

A CLINICAL STUDY OF *SHWASKUTHAR RASA* IN THE MANAGEMENT OF *TAMAKA SHWASA* W.S.R. TO BRONCHIAL ASTHMA

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ABSTRACT

Shwasa Roga is classified into five on the basis of severity. *Kshudra Shwasa* can be seen as a symptom in many diseases and is self limiting. *Chhinna*, *Urdhwa* and *Maha Shwasa* are the terminal stages and have extremely bad prognosis. Hence in all practical senses, *Tamaka Shwasa* is the main among these five types in management point of view. *Tamaka Shwasa* is a disease in which *Vayu* is vitiated and blocked by *Kapha*, moves upward instead of its normal flow. Bronchial asthma is a chronic inflammatory disorder of the airways in which the chronic inflammation causes an associated increase in airway hyperresponsiveness that leads to recurrent episodes of

asthmatic exacerbation. Among all modalities of treatment, polyherbal remedies are said to be well-accepted, safe and effective in asthma. **Aim:** To evaluate the effect of *Shwaskuthar Rasa* in the management of *Tamaka Shwasa* w.s.r. to bronchial asthma. **Materials and Methods:** Total 20 patients of *Tamaka Shwasa* between the age group of 18 to 60 years fulfilling the inclusion criteria were selected. *Shwasakuthara Rasa* in the dose of 250 mg with honey were administered three times a day after food for the period of 6 weeks. **Result and Conclusion:** *Shwasakuthara Rasa* showed 58.80% good result on signs and symptoms of *Tamaka Shwasa* which have been selected as assessment criteria and better effective in *Kapha Pradhana Samprapti*.

KEYWORDS: *Tamaka Shwasa*, Bronchial asthma, *Shwasakuthara Rasa*, Ayurveda.

INTRODUCTION

Herbs were used in the combination with *rasa*, the efficacy spectrum of herbs increases to a great extent enabling them to treat complicated diseases. *Shwas Kuthar Rasa* is a prestigious and potential herbo-mineral formulation of Ayurveda tested on 100 years of time scale for the treatment of asthma, allergy, and other respiratory problems. However, there is a lack of scientific work on *Shwas Kuthar rasa*.^[1]

The Global prevalence of asthma is approximately 4.5 % and 334 million people in the world are suffering from asthma. About 250,000 to 345,000 deaths annually occur due to asthma world-wide.^[2] Bronchial asthma is one of the leading causes of hospitalization and cause of frequent absenteeism among children and adolescents. National Family Health Survey-3 showed that the prevalence of bronchial asthma among school children of the age group 15-19 years in India.^[1] Taking unwholesome diet, concentrated drinks, smoking, cold drinks, allergens, chemical irritants, congested work places, respiratory infections, etc. are the major risk factors of the provocation of the diseases of respiratory tract and same for Bronchial asthma too.^[3] Ayurveda, the great indigenous system of medicine of India is a complete healthcare system and deals with the preventive and curative aspect of many diseases. *Ayurveda* refers to bronchial asthma as *Tamaka Swasa* and contributes several modalities of treatment for the same. *Shwasa Kuthar Rasa* is herbomineral Ayurvedic formulation useful in treating respiratory disorders. The formulation of this medicine contains *Parad, Gandhak, Vatsanabh, Tankan, Manashila, Maricha, Pippali, Sunthi* with *Bhavana Dravya Tambula patra Swarasa*.

Reason for the therapeutic efficacy of herbal combinations *Shwasa Kuthar Rasa* in asthma is due to multiple blocking and homeostasis of very complex and interdependent cellular and mediator networks supporting and involved in the inflammatory process of asthma, whereas modern synthetic drug therapy aimed at blocking one mediator alone would be unlikely to have any significant effect on the disease process. None of the available treatments are found to be effective to provide a complete cure of this disease.^[2]

All the drugs of *Shwashkuthar Rasa* have *Ushana Virya* (hot potency) and *Vata kapha hara* properties, which is the main *Dosha* in asthma. *Shwas kuthar rasa* a reputed preparation of Ayurveda valued for the treatment of asthma and allergy is a herbomineral formulation

contains herbs, purified *Aconitum ferox* (Aconite), *Piper longum* (long pepper), *Piper nigrum* (black pepper), and *Zingiber officinale* (ginger), and minerals that is, *parada* (mercury), *gandhaka* (sulfur), *tankana* (borax), and *manahsila* (arsenic disulfide) in purified form as per Ayurvedic text.^[4] *Aconitum ferox* inhibited the biosynthesis of leukotriene B4 in bovine polymorphonuclear leukocytes.^[5] *Piper longum* have a traditional claims of Ayurveda for antiallergic and antiasthmatic activity.^[6] *Piper nigrum* suppressed and reduced the infiltration of eosinophils, hyper responsiveness, and inflammation in mice.^[7] *Zingiber officinale* are capable of inhibiting allergic reactions and is useful for the treatment and prevention of allergic diseases.^[8] Review of literature revealed that *Shwas Kuthar Rasa*, apart from treating asthma and allergy, is used for the cure of cough, laryngitis, tuberculosis, unconsciousness, mental disorders, comma, chest burn, and heart diseases. *Vata* and *Kapha* are the main *Doshas* which are involved in *Tamaka Shwasa Samprapti* and this formulation is having *Kaphavata shamaka* Karma due to *Katu*, *Tikshana* and *Ushna Virya* properties.

In this study, we propose to observe the effect of *Shwashkuthar Rasa* on bronchial asthma with the fixed subjective and objective parameters.

AIMS AND OBJECTIVE

To evaluate the effect of *Shwasakuthara Rasa* in the management of *Tamaka Shwasa* w.s.r. to Bronchial asthma.

MATERIALS AND METHODS

A total of 21 patients of between the age of 18 to 60 years fulfilling the diagnostic of *Tamaka Shwasa* were selected and registered in this study from the OPD and IPD of Kayachikitsa department, IPGT and RA, Jamnagar. The study was carried out after obtaining ethical clearance of Institutional Ethics Committee (PGT/7/-A/Ethics/2014-15/1538 dated 02-09-2014). It was also registered with Clinical Trial Registry of India (CTRI) vide CTRI/2016/06/007053 and prior to registration informed written consent of each patient was taken. For diagnosis, a detailed medical history was taken and physical examination was done in detail according to both modern and Ayurvedic clinical methods and was noted down in specially prepared proforma.

Inclusion criteria

- Patients having signs and symptoms of *Tamaka Shwasa* described in Ayurvedic texts and modern texts will be included.

- Age group : 16 – 60 years
- Chronicity less than 10 years
- Uncomplicated cases of *Tamaka Shwasa*

Exclusion criteria

- Patients of age less than 16 and above 60 years.
- The patient suffering from tuberculosis, Cardiac complains, Endocrine disorders like Diabetes mellitus, Hypo or Hyperthyroidism, etc
- Patients having complications like cor-pulmonale, emphysema, pneumonia, malignancy, etc and breathlessness due to severe anaemia, renal failure, etc

Trial drug details

Drug and posology

The details of the trial drug are as given below. Table no-1.

Swaskuthar Rasa in the dose of 250mg with honey was administered 3 times a day after food for a period of 6 weeks.

Pathyapathya was advised to all the patients as per classics.^[4] After completion of treatment, patients were asked to follow up for 2 weeks.

Swaskuthar Rasa were procured from the pharmacy of IPGT and RA, Gujarat Ayurved University, Jamnagar.

Criteria of assessment^[5]

The enrolled volunteers were assessed at baseline (day 0 visit) and then after the end of the trail, that is the 6 weeks of medication. Classical symptomatology of the disease *Tamaka Shwasa* and cardinal symptoms of Bronchial asthma were taken as subjective criteria of *Rogabala* for assessment. Laboratory investigations like CBC with Absolute Eosinophil count, PEFr were taken as objective criteria for assessment. Improvement in *Rogabala* along with *Deha, Agni & Chetasabala* was considered for assessment.

Data presentation

General data was subjected to suitable statistical analysis such as wilcoxon Signed Rank test for non parametric paired data, unpaired t-test for quantitative unpaired data. After preparing the master chart of all the required data in Microsoft excel work sheet, statistical calculations

were made with the help of Sigma stat 3.5 software and in stat 3 software. The results were interpreted as significant $p < 0.05$, highly significant $p < 0.01$, very highly Significant $p < 0.001$, insignificant $p > 0.05$. Considering the relief in major symptoms and improvement in the quantity and quality of semen, the subjects were divided into groups 0% - improvement as no change, $< 25\%$ - improvement as mild positive response, 26 -50% - improvement as moderate positive response, 51- 75% - improvement as marked positive response, 75% - 100%- improvement as excellent response to assess the total efficacy of each therapy.

OBSERVATIONS

A total of 21 patients of *Tamaka Shwasa* were registered in this trial, out of which 20 patients completed the course of the treatment. Maximum patients in this trial from age group of 41- 50 year coming from poorly socio-economically area 65%, having urban 75% lifestyle and poorly educated, they have dusty (80%) surround residence. Among them 60% have addiction of smoking tobacco, and 60% have family history of asthma. (Table no. 2).

As chief complaint *Shwasakastata* was observed in 100% patients, *Kasa* in 90%, *Kaphanishthivanam* was found in 40% patients, *Peenasa* was found in 75% patients, *Parshvashula* was observed in 45% patients. Maximum numbers of patients included in the trial 60% were suffering from Bronchial asthma for 1 to 5 years. Maximum numbers of patients (70%) were taking aerosol PEF ranged < 60 was observed in majority of the patients (60%) Results In all the symptoms related to *Shwasakastata*, trial drug showed a remarkably high percentage improvement. Parameters like frequency of *Shwasa Vega*, duration of attack, *Pranavaha Srotodusti Lakshanas* and use of emergency medicine were reduced by 57.50%, 50%, 75% and 68, 50% respectively. *Kasa and Peenasa* was reduced by 25% and 45% respectively (Table no. 2).

Decrease in AEC was statistically significant. ($P < 0.01$). There was an increase in the PEF by 32.50% increase in AEC by 16.77% and There was statistically significant changes were (Table -3).

Effect on other Hematocrits showed that ESR (14.27% ↓) and TLC (1.07%↓) showed very good result on which was statistically significant, may be better in inflammatory condition. (Table no-4).

Effect on other Biochemical Values showed that statistically significant changes were observed in alkaline phosphatase which was reduced by S. Creatinine and S. Uric acid was also reduced percentage wise but no statistically significant.

Mode of Action of *Shwasakuthar Rasa*

Shwasakuthara Rasa^[9] acts on *Tamaka Shwasa* due to the action of its ingredients which directly act on *Pranavaha Srotas*.^[10] Its most of the ingredients are *Vata-Kaphashamaka* and mainly *Kapha-Nihsharaka* with *Laghu, Ruksha* and *Ushna Guna*, means it mainly acts on *Agnimandhya* and breaks the *Kapha Dosha Pradhan Samprapti*. It is contraindicated in pleural effusion, cardiac involvement and *Paittik Kasa*.^[11] Its role is limited as it increases the hotness in many patients which was also observed in this study.

Shwasakuthara Rasa acts through all its ingredients. Black pepper is a major constituent, it stimulate mucous membrane of the respiratory system. It helps in mucous drainage and imparts strength to alveolar mucous membrane. *Aconitum ferox* is antispasmodic in nature, hot and stimulant for mucous membrane. *Shunthi* and *Pippali* release the sputum. Real gar absorbs excessive secretion from the alveoli. Purified Borax is antispasmodic and removes *Kapha*. For better *Rasayana* and relieving effect, treatment for longer duration is required as the disease is chronic and incurable in nature. Due to financial limit in this study it could not be planned.

Table No. 1: *Shwaskuthar Rasa*^[12] Details of ingredients.

Sr. No	Name	Botanical / English Name	Part used	Quantity (%)
1	<i>Shuddha Parada</i>	Mercury	Processed Liquid Metal	6.25
2	<i>Suddh Gandhaka</i>	Sulphur	Processed Mineral	6.25
3	<i>Shuddha Vatsanabha</i>	<i>Aconitum chasmanthum</i>	Root	6.25
4	<i>Suddha Tankana</i>	Borax	Processed Mineral	6.25
5	<i>Manahsila</i>	Realgar	Processed Mineral	6.25
6	<i>Marich</i>	<i>Piper nigrum</i>	Fruit Epicarp	56.25
7	<i>Shunthi</i>	<i>Zingiber officinale</i>	Rhizome	6.25
8	<i>Pippali</i>	<i>Piper longum</i>	Fruit Epicarp	6.25

Table No. 2: General observation in this trial.

Content	Detail	No of Patients	Percentage
Age	16-30	2	10%
	31-40	4	20%
	41-50	7	35%
	51-60	6	30%
Sex	Male	11	55%
	Female	9	45%
Education	Uneducated	4	20%
	Primary - Higher Secondary	12	60%
	Graduate - Post Graduate	4	20%
Occupation	House-wife	5	25%
	Service class	2	10%
	Labourer	6	30%
	Business	7	35%
Surrounding	With dust	16	80%
	No dust	4	20%
Habitat	Urban	15	75%
	Rural	5	30%
Desh	Vyadhita in brith place	10	50%
	Vyadhita in samvrith place	3	15%
	Vyadhita after coming Jamnagar	7	14%
Dominancy	Madhura	8	40%
	Amla	4	20%
	Lavana	2	10%
	Katu	2	10%
	All	4	20%
Diet Habit	At regular time	8	40%
	At irregular time	12	60%
Working place	Sitting	12	60%
	Physical	6	30%
	House wife	2	10%
Addiction	Smoking	12	60%
	Tobacco chewing	3	15%
	No addiction	5	25%
Day Sleep	Present	17	85%
	Absent	3	15%
Family History	Present	12	60%
	Absent	8	40%
Vayayma Shakti	Pravara	2	10%
	Madhyama	6	30%
	Avara	12	60%
Ahara	Guru	18	90%
	Amapradosha	11	55%
	Vistambhi	14	70%
	Sheeta	14	70%
	Abhishyandi	18	90%
Vihara	Raja	20	40%

	<i>Dhuma</i>	12	60%
	<i>Pragvata</i>	10	50%
	<i>Chinta</i>	12	60%
Precipiating	<i>Sheeta</i>	14	70%
	<i>Varsha</i>	16	80%
	<i>Ushna</i>	2	
Chief complains	<i>Shwaskastata</i>	20	100%
	<i>Kasa</i>	18	90%
	<i>Kaphanisthivan</i>	8	40%
	<i>Peenasa</i>	15	75%
	<i>Parshvashula</i>	9	45%
Associate complain	<i>Kasa</i>	20	10%
	<i>Kasateh Shleshmanirharana</i>	11	55%
	<i>Krachhen Bhashitam</i>	9	45%
	<i>Lalate Sweda</i>	12	60%
	<i>Vishushkasyta</i>	14	75%
	<i>Moha</i>	2	10%

Table No. 3: Effect of *Shwaskuthar Rasa* on Spirometry Readings of 20 Patients.

Parameter	Mean Score		% of Change	S.D.	S.E.	t	P
	BT	AT					
FVC	84.35	87.8	11.47	31.11	6.96	-0.496	0.626
FEV1	56.95	72.1	36.69	27.43	6.13	-2.47	0.023
FEV1%	69.45	81	23.14	23.51	5.26	-2.197	0.041
PEF	47	56.7	42.05	26.07	5.83	-1.664	0.113

Spirometry readings: In the *Shwaskuthar Rasa* Group there were statistically significant changes were observed in FEV1 (36.69%) and FEV1% (23.14%).

Table No. 4: Effect of *Swashkuthar Rasa* on The Haematocrit Values of 20 Patients of *Tamaka Shwasa*.

Parameter	Mean Score		% of Change	S.D.	S.E.	t	P
	BT	AT					
Hb	13.15	13.25	0.69 ↑	0.69	0.16	-0.65	0.526
TLC	7595	7245	1.07 ↓	2085.41	466.31	0.75	0.462
N	56.40	57.10	3.33 ↑	9.11	2.04	-0.34	0.735
L	34.90	33.00	1.13 ↓	8.01	1.79	1.06	0.302
E	6.20	6.30	21.17 ↑	3.77	0.84	-0.119	0.907
M	2.70	3.00	15.42 ↑	0.87	0.19	-1.55	0.137
PCV	38.87	39.49	1.51 ↑	2.11	0.47	-1.32	0.201
RBC	4.87	4.96	2.11 ↑	0.40	0.09	-0.99	0.335
Platelets	310.75	326.80	6.59 ↑	54.41	12.17	-1.32	0.203
ESR	25.6	17.1	14.27 ↓	16.77	3.75	2.27	0.035

Table No. 5: Effect of Swashkuthar Rasa on The Biochemical Values of 20 Patients of T.S.

Parameter	Mean Score		% of Change	S.D.	S.E.	t	P
	BT	AT					
FBS	84.7	81.15	3.71 ↓	12.65	2.83	1.26	0.225
S. cholesterol	143	152.45	7.34 ↑	25.20	5.63	-1.68	0.110
S. triglyceride	98.15	101.5	9.47 ↑	25.44	5.69	-0.59	0.563
Blood urea	27.05	25.9	0.31 ↓	6.86	1.54	0.75	0.463
S. creatinine	0.94	0.93	0.02 ↓	0.13	0.03	0.18	0.863
Total protein	6.57	6.46	1.72 ↓	0.31	0.07	1.66	0.113
Alk. Phosph.	55.7	55.95	4.66 ↑	14.37	3.21	-0.08	0.939

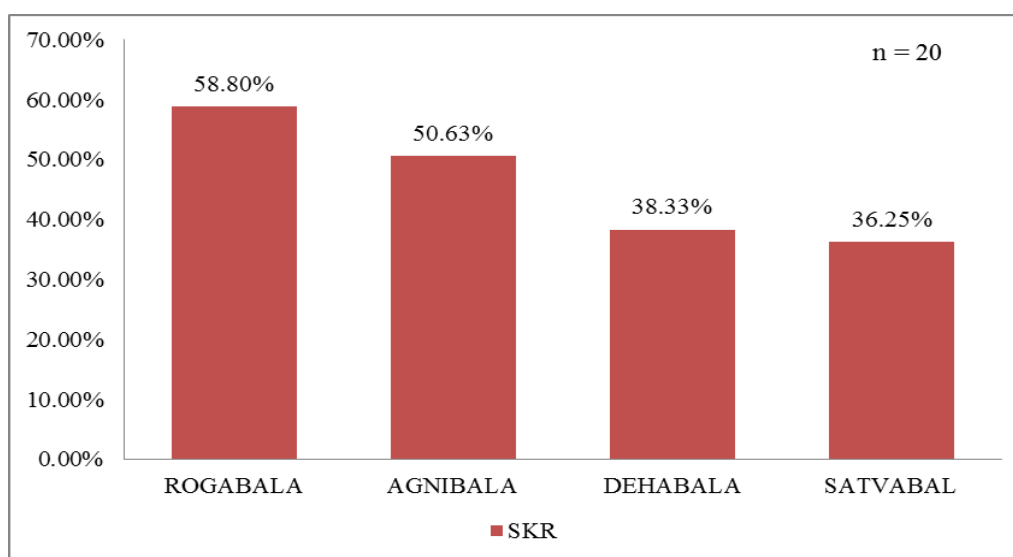


Chart No. 1: Overall Effect of the Therapy.

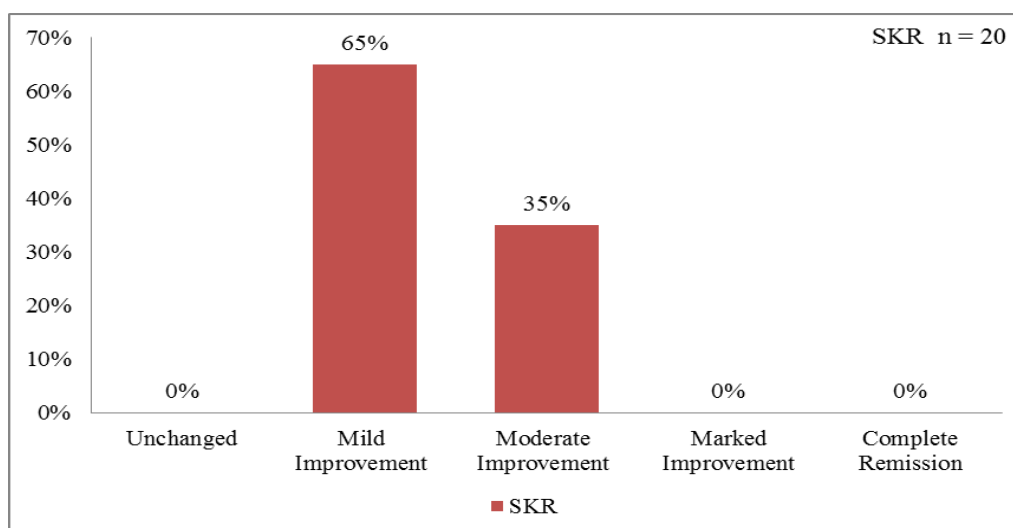


Chart 2: Overall effect of therapy.

CONCLUSION

Shwashkuthar Rasa showed percentage wise good results in *Tamaka Shwasa* and it can be assumed that *Shwashkuthar Rasa* had in *Kapha Pradhana Samprapti*. As *Tamaka Shwasa* is a *Yapya Vyadhi* and it required prolonged medication.

REFERENCES

1. Janadri S, Mishra AP, Kumar R, Shanmukh I, Rao N, Kharya M. Preparation and characterization of mercury-based traditional herbomineral formulation: *Shwas kuthar rasa*. *Journal of Ayurveda and Integrative Medicine.*, 2015; 6(4): 268-272. doi:10.4103/0975-9476.172383.
2. The Global Asthma Report 2014. www.globalasthmareport.org accessed date 9/6/2019 9.45pm.
3. Harrison's principles of Internal Medicine 16th edition published by Tata Mc. Graw Ltd, New Delhi.
4. Mishra S. 1st ed. Varanasi: Chaukhamba Surbharati Prakashan; 2005. Bhaishajya Ratnavali.
5. Kumar S, Ziweis K, Wiegrebe W, Müller K. Medicinal plants from Nepal: Evaluation as inhibitors of leukotriene biosynthesis. *J Ethnopharmacol*, 2000; 70: 191–5.
6. Banga S, Garg L, Atal C. Effects of piperazine and crude extracts of *Piper longum* on the ciliary movements. *Indian J Pharm*, 1964; 26: 139.
7. Kim SH, Lee YC. Piperine inhibits eosinophil infiltration and airway hyperresponsiveness by suppressing T cell activity and Th2 cytokine production in the ovalbumin-induced asthma model. *J Pharm Pharmacol.*, 2009; 61: 353–9.
8. Chen BH, Wu PY, Chen KM, Fu TF, Wang HM, Chen CY. Antiallergic potential on RBL-2H3 cells of some phenolic constituents of *Zingiber officinale* (ginger) *J Nat Prod.*, 2009; 72: 950–3.
9. K.G.Modh et al (1986).
10. K.G.Modh (1986) – *Ashta samskarita evam samanya Shodhita Parada se nimit Shwasa kuthara Rasa ka Tamaka Shwasa par tulanatmak addhyana*.
11. K.G.Modh (1986) – *Ashta samskarita evam samanya Shodhita Parada se nimit Shwasa kuthara Rasa ka Tamaka Shwasa par tulanatmak addhyana*
12. Ayurvedic formulary of india, Part – 1, 2nd edition, pp 277.