

ROLE OF KRISNADI CHURNA IN THE MANAGEMENT OF TAMAKA SWAS (BRONCHIAL ASTHMA)

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ABSTRACT

Since ancient times, humans are constantly threatened by diseases of respiratory disorders and Bronchial Asthma is one of them¹. Ayurveda referred to Bronchial Asthma as “*Tamaka Swas*” which is a well-documented disease comparable to the parameters of etiopathology, risk factors, clinical manifestations and treatment principles. This study was conducted to evaluate the role of Krisnadi Churna in the management of Tamaka Swas (Bronchial Asthma). Ethical clearance was obtained from the Ethical Committee of Govt Ayurvedic College & Hospital, Guwahati and prior consent was taken from the patients before conducting the study. The patients were given Krisnadi Churna for a period of 2 months in the Dept. of Kayachikitsa, Govt. Ayurvedic College & Hospital, Guwahati. There was a marked improvement in the symptoms as well as the Sr. IgE and AEC of the patients at the end of the treatment period.

Keywords: TamakaSwas, Bronchial Asthma, Krisnadi Churna, respiratory disease

INTRODUCTION

Respiration has been recognized as the symbol of life. It is the evident feature of life that is carried out by Prana vayu. Swasa word indicates both physiological

and pathological state of respiration¹. Ayurveda says derangement in the respiratory system (Pranavahasrotas) causes respiratory disorders. Tamaka swasa is one

among them and very well explained by Acharyas in Ayurvedic Classics. It is predominantly a vata-kaphaja vyadhi originating from Pittasthana and manifested through Pranavaha srotas². It is characterized by symptoms of respiratory distress like breathing difficulty, cough, wheezing sound, expectoration, perspiration on forehead³, it gets aggravated on lying position and by the exposure to wind, cold things and intake of vata-Kapha aggravating factors⁴. Tamak swasa which is one type among 5 types of swasa roga is having its own etiopathology and management. However, it has a correlation with Bronchial Asthma as the signs and symptoms of Tamak swasa viz. breathing difficulty, cough and chest tightness are like that of Bronchial asthma. The GLOBAL ASTHMA REPORT 2018 presented that around 1000 people globally die every day owing to Asthma and the disease affects around 339 million individuals every year⁵. The overall burden of asthma in India is estimated at more than 15 million patients⁶. In today's scenario, we have many anti-asthmatic drugs in the conventional system of medicine that can effectively control the various paroxysmal attacks of asthma temporarily but fail to control many adverse effects of such drugs. As such, Ayurveda offers a more effective palliative treatment for Bronchial Asthma in the long run with fewer side effects. Keeping this in view, an attempt was made for tamak swasa to prepare a polyherbal compound viz. "*Krisnadi Churna*"^{(7) (8)} and to evaluate its efficacy and safety in Tamaka Swasa

AIM & OBJECTIVES

1. To evaluate the efficacy of *Krisnadi Churna* in the management of *Tamak swasa* (Bronchial Asthma)
2. To find out the adverse effect of *Krisnadi Churna* (if any).

MATERIALS AND METHODS

SOURCE OF DATA

Patients of either sex attending the OPD and IPD of the department of Kaya Chikitsa, Govt. Ayurvedic College and Hospital, Guwahati who are fulfilling the criteria of Tamak Swasa (bronchial asthma) were selected for the study irrespective of sex, religion, occupation, and socio-economic status.

STUDY DESIGN

A randomized open clinical trial was conducted with pre-test and post-test on 30 patients satisfying the diagnostic criteria of Bronchial Asthma.

DIAGNOSTIC CRITERIA

For the selection of patients, the diagnosis was based upon Subjective criteria and Objective criteria as follows-

I. Subjective criteria:

- ✓ Dyspnea
- ✓ Wheezing
- ✓ Cough
- ✓ Tightness of chest
- ✓ Rhinitis
- ✓ Difficulty in expectoration

II. Objective Criteria:

As objective criteria, the following investigation will be adopted.

- ✓ Blood: - ESR, Absolute Eosinophil count.
- ✓ Serum Ig E level.
- ✓ Peak Expiratory Flow Rate (PEFR), Breath Holding Time (BHT)
- ✓ X-ray chest (to exclude from tuberculosis)
- ✓ ECG: - To exclude the patients with cardiac disease.

III. Inclusion criteria:

- Patients suffering from the above diagnostic criteria.
- Patients aged between 10–70 years irrespective of sex
- Chronicity of the disease should be less than 5 years
- Uncomplicated cases of Tamak swasa.

IV. Exclusion criteria:

1. Patients age less than 10 years
2. Patients age more than 70 years
3. Chronicity less than 5 years.
4. Patients suffering from major disorders like
 - Cardiac disease
 - Pulmonary tuberculosis
 - Tropical pulmonary eosinophilia
 - Massive pulmonary embolism
 - Metabolic acidosis
 - Renal pathology

- Left ventricular failure
- Complicated bronchial asthma
- Malignancy
- Pneumonia
- Surgical intervention
- Pregnancy
- Immunocompromised patients.

TREATMENT INTERVENTION

- ❑ Sample size – 30
- ❑ Drug – Krisnadi Churna
- ❑ Dose – 2 gm twice daily
- ❑ Anupan – Madhu/lukewarm water
- ❑ Duration of treatment – 2 months
- ❑ Follow up – at 30days interval

ASSESSMENT CRITERIA OF THE TREATMENT

The assessment of the results of the patient will be done adopting the following 2 criteria

❑ **SUBJECTIVE ASSESSMENT:** The subjective assessment was done keeping in view of clinical and symptomatic improvement of the subject observing in different follow ups at an interval of 30 days.

❑ **OBJECTIVE ASSESSMENT:** Objective assessment of the response of the drugs was done from a modern point of view based on pulmonary function test, pathological and radiological investigations before and after treatment at 30th & 60th day respectively

CRITERIA FOR WITHDRAWAL

The patient was withdrawn from the study when any serious complication developed which requires urgent treatment during the study.

CONTENTS OF THE TRIAL DRUG⁹

SANSKRIT NAME	BOTANICAL NAME	PART USED	AMOUNT
Pippali	Piper longum Linn	Fruit	Equal quantity
Amlaki	Emblca officinalis Gaertn	Fruit	Equal quantity
Sunthi	Zingiber officinale	Rhizome	Equal quantity

PREPARATION OF THE TRIAL DRUG

After raw materials have been properly dried, by taking both in equal quantity they were made into a fine powder(churna) in GACH Rasashala, and packaging was done in airtight containers. Each container contained 250gm

DRUG FORM: powder

STATISTICAL ANALYSIS

- observations before and after treatment were recorded meticulously.
- The data were presented in the form of frequency distribution.

- statistical analysis was done by using appropriate Statistical methods of mean, deviation, standard error, etc.
- Paired t-test was adopted for significance assessment and a conclusion was drawn.

RESULTS

Total 38 patients were enrolled for the present study, but 8 patients were dropped out at various stages during the study, finally leaving 30 patients.

Table1: Effect of Treatment on Dyspnea before and after 60 days in 30 patients

Mean				SD (±)		SED (±)	t value	p
BT	FUC-1	AT	BT-AT	BT	AT			
2.53	1.59	0.98	1.55	0.56	0.61	0.157	15.096	<0.001

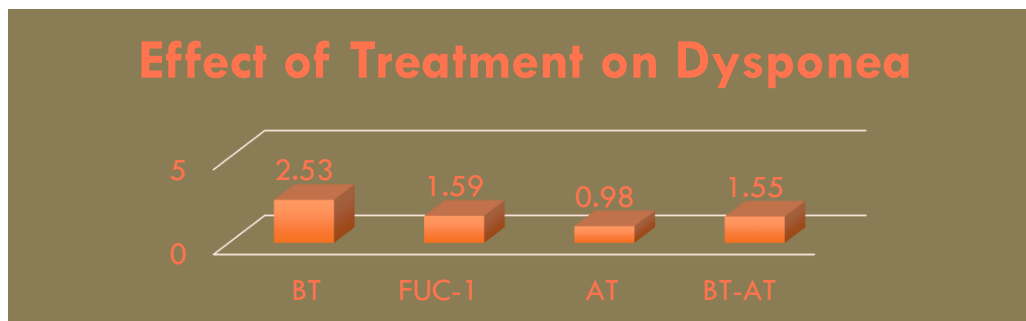


Table 2: Effect of Treatment on Wheezing before and after 60 days in 30 patients.

Mean				SD (±)		SED (±)	t value	p
BT	FUC-1	AT	BT-AT	BT	AT			
2.50	2.13	1.29	1.21	0.66	0.69	0.120	10.064	<0.001

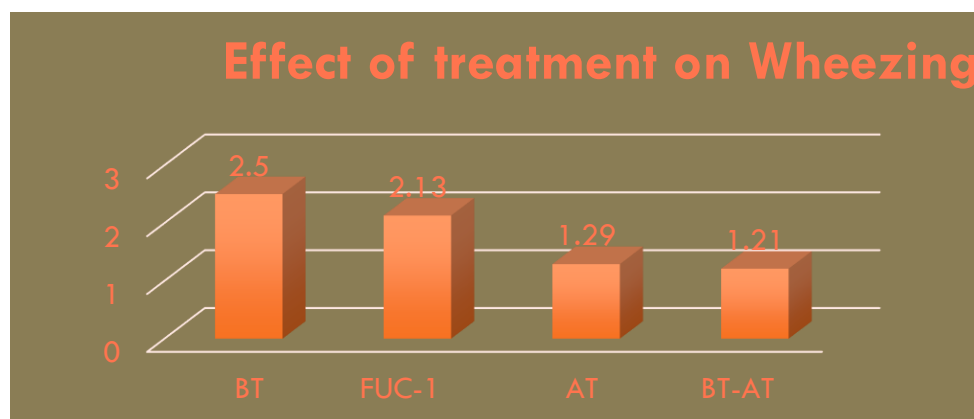


Table 3: Effect of Treatment on Cough before and after 60 days in 30 patients.

Mean				SD (±)		SED (±)	t value	p
BT	FUC-1	AT	BT-AT	BT	AT			
1.97	1.48	0.43	1.53	0.76	0.63	0.124	12.324	<0.001

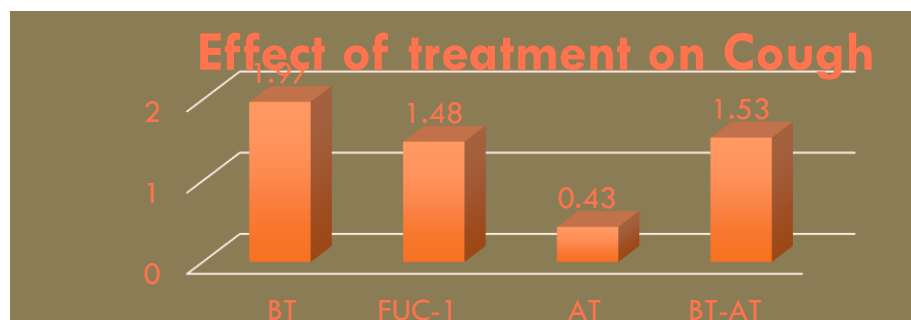


Table 4: Effect of Treatment on Peak Expiratory Flow Rate (PEFR) before and after 60 days in 30 patients.

Mean				SD (±)		SED (±)	t value	p
BT	FUC-1	AT	BT-AT	BT	AT			
132.67	145.87	203.00	65.33	58.85	51.54	12.137	3.795	<0.001

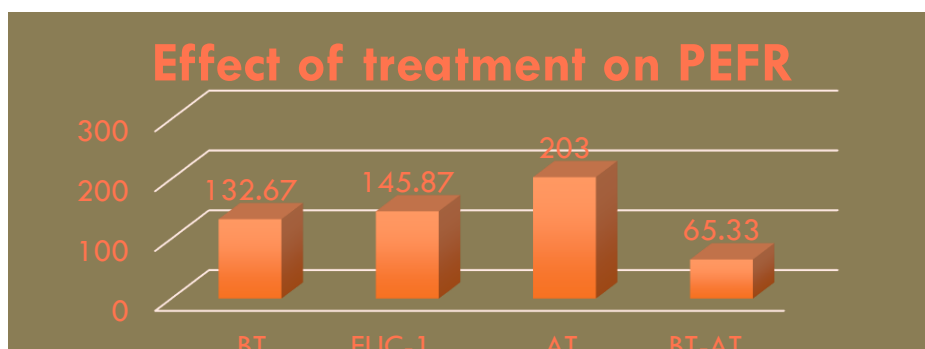


Table 5: Effect of Treatment on Sr. IgE before and after 60 days in 30 patients.

Mean			SD (±)		SED (±)	t value	p
BT	AT	BT_AT	BT	AT			
550.63	368.37	182.26	413.85	235.58	39.081	4.056	<0.001

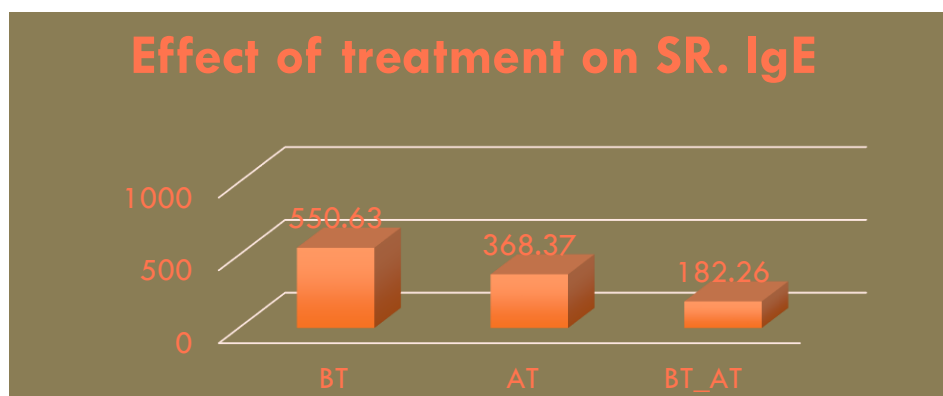
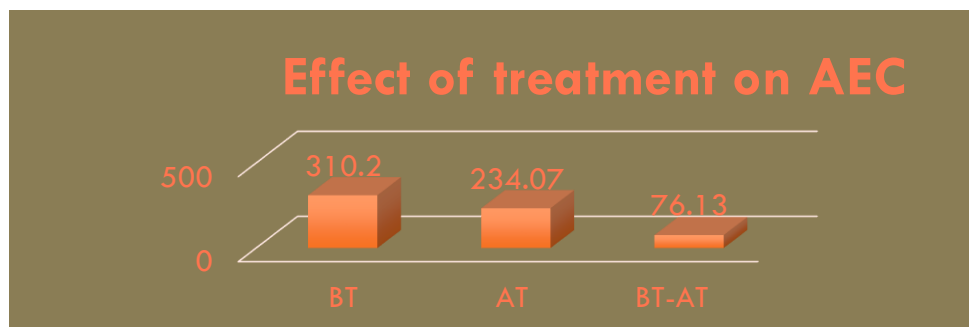


Table 6: Effect of Treatment on Absolute Eosinophil Count before and after 60 days in 30 patients.

Mean			SD (±)		SED (±)	t value	p
BT	AT	BT-AT	BT	AT			
310.20	234.07	76.13	207.94	107.46	21.156	3.603	<0.001



DISCUSSION

On the assessment of results after the 60th day of treatment in all 30 patients, the statistical analysis shows

that p values of all criteria are less than 0.001 and hence the result is highly significant. The compound form of *Krisnadi Churna* showed a very encouraging

response in patients with bronchial Asthma. Most of the cases responded to *Krisnadi Churna* treatment with a significant reduction in the severity of signs and symptoms. *Krisnadi Churna* is a combination of three drugs viz. *Pipalli*, *Sunthi* and *Amlaki* whose properties balance each other and enhance the *Vata-Kapha Hara* properties seen in all of them. Various research works have also proved the anti-inflammatory¹⁰, anti-asthmatic¹¹, bronchodilator, anti-allergic, immunomodulatory and antioxidant¹² properties of these drugs. Taking the *Vata-Kapha Samaka* and the *Tridosahara* actions of *Pippali-Sunthi* and *Amlaki* respectively, it can be said that the trial drug possesses antagonistic *Gunas* of *Kapha Dosh* thereby alleviating *Kapha*. Once *Kapha* is alleviated, the *Avarana* of *Vayu* gets removed and hence *Vata* can travel to its own path without any obstruction. Also, the antagonistic properties of *Vata Dosh* alleviate the *Vata Dosh* causing reduction of its *Atipravitti* and hence leading to relief of the symptoms like *Swas Krucchata*, *Kasa* and *Ghurghuraka*.

CONCLUSION

Hence it can be concluded that the trial drug, *Krisnadi Churna*, is an ideal and safe preparation in the management of Bronchial asthma. As the present study was conducted with limited time and on a limited number of patients, the same study can be conducted by taking a larger sample for a longer duration. Furthermore, during the entire course of a clinical study, no adverse or untoward effect was observed in any of the patients.

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