	<i>Vata-</i> <i>pittashamaka</i>	<i>Balya,</i> <i>Rasayana,</i> <i>Raktaprasad</i> <i>ana</i>

Important Therapeutic Uses-Arocaka (Tastelessness), *Agnimandya* (Digestive impairment), *Pittaja shwasa* (Asthma due to *Pitta Dosha*), *Jwara* (Fever), *Kasa* (Cough), *Hasta Pada Daha* (Burning sensation in palms and soles), *Parsva Shoola* (Intercostal neuralgia and

pleurodynia), *Kshaya* (Pthisis), *Suptajihvatva* (Numbness of tongue), *Urdhvagata Raktapitta* (Bleeding from orifices of the Upper part of the body).

2) LAVANGADI VATI (*Vaidyajeewan, Kasa-Shwasa Chikitsa*)

Table 12 Pharmacodynamics of *Lavangadi Vati*⁶

Drug	Rasa	Guna	Virya	Vipaka	Doshagnata	Karma
<i>Lavanga</i> { <i>Syzygium aromaticum</i> (Linn.)}	<i>Katu,</i> <i>Tikta</i>	<i>Laghu,</i> <i>Snigdha</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kaphapittash</i> <i>amaka</i>	<i>Deepan,</i> <i>Pachana,</i> <i>Swasahara,</i> <i>Kaphaghna</i>
<i>Maricha</i> { <i>Piper nigrum</i> Linn.}	<i>Katu</i>	<i>Laghu,</i> <i>Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vata-Kapha</i> <i>Shamaka</i>	<i>Deepan,</i> <i>Paachana,</i> <i>Vatanuloman</i>
<i>Bibhitaki</i> { <i>Terminalia bellirica</i> Roxb.}	<i>Kasaya</i>	<i>Laghu,</i> <i>Ruksha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Kapha-Pitta</i> <i>Shamaka</i>	<i>Chakshuya</i> <i>Bhedaka</i> <i>Kruminashaka</i> <i>Kasaghana</i>
<i>Khadirasara</i> { <i>Acacia catechu</i> Linn. f}	<i>Kasay</i> <i>Tikta</i>	<i>Laghu,</i> <i>Ruksha</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kapha-Pitta</i> <i>Shamaka</i>	<i>Kaphaghna</i> <i>Kasaghana</i>
<i>Babbula</i> { <i>Acacia nilotica</i> Linn.}	<i>Kasaya</i>	<i>Guru,</i> <i>Ruksha</i> <i>Visada</i>	<i>Shita</i>	<i>Katu</i>	<i>Kapha</i> <i>Shamaka</i>	<i>Grahi,</i> <i>Vishaghana</i>

Important Therapeutic Uses - Kasa (Cough), *Shwasa* (Dyspnoea/Asthma) etc.

3) SHIVAKSHARA PACHANA CHURNA: (*Ayurveda Nibandhamala*)

Table 13 Pharmacodynamics of *Shivakshara Pachana Churna*⁶:

Drug	Rasa	Guna	Virya	Vipaka	Doshagnata	Karma
<i>Haritaki</i> { <i>Terminalia chebula</i> Retz.}	<i>Panchrasa</i> <i>lavanavarj</i> <i>ita</i>	<i>Laghu,</i> <i>Ruksha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridosha</i> <i>shamaka</i>	<i>Rasayana</i> <i>Deepan,</i> <i>Vatanuloman</i>
<i>Ajmoda</i> { <i>Apium leptophyllum</i> Pers.}	<i>Katu,</i> <i>Tikta</i>	<i>Laghu,</i> <i>Ruksha</i> <i>Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha Vata</i> <i>Shamaka</i>	<i>Shoolaghana</i> <i>Deepan,</i> <i>Vatanuloman</i>



<i>Saindhav</i> (Chloride of Sodium)	<i>Lavana</i>	<i>Laghu,</i> <i>Snighdha</i> <i>Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vata-Kapha</i> <i>Shamaka</i>	<i>Pachana</i>
<i>Krishnajiraka</i> { <i>Carumcarvi</i> Linn.}	<i>Katu</i>	<i>Laghu</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha Vata</i> <i>Shamaka</i>	<i>Sothahara</i> <i>Deepan,</i> <i>Pachana</i>
<i>Shwetjiraka</i> { <i>Cuminumcyminum,</i> Linn.}	<i>Katu</i>	<i>Laghu,</i> <i>RukshaTi</i> <i>kshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha Vata</i> <i>Shamaka</i>	<i>Sothahara</i> <i>Deepan,</i> <i>Pachana</i>
<i>Hingu</i> { <i>Ferula narthex</i> Bioss}	<i>Katu</i>	<i>Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vata-Kapha</i> <i>Shamaka</i>	<i>Deepan,</i> <i>Vatanuloman</i> <i>Pachana</i>
<i>Yavakshara</i> {Mixture of potassium salts}	<i>Katu,</i> <i>Tikta,</i> <i>Kasaya</i>	<i>Laghu,</i> <i>Snighdha</i> <i>Tikshna</i> <i>Sukshma</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Kapha</i> <i>Shamaka</i>	<i>Vedanasthapan</i>
<i>Trikatu</i> <i>Shunthi</i> { <i>Zingiber</i> <i>officinale</i> Ro xb.}	<i>Katu</i>	<i>Laghu,</i> <i>Snighdha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Kaphavata</i> <i>Shamaka</i>	<i>Deepan,</i> <i>Pachana,</i> <i>Rochana,</i> <i>Vedanasthapan</i> <i>Swasahara,</i> <i>Kaphaghna</i>
<i>Maricha</i> { <i>Piper</i> <i>nigrum</i> Linn.}	<i>Katu</i>	<i>Laghu,</i> <i>Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vata-Kapha</i> <i>Shamaka</i>	<i>Deepan,</i> <i>Paachana,</i> <i>Vatanuloman</i>
<i>Pippali</i> { <i>Piper</i> <i>longum</i> Linn.}	<i>Katu</i>	<i>Laghu,</i> <i>Snighdha</i> <i>Tikshna</i>	<i>Anushna</i> <i>Shita</i>	<i>Madhura</i>	<i>Kapha-Vata</i> <i>Shamaka</i>	<i>Deepan,</i> <i>Kasahara,</i> <i>Swasahara,</i> <i>Hiccanigrahana</i> <i>, Triptighna</i>

Indications: It can be used for *Deepana*,
Pachana in *Adhamana*, *Malavarodha*,
Ajirna, *Gulma*, *Udarashoola* and *Atisara*.

SHANKHA BHASMA (Ayurveda Prakash)⁷

<i>Drug</i>	<i>Rasa</i>	<i>Guna</i>	<i>Virya</i>	<i>Vipaka</i>	<i>Doshagnata</i>	<i>Karma</i>
SHANKHA	<i>Kashaya,</i> <i>Katu,</i> <i>Kshariya</i>	<i>Sheeta,</i> <i>Laghu</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Tridoshaghna</i>	<i>Agnideepana,</i> <i>Lekhana, Balya</i>

Indications: It can be used as *Deepana*,
Pachana in *Ajirna*, *Amlapitta*, *Grahani*,
Atisara etc.

4) SHULAHARATAILA: (Bheshaja Samhita)

Table 14 Pharmacodynamics of *Shulahara Taila*⁶

<i>Drug</i>	<i>Rasa</i>	<i>Guna</i>	<i>Virya</i>	<i>Vipaka</i>	<i>Doshagnata</i>	<i>Karma</i>
<i>Sarshapa</i> { <i>Brassica</i> <i>campestris</i> Linn.}	<i>Katu,</i> <i>Tikta</i>	<i>Snighdha</i> <i>Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vata- Kapha</i> <i>Shamaka</i>	<i>Vedanasthapan</i> <i>Lekhana</i> <i>Snehana</i>



Karpooa {Cinnamomum camphora}	<i>Katu,</i> <i>Tikta,</i> <i>Madhura</i>	<i>Laghu,</i> <i>Tikshna</i>	<i>Shita</i>	<i>Katu</i>	<i>Tridosh</i> <i>Shamaka</i>	<i>Vedanasthapan</i> <i>Kothaprashamana</i>
Turpentine oil {Pinus roxburghii Sargent}	<i>Katu,</i> <i>Tikta,</i> <i>Madhura</i>	<i>Laghu,</i> <i>Tikshna</i> <i>Snighdha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vata-Kapha</i> <i>Shamaka</i>	<i>Sandhisothahara</i> <i>Vranasodhana</i>

Indications: It can be used for *Shoola*, *Asthisandhi*, *Shoola*, *Shotha* and Osteoporosis etc.

(5) *Bashpa Swedana*:

Mild Fomentation done over chest and Perinasal area after applying *Shulahara* oil. Due to *Swedana* the *Doshas* (*Kapha*) liquefied and disintegrated in to smaller particles causing free flow of *Dosha* from *Shakha* to *Koshtha*⁸. In the treatment of *Shwasa*, it was told to do unctuous fomentation therapies in the beginning after anointing the body with oil mixed with salt⁹. The fomentation therapy renders the adhered *Kapha* dissolved in the channel of circulation and softened thereby causes downward movement of *Vayu*. In the patient suffering from *Tamaka Shwasa*, the aggravated *Kapha* remains adhered to the channels of circulation, thus causing obstruction to the channels. Unless this adhered *Kapha* is dissolved, it can't be eliminated easily. Here, fomentation therapies were prescribed after applying *Shulahara* oil over chest as *Parshvashoola* is one of the features of *Tamaka Shwasa*

and *Shulahara oil* indicated in such painful conditions.

DISCUSSION ON EFFECT OF THERAPY

- Action of the *Ayurvedic* regimens used in the treatment on the *Samprapti vighatana* of *Shwasa Roga* is explained in Figure 1.
- Figure 2 explains the probable mode of action of *Ayurvedic* Regimen on *Shwasa Roga*. Action of the drugs on various symptoms of *Shwasa Roga* is explained briefly in the figure.
- Statistically highly significant result was obtained in parameters like Duration of *Shwasakashtata*, Frequency of *Shwasakashtata*, Reduction in taking no of emergency medicine, *Pinasa*, *Kaphashthivana*, *Kasa*, *Bhrama*, *Ghurghuraka*, Orthopnea (*Asinolabhtesaukhyam*), *Parshvashula*, *Lalate Sweda*, PEFr (Peak expiratory flow rate), AEC, Oxyhemoglobin saturation, Chest Expansion.



- The effect on duration of *Shwasakashtata* as shown in Table No. 1 may be because medicine provides *AnulomanaGati* to *Vayu* and relieves *Shwasakastata* to moderate extent.
- The effect on Reduction in taking no of emergency medicine as shown in Table No. 1 might be because of reducing cholinergic reflex or reduced airway inflammation results into reduced airway hyper responsiveness.
- The effect on *Kaphashthivana* as shown in Table No. 1 may be because of Cleansing action of drugs which clears respiratory tract by eliminating the *Kapha* from *Uras*.
- The effect on *Ghurghuraka* as shown in Table No. 1 may be because cleansing property of drugs eliminates the accumulated *Kapha* from *Uras* and clears the bronchial tree.
- The effect on Orthopnea (*Asinolabhtesaukhyam*) as shown in table No.1 may be because elimination of accumulated *Kapha* from *Uras* reduces the congestion in Lungs and reduces body weight.
- The relief on *Lalate Sweda* as shown in Table No. 1 may be due to removal of accumulated mucous from the bronchial tree provides free space for air flow leads to smooth muscle proper functioning and oxygen supply to body.
- The effect on PEFR is seen as increase in Volume of air forcibly expired during first 10 seconds after deep inspiration as shown in Table No. 5. It was assessed by using a peak expiratory flow rate meter to assess the response to treatment in obstructive airway of Asthma.
- The effect on AEC which is increased as shown in Table No. 5 because of increased Histamine level in the body. Earlier researches conducted on *Vamana Karma* at BHU, Varanasi¹⁰ showed that Histamin level is decreased after *Shodhana* i.e. *Shuddhi Kriya*.
- The effect on Oxyhemoglobin saturation as shown in Table No. 5 is due to removal of accumulated mucous from the bronchial tree provides free space for air flow leads to smooth muscle proper functioning and oxygen supply to body.
- Chest expansion was increased 31.88 %, 41.88 % and 47.09% at the level of Axilla (<0.01), Nipple (<0.001) and Xiphoid (<0.001) respectively as shown in Table No. 8.
- Maximum % relief i.e. 57.3% was seen in *Pitta Dosha Dushti* followed by *Kapha Dosha Dushti* i.e. 49.61% as shown in Table No. 2. This showed the involvement of *Pitta* and *Kapha Dosha* in the pathogenesis of *Tamaka Shwasa*.



• Maximum % relief in case of *Srotas Dusti* was observed in *Raktavaha* (61.22%), *Svedavaha* (60%), *Purishvaha* (58.49%),

Annavaaha (57.63%) and *Pranavaaha Srotas* (55.03%) as shown in Table No. 3.

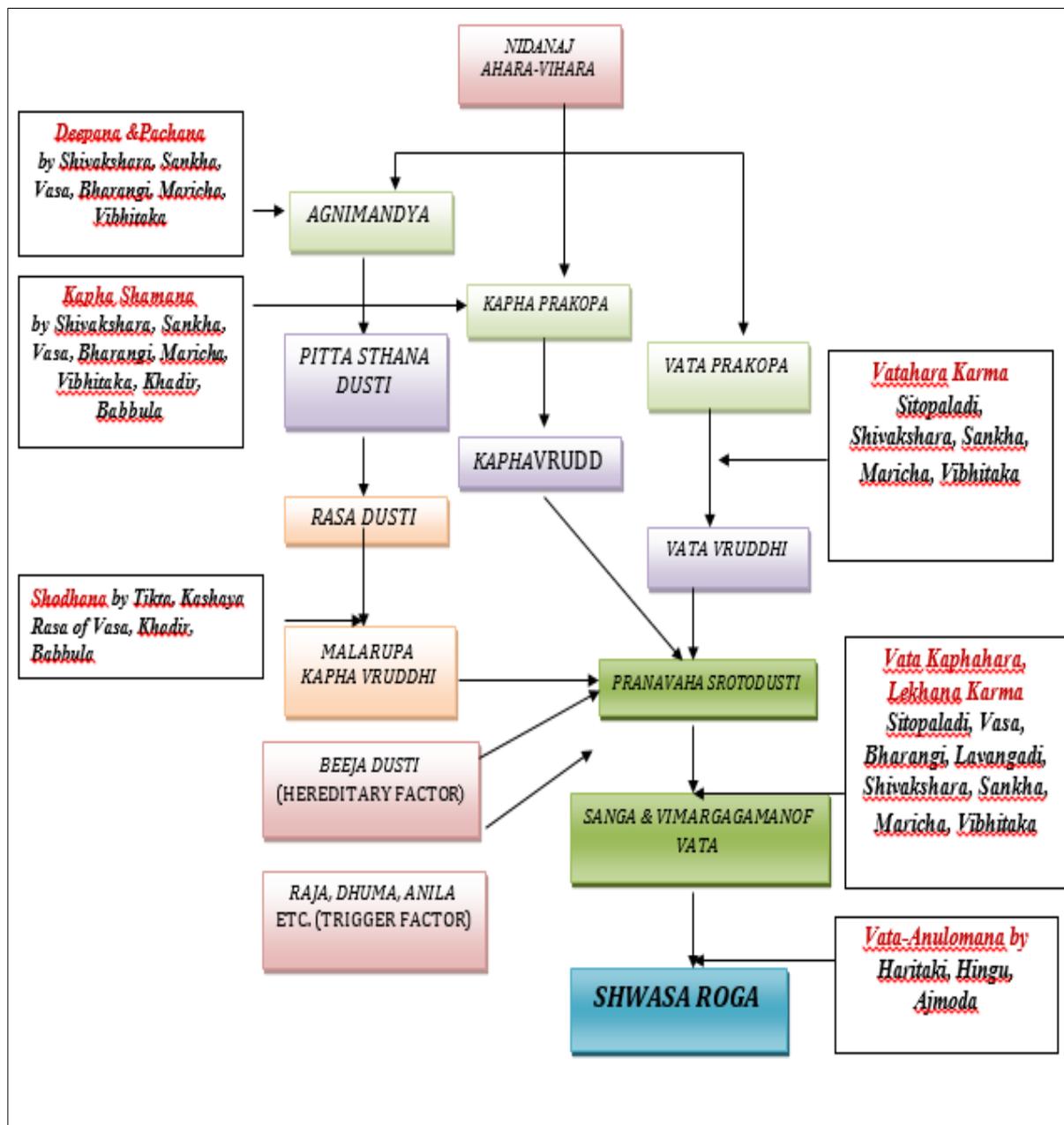


Figure 1 Samprapti Vighatana of Shwasa Roga

• On haematological values, maximum % change was observed in ESR value (39.01%), Lymphocyte count (25.79%) and Eosinophills count (16.21%) as shown in Table No. 4.

• On Spirometric parameters, FVC (L) was changed by 28.49%, FEV1 by 12.64%, SVC (L) by 9.29% and MVV (L) by 3.42% as shown in Table No. 6.



- Non-significant relief was observed in weight reduction, BMI, and Waist/Hip ratio as shown in Table No. 7.

- 39.64% relief was observed in ACQ value which shows Highly Significant result as shown in Table No. 9.

Table No. 10 shows the overall effect of the therapy i.e. 50% patients showed No

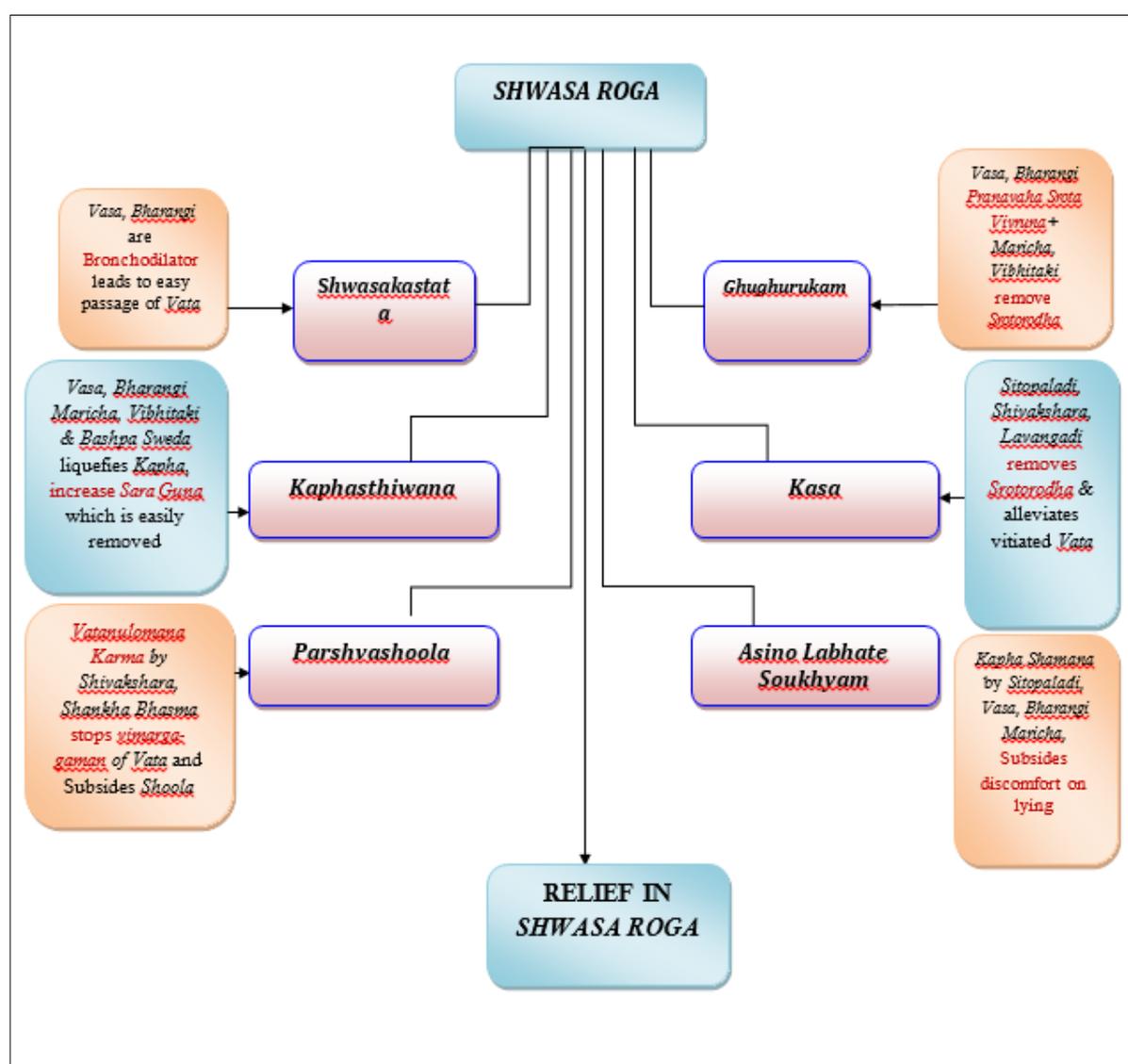


Figure 2 PROBABLE MODE OF ACTION OF AYURVEDIC REGIMEN

improvement while 30% patients showed moderate improvement.

CONCLUSION

- The word *Tamaka Shwasa* is originating from the word *Tam*, the meaning of “*Tam*”

is oppression of chest which is similar to broncho-constriction feel of patients of Asthma due to sensations arising from resistive airways because of mechanical interference in ventilation. There are also



many similarities between symptoms and etiopathogenesis of *Tamaka Shwasa* and Bronchial Asthma.

- *Tamaka Shwasa* is the disease originating from *Pittasthana* and caused due to the vitiation of *Kapha* and *Vata*, *Kapha* accumulated in the *Pranavaha Strotasa* causes obstruction to the free movement of *Vata* and in turn causes *Shwasa* and manifested through *Pranavaha Strotasa*.
- Asthma is defined as a chronic inflammatory disease of airway that is characterized by increased responsiveness of the trachea-bronchial tree to a multiplicity of stimuli. It is manifested by a widespread narrowing of the air passages, which may be relieved spontaneously or as a result of therapy and clinically by paroxysms of Dyspnoea, Cough and wheezing.
- Mainly *Aharaja Nidana* is responsible for *Annavaha Strotodushti* and *Viharaja Nidana* is more related with *Pranavaha Strotodushti* in *Tamaka Shwasa*.
- There may be primary involvement of *Pranavaha Strotasa* especially in middle age group due to over exposure to allergens, The primary involvement of *Annavaha Strotasa* and *Pittasthana* as mentioned in *Ayurveda* is also observed in present study, as many patients were suffering with

different digestive disturbances, Constipation, *Mandagni* etc. which indicates the involvement of *Pittasthana*. Many researches also support the role of gut in immunity and its role in development of allergic condition. The researches regarding use of antibiotics and later development of Asthma also support the involvement of gut in Asthma.

- The other important factor for aggravation of the disease is seasonal epidemics due to increased aero allergens.
- The obstructive constriction of airways in the pathogenesis of Bronchial Asthma may be taken as *Kapha* dominant *Tamaka Shwasa*, whereas parasympathetic Constrictor reflexes causing Asthma may be taken as *Vata* dominant *Samprapti*.



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