

CLINICAL EVALUATION OF PARNASPANCHAK KWATH IN THE MANAGEMENT OF BRONCHIAL ASTHMA

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ABSTRACT

The prevalence of Bronchial asthma is increasing rapidly in current era due to rapid industrialization, urbanization, deforestation and sedentary life style. Numbers of drugs are available in modern medicine to treat the disease in its symptomatically active state but still are unable to cure the Asthma. Moreover, they have adverse effects like tremors, gastritis, peptic ulcer, headache, dizziness etc... And also they cause hyper responsiveness of Airway.¹ Hence an Ayurvedic preparation named Parnaspanchak Kwath mentioned by Chakradatta was decided to undertake for clinical trial. 60 patients having classical signs and symptoms of Bronchial Asthma, irrespective of sex were randomly selected and open non comparative clinical trial was conducted. The formulation was in decoction form which was administered for 3 months in dose 50 ml thrice a day after food. Spirometry was done before and after the clinical trial. Subjective assessment was done at the end of every month for 3 months. Paired t test was used for statistical analysis. After 3 months i.e. after completion of study signs and symptoms were controlled significantly with the formulation. And also there were significant changes in Spirometry findings. Drugs contained in the formulation are easily available and cost effective. No side effects were seen during the study. Thus, this drug is proved to be a cure for Asthma.

Keywords: Bronchial asthma, Decoction, Parnaspanchak Kwath, Spirometry

INTRODUCTION

Asthma is a syndrome characterized by air-flow obstruction that varies markedly, both spontaneously and with treatment. Asthmatics harbor a special type of inflammation in the airways that makes them more responsive than non-asthmatics to a wide range of triggers, leading to excessive narrowing with consequent reduced airflow and symptomatic wheezing and dyspnea. Narrowing of the airways is usually reversible, but in some patients with chronic asthma there may be an element of irreversible airflow obstruction. The increasing global prevalence of asthma, the large burden it now imposes on patients, and the high health care costs have

led to extensive research into its mechanisms and treatment.¹

Asthma is one of the most common chronic diseases globally and currently affects approximately 300 million people worldwide. The prevalence of asthma has risen in affluent countries over the last 30 years but now appears to have stabilized, with approximately 10–12% of adults and 15% of children affected by the disease. In developing countries where the prevalence of asthma had been much lower, there is a rising prevalence, which is associated with increased urbanization. The prevalence of atopy and other allergic diseases has also increased over the same time, suggesting

that the reasons for the increase are likely to be systemic rather than confined to the lungs.¹

Bronchial asthma can be co-related with *Ta-makshwasa* disease described by ancient Ayurvedic acharyas. *Shwasa* is said to be Saddy Pranahar disease. There are many Ayurvedic formulations described in ethics. Among which *Parnaspanchak Kwath* is

chosen for trial. Its contents *Pippali, Bharangi, Kantakari* etc... are proven anti-asthmatics. The use of *Parnaspanchak Kwath* in Asthma has not been validated by controlled clinical trial and mechanism of action is not clearly put forward and documented yet. So the study clinical evaluation of *Parnaspanchak Kwath* in the management of Bronchial Asthma has been undertaken.

MATERIALS AND METHODS

Plan of study

S No	Symptom	Grade 0	Grade 1	Grade 2	Grade 3
1	Shwas VegaTivrata (severity of breathlessness)	Breathlessness only on strenuous exercise	Breathlessness when hurrying or walking on the level	Stops for breath after walking 100m on the level	Housebound by breathlessness/ Orthopnoea/ PND
2	Shwas Vega Sankhya (episodes of dyspnoea)	No episodes	1-2 episodes/week	3-5 episodes/week	More than 5 episodes
3	SakaphaKasa (cough with expectoration)	No cough with expectoration	Cough with Profuse expectoration.	Cough with scanty expectoration	Cough with scanty expectoration with dyspnoea
4	Shushkakasa (Dry Cough)	No cough at All	Sometimes without dyspnoea	Often with dyspnoea	Persistent with dyspnoea
5	Peenas (Rhinorrhoea)	No nasal congestion	Nasal congestion with nasal breathing	Nasal congestion with nasoral breathing	Nasal congestion oral breathing
6	Ura-Shool (Peripheral Neuritis)	No pain	Pain only on coughing and tolerable	Pain only on coughing and intolerable	Continous pain without cough & intolerable.
7	GhurghurakDhwani (Wheezing)	No sound	Low pitch sound during attack	High pitch sound during attack	Always making sound without attack
8	Shwas Sankhya (Respiratory Rate)	18-20/min	20-25/min	25-30/min	More than 30/min
9	TimirDarshan (Black out)	No blackouts	Blackout only during episode	Blackout without episode	Blackout throughout condition

10	Jwara (Fever)	No fever	Fever only before episode	Fever throughout episode	Fever without episode & consistent
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An open clinical trial was conducted, where 60 patients having classical signs and symptoms of Bronchial Asthma were chosen randomly. Patients were given treatment with specific duration with every 1 month follow up. Institutional Ethics Committee (IEC) approval was obtained and written consent was taken from the patients prior to the initiation of the study.

Selection of patients

Patients who reported to Outdoor Patient Department (OPD) and Indoor Patient Department (IPD) of YMT Ayurvedic Medical College & Hospital were carefully selected on the basis of Diagnostic, inclusion criteria, etc.

Diagnostic criteria

- Repeated episodes of breathlessness.
- 'Kapotkujan vat dhwani' on auscultation.
- Feeling of tightness in the chest.

Inclusion criteria

- Patients irrespective of sex, between 14 to 70 years of age.
- Known case of Bronchial Asthma with or without adjuvant therapy.
- Willing to sign the consent for study participation.

Exclusion criteria

Table 2.

Sr. No.	Drugs	Latin name	Part used ^[20]	Ratio
1.	Guduchi	Tinosporiacordifolia	Kand	1
2.	Kantakari	Solanumxanthocarpum	Panchang	1
3.	Shunthi	Zingiberofficinale	Kanda	1
4.	Bharangi	Clerodendrumserratum	Mool	1
5.	Tulasi	Ocimum sanctum	Patra	1
6.	Pippali	Piper longum	Phal	1

- Patients having age < 14 yrs and > 70 yrs.
- Patients with any major systemic diseases e.g. Cardiac, Hepatic, Renal, Endocrinal etc...
- Patients with acute exacerbations due to infective pathology.
- Patients with Kshudra, Maha, Chhinna, Urdhwashwas.
- Patients having hypoxic encephalopathy, cardiac pathology.
- Patients having status asthmaticus.

Criteria for Assessment

➤ Objective Criteria

- Routine Investigations – CBC, ESR, Chest X-ray PA view at the initiation of study.
- Spirometry – At initiation and end of drug trial.
Severity of airflow limitations by PFT – Mild – FEV1 50-80 % Moderate – FEV1 30-49%, Severe – FEV1 < 30%

➤ Subjective criteria : Table 1

Selection of the drug/medicines

Parnaspanchak Kwath (ChakradattHikka Shwas Chikitsa^{12/11})² The contents of Parnaspanchak Kwath along with proportion are placed at

and duration: Posology is mentioned at Table 2.

Table 3: Posology

Duration of therapy	3 months
Dose	50 ml thrice a day
Time	After food
<i>Prakshep Dravya</i>	<i>Pippali churna</i> (1pinch)
Follow up	After every 1 month
Diet	Advised to have light, warm diet and avoid cold drinks, junk foods etc...

OBSERVATIONS

In the present study, a total number of 60 patients were registered, and all patients completed the treatment. It was observed that 26 patients (43.333 %) were male and 34 patients (56.667%) were female. Maximum numbers of patients were in the age group of 58 to 70 yrs i.e. 31.66%. Out of 60 patients 75% were having mixed diet and 25% were having vegetarian diet. 27 patients were housewives and remaining 13 were including vendors, laborers, engineers,

traffic police and business people. 95% patients were from coastal area.

EFFECT OF TREATMENT :

Paired t-test and Wilcoxon's Signed Rank test was applied to collected data. It showed the significant difference in subsequent follow ups. It means that the said therapy used for Bronchial asthma is highly effective. After treatment, the patients in grade 0 were considered as relieved and the patients who shifted to grade 2, 1 was considered as improved. (Table 4)

Sr. No.	Signs & Symptoms	Total no. of cases (%)	Relieved (%)	Improved (%)
1	<i>Shwas Vega Tivrata</i> (severity of breathlessness)	100	83.34	16.66
2	<i>Shwas Vega Sankhya</i> (episodes of dyspnoea)	100	81.67	18.33
	<i>SakaphaKasa</i> (cough with expectoration)	100	73.34	26.66
4	<i>Shushkakasa</i> (Dry Cough)	95.00	88.34	11.66
5	<i>Peenas</i> (Rhinorrhoea)	96.67	86.67	13.34
6	<i>Ura-Shool</i> (Peripheral Neuritis)	55.00	50.00	05.00
7	<i>GhurghurakDhwani</i> (Wheezing)	100	76.67	23.33
8	<i>Shwas Sankhya</i> (Respiratory Rate)	100	85.00	15.00
9	<i>TimirDarshan</i> (Black out)	100	90.00	10.00
10	<i>Jwara</i> (Fever)	11.66	11.66	00.00
11	FEV 1	100	75.00	25

DISCUSSION:

As the *Tamakshwasais Vata* and *Kaphapradhan*, it needs the *Dravyas* with

opposite *Gunaand Karma*. This is called as *Vishesh Chikitsa*. All the constituents of *Parnaspanchak Kwath* possesses *Tikta, Katu,*

Kashay Rasa. Majority of contents having *laghu* and *teekshna guna*.³ So in general the drug is having *Vata- Kaphaghna* property. These eventually lead to *Amachhedan* and *Agnisandhukshan Karma* i.e. *Deepan-Pachana*. Many of them are proven as anti-asthmatic. So, they contribute to *Tamakshwasa Samparpti Bhang*. *Kantakari* has anti-inflammatory, expectorant property causing Bronchodilation.⁵ It also acts on Histamine release. *Guduchi* has immune-modulating property, controls IgE response to triggers.⁴ *Shunthi* has anti-allergic property.⁶ *Bharangi* is mentioned as *Agryadravya* for *Shwasavyadhi* and has been proven as anti-histaminic, Mast cell stabilizer, Bronchodilator.⁷ *Pippali* has expectorant, digestive property and mentioned as *Rasayana* for *Pranawaha Strotas*. *Pippali* also has anti-allergic effect.⁹ *Tulasi* is anti-inflammatory and reduce broncho-spasm.⁸

By analyzing the patients with clinical assessment and spirometrical evaluation, it has been observed that 43 patients had complete relief, 8 patients were markedly improved, 5 patients were mildly improved and 4 patients were unchanged. Hence, it can be inferred as the trial drug is significantly useful in *Tamakshwasa*.

CONCLUSION:

1. The *Kwath kalpana* along with *Prakshep dravya* have maximum bioavailability which showed faster relief with reduced frequency and intensity of *Vega* in *Tamakshwas*.
2. Spirometrical evaluation shows remarkable improvement in Lung Function which provides support to efficacy of trial drug.

3. By statistical analysis it can be concluded that *Parnaspanchak Kwath* shows significant results in reducing majority of signs and symptoms of *Tamakshwasa*.
4. None of the patients showed any adverse effect so trial drug can be safely used.

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