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# A Comparative Clinical Study of *Shamana* Therapy and *Shodhana Purvaka Shamana* Therapy in the Management of *Tamaka Shwasa* w.s.r to Bronchial Asthma

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## ABSTRACT

*Ayurveda* is the science of life which deals with the prevention and cure of diseases. From the first breath of newly born till the last breath i.e., *Shwasochhwasa Kriya* is the sign of life. Any disturbance in this process leads to *Shwasa Roga*. *Tamaka Shwasa* is one of the important diseases of such disturbance. *Shwasa* is a *Kapha-Vataja* disease which is originated from *Pittasthana*. *Tamaka Shwasa* is very much similar to bronchial asthma in modern medicine which is a chronic disease of multifactorial origin. *Ayurveda* describes two type of management of all disease i.e. *Shodhana* and *Shamana Chikitsa*. In present scenario *Panchakarma* therapy is the best way to effectively and safely manage the condition without any specific side effects. It is one of the most effective and complete therapy in the management of the chronic disease such as *Tamaka Shwasa* (Bronchial Asthma). In *Ayurvedic* classics both *Vamana* and *Virechana* have been described specifically in the management of *Tamaka Shwasa*. Considering the *Ayurvedic* concept of treatment of *Tamaka Shwasa*, in present study we have used *Virechana* therapy along with certain herbal preparation. In this study we concluded that the cases who were treated with herbal preparation along with *Virechana* got better relief than herbal preparation alone.

**Key words:** *Tamaka Shwasa, Bronchial Asthma, Shamana Chikitsa, Shodhana, Panchakarma.*

## INTRODUCTION

*Shwasa* is one among the major disease explained in *Ayurveda* and is caused due to vitiation of *Kapha* and *Vata Dosha* originating from *Pittasthana*.<sup>[1]</sup> When the normal passage of *Pranavayu* is obstructed by *Kapha*, it gets vitiated and starts moving in opposite direction, due to which it is unable to perform its

normal physiological work and produce *Shwasa Roga*.<sup>[2]</sup> *Tamaka Shwasa* is a type of *Shwasa* in which there is excessive difficulty in respiration and feeling of drowning in the dark. According to *Acharya Charaka - Vata Dosha* moves in the opposite direction, pervades the channels, afflicts head and neck, and stimulates the *Kapha* to cause rhinitis, wheezing, cough, faintness, disturbed sleep etc. The attack gets aggravated in cloudy season, on exposure to cold air and cold water and with the restoration of *Kapha* aggravating food and regimens. The other psychosomatic factors like anxiety, grief and fear also aggravate the *Shwasa Roga*. The disease *Tamaka Shwasa* is generally palliable, but it is curable in its primary stage.<sup>[3]</sup>

In the treatment of *Tamaka Shwasa*, avoidance of causative factors or triggering factors plays a very important role. "Elimination of the causative agent(s) from the environment of an allergic individual with

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asthma is the most successful means available for treating this condition".<sup>[5]</sup>

Beside avoidance of causative factors, *Acharya Charaka* advocates use of both *Vamana* and *Virechana* therapy. *Acharya Charaka* has specifically mentioned '*Tamake Tu Virechane*' in the management of *Tamaka Shwasa*. Now the question arises that *Tamaka Shwasa* is said to be *Vatakaphatamaka Vyadhi*, then why *Acharya* suggest *Virechana*. The probable answer to the following questions lies in the following facts-

- *Shwasa* is *Pitta Sthana Samudbhava Vyadhi* and thus according to the site of origin *Virechana* is most suitable treatment for every type of *Shwasa*.
- In *Tamaka Shwasa*, *Kapha* obstruct the passage of *Vata* and the obstructed *Vata* traverse in reverse direction. For *Vatanulomana*, *Virechana* is more suitable than *Vamana*.
- *Basti* is best therapy if only *Vata* is vitiated, but when *Vata* is associated with other *Doshas*, then *Mridu Samshodhana* or *Mriduvirechana* is best.<sup>[6]</sup>
- In *Tamaka Shwasa* there is *Samavayu*. *Mridu Virechana* not only helps in eliminating *Ama* from the body, but simultaneously it also helps in *Vata Anulomana*. Thus if *Vata* is associated with *Ama*, *Virechana* is most appropriate.
- In the context of *Vatika Kasa*, *Acharya* gives instruction for using *Basti* in case if only *Vata* is vitiated and *Virechana* if *Vata* is associated with *Pitta* and *Kapha*.<sup>[7]</sup>
- In *Tamaka Shwasa*, there is obstruction of *Vata* by *Kapha*, thus there is *Kaphavrita Vata* and *Virechana* is mentioned in the treatment of *Kaphavrita Vata*.

According to *Acharya Charaka*, ingredients which causes alleviation of *Vata* and *Kapha*, which are hot in potency, and which causes *Vatanulomana* are useful as medicines, drinks and food preparations for the patients suffering from *Tamaka Shwasa*.<sup>[8]</sup>

Literary simulation of *Tamaka Shwasa* coincides with the description of bronchial asthma as described in

modern literature. It is very distressing disease of respiratory system producing dyspnoea and discomfort, making life miserable. In India around 15-20 million new cases of asthma develops every year. The survey report states that the disease occurs at very young age and one in every six child under the age of 16 is affected. Though *Tamaka Shwasa* is not merely bronchial asthma, umbrella of *Tamaka Shwasa* covers all the types of manageable dyspnoea including cardiac, renal and pulmonary asthma. It also includes other pulmonary causes of dyspnoea such as COPD. In the present study it is desired to evaluate the effect of drug on bronchial asthma rather than on *Tamaka Shwasa*.

## MATERIALS AND METHODS

This study was carried on 60 patients of *Tamaka Shwasa*, the patient who fulfilled the clinical diagnostic criteria of *Tamaka Shwasa* (Bronchial Asthma) were randomly selected, irrespective of their sex, religion, occupation etc. from the OPD and IPD wing of Department of Kayachikitsa, S.S. Hospital, IMS, BHU, Varanasi.

### Selection of Sample

Randomized Sampling {Unrestricted Randomized Stratified Method}

**Nature of Study:** Control Study

**Trial Methodology:** Open Trial

For this study, patients were divided into four groups:

1. **Group A:** 15 registered patient of *Tamaka Shwasa* were administered *Shatyadi Churna* for two months with 15 days follow up.
2. **Group B:** 15 registered patients of *Tamaka Shwasa* were given *Shatyadi Churna* and *Bharangi Shunthi Kwatha* as *Anupana* for two months with 15 days follow up.
3. **Group C:** 15 registered patients of *Tamaka Shwasa* were given above *Shodhana Pooravaka Samana Chikitsa* for two month, with 15 days follow up.
4. **Group D:** 15 registered patients of Bronchial Asthma were given modern medication, as

control group for two months with 15 days follow up.

#### Exclusion Criteria

Patients having following criteria;

- Bronchial Carcinoma
- Chronic Obstructive Pulmonary Disease
- Pleural Effusion
- Tuberculosis
- Status Asthmaticus
- Cardiac Asthma

Patients who were not able to tolerate *Shodhana* therapy were not taken in *Shodhana group*.

#### Inclusion Criteria

- Newly onset uncomplicated Bronchial Asthma.
- Mild and Moderate Bronchial Asthma.

#### Criteria for Drug Selection

Drug selected for present study are *Shatyadi Churna* and *Bharangi Shunthi Kwatha*. Drugs were selected on the guidelines given by *Acharya* and Research works conducted regarding these drugs in various research institutes. Contents of *Shatyadi Churna* are *Shati, Tamalaki, Pushkarmoola, Shunthi, Pippali, Ela, Tulsi, Musta, Twak, Balaka, Bharangi, Agru* in equal parts and *Sharkara* twelve parts.<sup>[9]</sup> *Bharangi Shunthi Kwatha* contains *Bharangi* and *Shunthi* in equal parts.<sup>[10]</sup>

**Table 1: Showing the treatment schedule for each group.**

Group	No. of pts	Drugs	Dose	Duration
A	15	<i>Shatyadi Churna</i>	3 gms thrice in a day with luke warm water	2 months
B	15	<i>Shatyadi Churna</i>	3 gms thrice a day	2 months

		<i>Bharangi Shunthi Kwatha</i>	30 ml as <i>Anupana</i>	
C	15	<i>Chitrakadi Vati</i>	2 tab thrice in a day	3 days
		<i>Go Ghrita</i>	30ml to 210ml	5 to 7 days
		<i>Bahya Abhyanga and Swedana</i>		3 days
		<i>Virechana Aushadhi</i>		1 day
		<i>Sansarjana Karma</i>		3, 5 or 7 days
		<i>Shaman Chikitsa</i>	As per group B	Till completion of course
D	15	Tab. Doxophyllin	400mg OD	2 months

#### Assessment criteria

The improvement provided by the therapy was assessed by clinical sign and symptoms of bronchial asthma. For this purpose a special research proforma was prepared to assess the detailed history of the patients. The scoring and gradation pattern for the assessment is shown below-

**Table 2: Symptom grading scale**

Grade	Percentage	Number	Sign of grade
Nil	0%	0	-
Mild	25%	1	+
Moderate	50%	2	++
Severe	75%	3	+++
Agonizing	100%	4	++++

The details of the assessment of symptoms rating is given below:

### 1. Dyspnoea (Breathlessness)

Not troubled by shortness of breath on level or uphill.	None	0
Troubled by shortness of breath on level or uphill	Mild	1
Walks slower than person of same age (Breathlessness at the time of simple walking)	Moderate	2
Stops after walking 100 yards	Severe	3
Breathlessness at rest	Agonizing	4

### 2. Cough

No cough	None	0
Coughing for 2-5 min, frequency 1-2 times/day, without pain, wet with easy expectoration.	Mild	1
Coughing for more than 10 min, frequency more than 5-10 times/day, with pain, expectoration with slight difficulties, disturbed sleep	Moderate	2
Coughing for more than 15 min, frequency 5-10 times/day, with pain, feeling of restlessness due to difficulty in expectoration, marked disturbance in sleep	Severe	3
Frequent coughing due to which patient becomes unconscious	Agonizing	4

### 3. Wheezing

No wheezing	None	0
Intermittent wheezing present only during attack	Mild	1
Wheezing only at early morning or during physical exertion	Moderate	2

Constant wheezing throughout day	Severe	3
Constant wheezing along with added respiratory sound	Agonizing	4

### 4. Chest tightness

No chest tightness	None	0
Only during attack	Mild	1
Very often even without attack, relieves without medication	moderate	2
Persistent chest tightness	severe	3

### Laboratory Investigation

- Haematological investigations after completion of treatment were repeated
- Respiratory function tests were repeated during the treatment.
  - FVC (Forced vital capacity).
  - FEV1 (Forced expiratory volume in one second).
  - PEF (Peak Expiratory Flow Rate).

### Follow-up study

After the completion of the treatment, the follow up study was done every 2 weekly for two months to note the recovery of attacks and symptoms.

### STATISTICAL ANALYSIS

Students paired 't' test, Wilcoxon signed ranks test and Friedman test were applied for the calculations.

### OBSERVATIONS AND RESULTS

Out of the 60 patients registered for the study, 7 patients dropped out and the remaining 53 patients completed the full course of treatment. Among the total registered patients 51.7% are in the age group of 16-35 years, 53.3% were male, 95% were hindu, 68.3% belonged to lower middle class, 48.3% were graduate, 31.7% were student, 81.7% were from rural habitat, 35% of patients presented with more than 1

year of illness, followed by 33.3% of patients with >5 years, 46.7% were allergic to all four factors i.e. diet/season/dust/fumes, 36.7% presented with a positive family history, 76.7% of patients had *mandagni*, 66.6% were addicted to smoking, 38.3% had irregular bowel habit.

*Vata-Kaphaja Prakruti* dominated in the study of 60 patients with 43.3%, 51.7% were of *Rajasika Prakruti*, *Madhyama Sara* (95%), *Madhyama Samhanana* (93.3%), *Madhyama Satva* (91.7%), and *Pravara Satmya* (53.3%), *Madhyama Bala* (80%), *Madhyama Abhyavarana Shakti* (71.7%), and *Madhyama Jarana Shakti* (85%), *Avara Vyayam Shakti* (70%).

After two months of treatment, a significant decline was observed in the severity of dyspnea in group C and most of the patients (92.3%) had complete relief as compared to groups A and B. This result was comparable to group D, in which 92.9% had relief in dyspnea after completion of the treatment. In the complain of wheezing, Group D showed a much significant result as compared to groups having *Ayurvedic* management. All the four groups showed significant improvement in complain of cough, but in group C and D the effect was highly significant and comparable. In chest tightness, all the groups showed positive result at the end of treatment, but like in other parameters, the effect in Group C and D was more prominent and comparable to each other.

Among the four Groups, comparison (BT-AT) by paired T-test shows greater increase in Group C in mean score of Hb from 13.57 to 13.73 with a significant p value. The mean score of AEC before treatment in Group A, Group B, Group C and Group D was 488.25, 644, 864.98 and 573.87 respectively. There is significant decrease in mean after treatment in Group A (382.33), Group B (465.12), and Group D (450.75). There is highly significant decrease in the mean score of AEC in Group C (450.75). The mean score of FVC before treatment in Group A, Group B, Group C and Group D was 78.16%, 61.14%, 61.05% and 67.87% respectively. There is significant increase in mean after treatment in Group A (86%), Group B (78.01%), Group C (79.93%) and Group D (77.62%). Within the

Group comparison (BT-AT) by paired T-test shows significant increment in all the four Groups. Likewise in the value of FEV1 also highly significant increased has been observed in group C while rest of the three groups shows significant increment. The mean score of PEFR before treatment in Group A, Group B, Group C and Group D was 68.58%, 54.5%, 47.66% and 46.75% respectively. There is significant increase in mean after treatment in Group A (78.33%), Group B (65.64%), Group C (62.37%) and Group D (55.25%).

Figure 1: Showing the effect of therapy on Hb

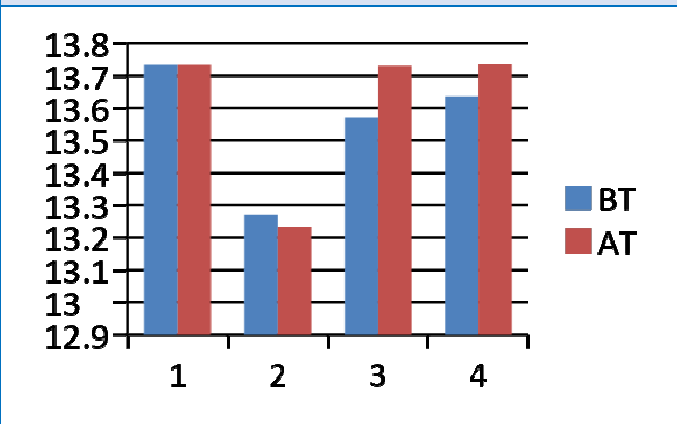


Figure 2: Showing the effect of therapy on AEC

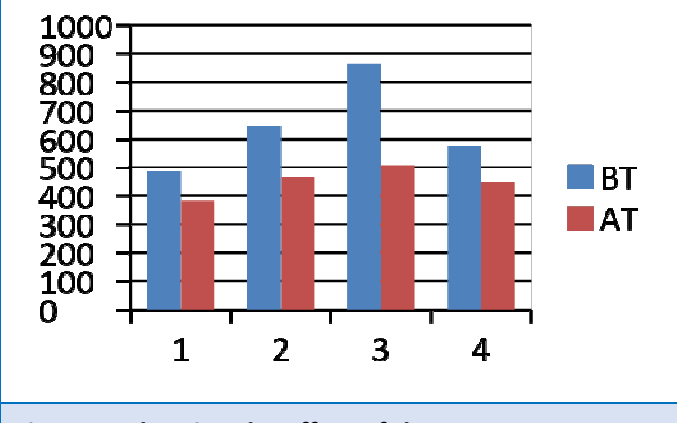
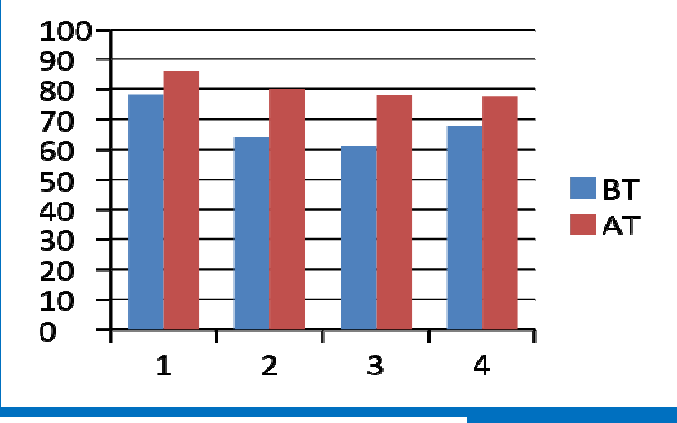
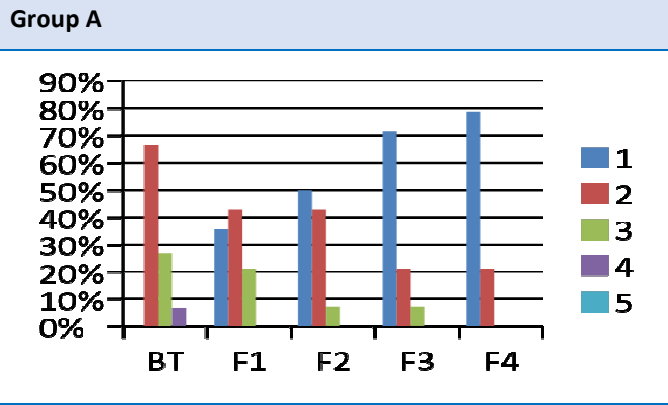
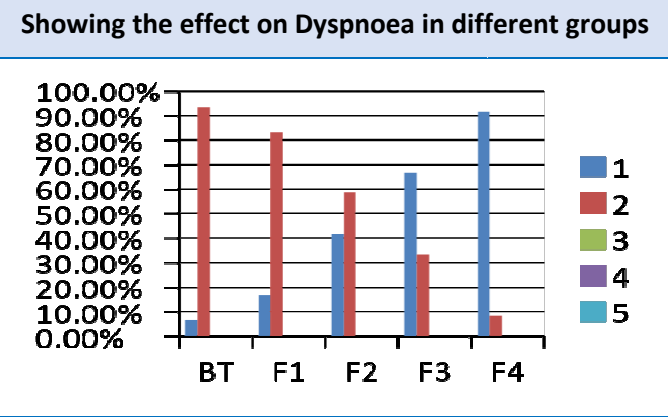
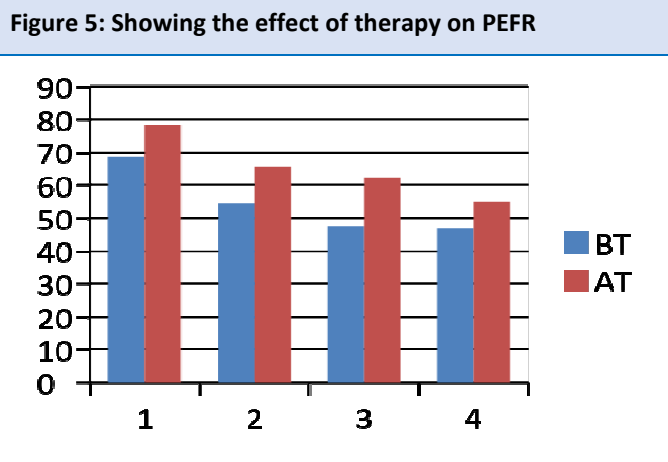
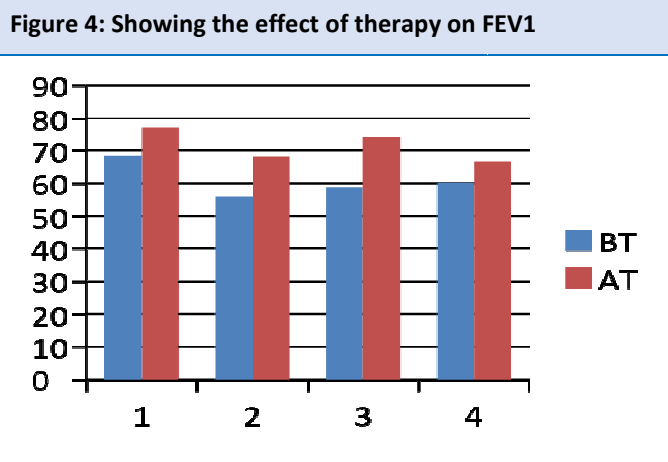
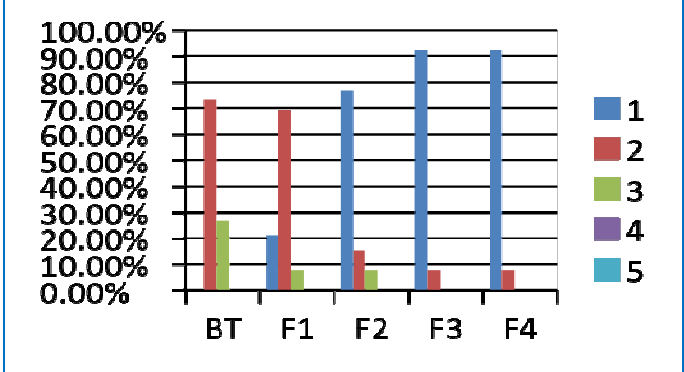


Figure 3: Showing the effect of therapy on FVC

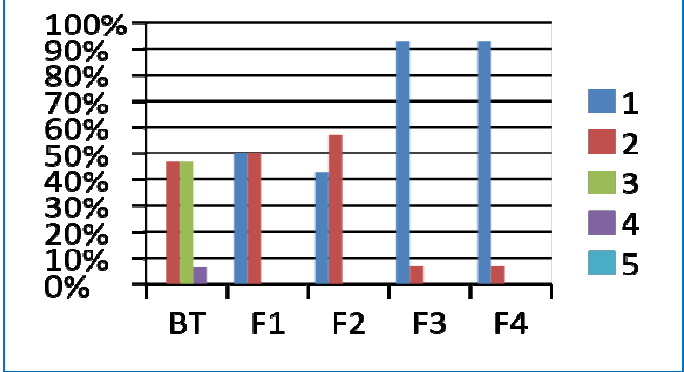




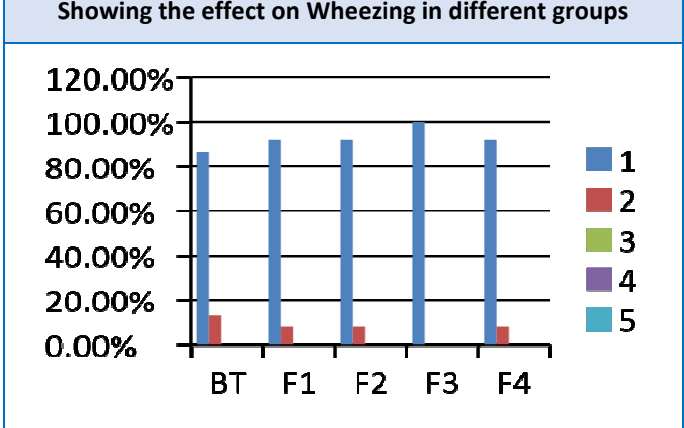
**Group B**



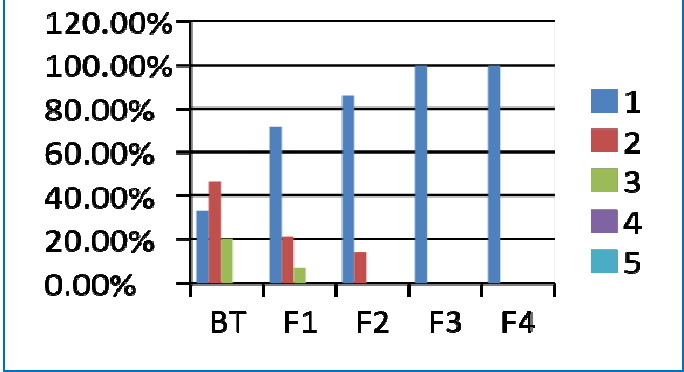
**Group C**



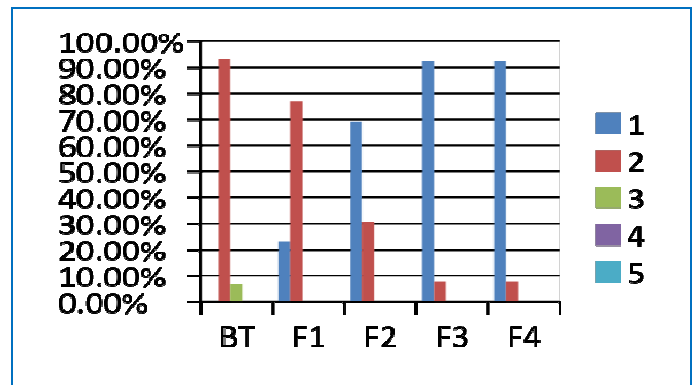
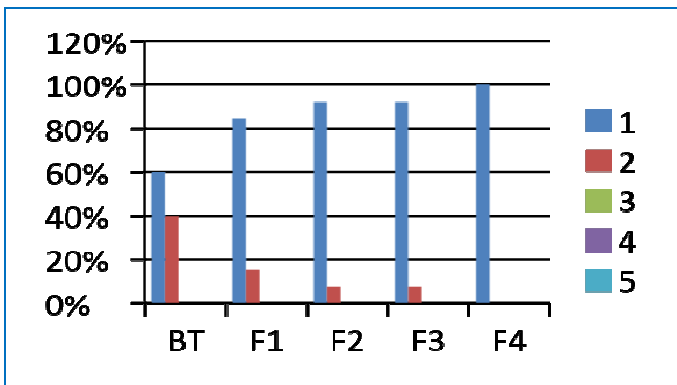
**Group D**



**Group A**

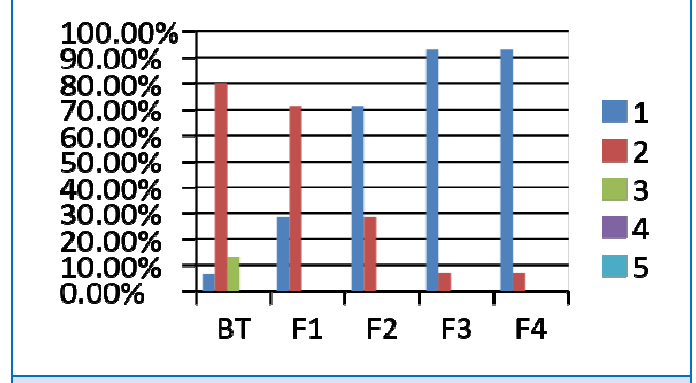
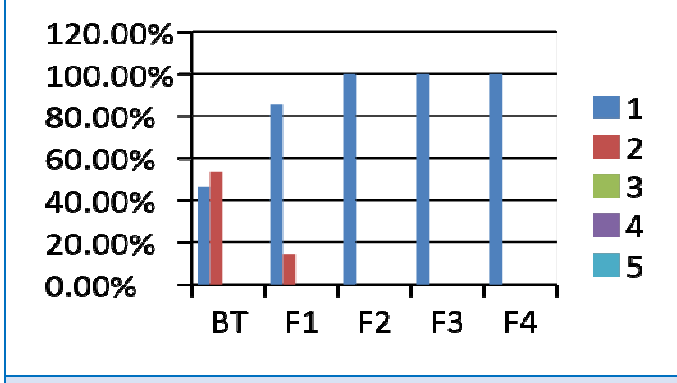


**Group B**



Group C

Group C

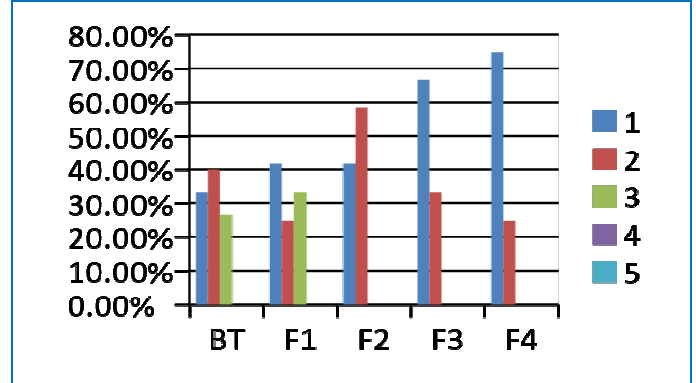
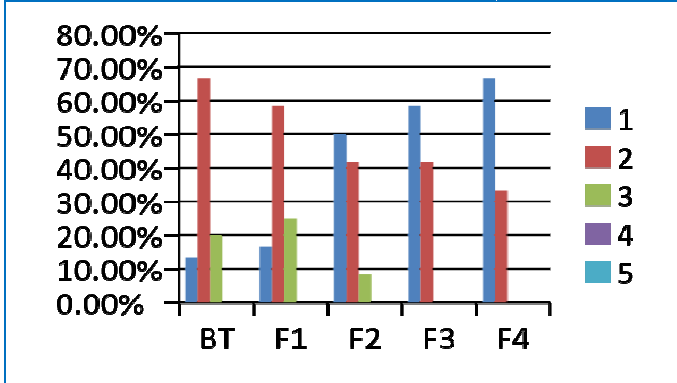


Group D

Group D

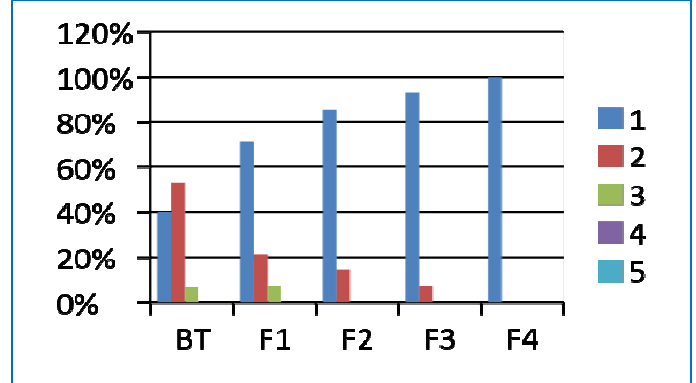
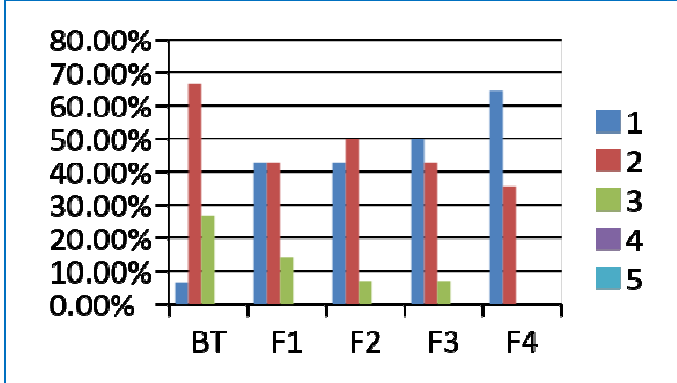
Showing the effect on cough in different groups

Showing the effect on chest tightness in different groups



Group A

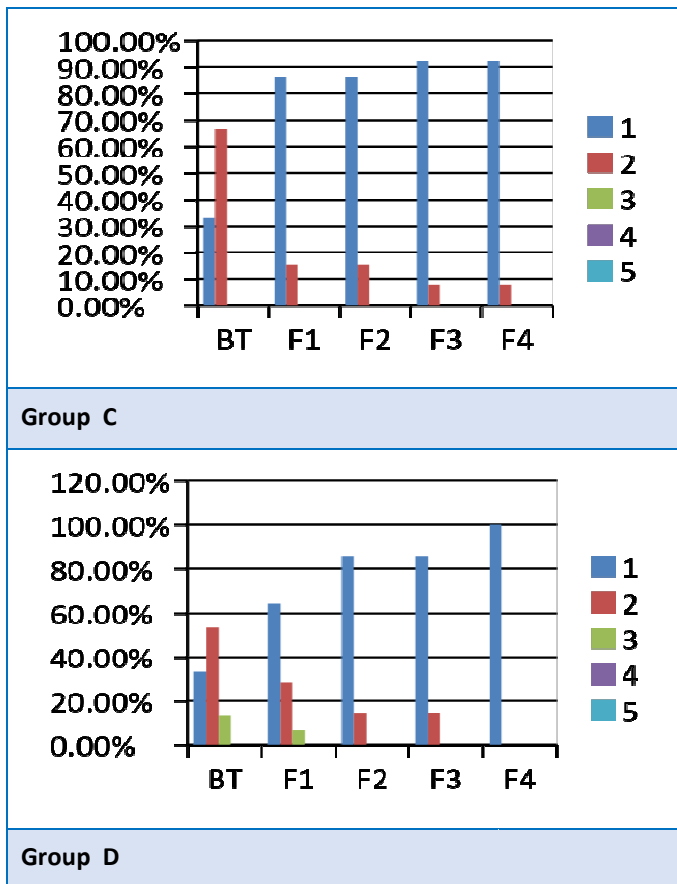
Group A



Group B

Group B





## DISCUSSION

Bronchial asthma is more prevalent in the younger age Groups. W.H.O. stated that prevalence of asthma has increased in the past two or three decades in young adults. About one half of cases develop before the age of 10 and another third occur before 40 years.<sup>[11]</sup> Childhood asthma is more prevalent in boys<sup>[12]</sup> (2:1 male/female) than girls due to narrower airways and increased airway tone. But in adult life, the affliction of the disease due to sex is not present. Asthma is more prevalent in lower class.<sup>[13]</sup> This might be partly due to higher level of the exposure to different kinds of allergens and low health consciousness in those classes. Both in Ayurveda and modern science, causative and aggravating factors are mentioned which are more or less same. Exacerbation of symptoms is seen in asthmatics on exposure to cold food items, cold breeze, dust, fumes, mites, pollen, during cloudy days and with seasonal variation. This indicates the atopic nature of disease. The positive family history suggests the *Bija Dosa* present in the parents which is responsible for producing abnormal

amounts of IgE in response to exposure to environmental allergens. Derangement of *Agni* leads to *Pittasthana Dushti* and formation of *Ama Rupi Kapha*, which obstruct the path of *Vata Dosha*, and *Pratiloma Gati* of *Vata* manifest as dyspnoea. Researchers have discovered that GERD can trigger asthma symptoms.<sup>[14]</sup> In addition, GERD is more common in people with asthma than in the general population. Addiction to smoking plays a key role in the development of asthma. According to modern medical sciences, tobacco smoke is a powerful trigger for asthma symptoms. Tobacco smoke damage tiny hair like structures in the airways allowing dust and mucus to accumulate in the airways.<sup>[15]</sup> *Tamaka Shwasa* is *Vata-Kaphatmaka Vyadhi* and predominance of *Vata Kaphaja Prakruti* in the present study also supports this fact and signifies the *Kriccha Sadhyata* of the disease.<sup>[16]</sup> *Rajasika Prakruti* patients are more prone to extreme emotional expression, and this becomes a triggering factor for asthma in these patients.

*Virechana* is one of the treatments of *Raktavaha Srotodusti*.<sup>[17]</sup> After the whole procedure the process of *Dhatu Poshana* gets normalise, so there can be some increase in the value of Hb. Indication of *Tikshna Samshodhana* in *Pandu Roga*<sup>[18]</sup> also supports the increment in the mean value of Hb in group C. Reduction in the value of AEC indicates that the trial drug has potent anti eosinophilic activity which is enhanced by purgation therapy. Out of all the four groups group C showed significant improvement in increasing the mean values of FVC, FEV1 and PEFr. Among the symptomatic criteria, *Virechana Karma* prior to the *Shamana* therapy produced more significant result in relieving dyspnoea, cough and chest tightness as compared to only *Shamana* therapy in Group A and B. The symptomatic improvement in group C and D was comparable in all symptoms except wheezing in which the modern medication was much effective. This result signifies that the poly herbal compound has got anti asthmatic activity and this activity is enhanced when the *Srotasa Shuddhi* is done via *Virechana Karma* prior to *Shamana* therapy. The probable mode can be anti-inflammatory, anti-

allergic, anti-spasmodic and bronchodilator effect of contents present in the drug.

## CONCLUSION

On the basis of observations made, results obtained and our discussion on what can be the probable mode of action of drugs and *Virechana* therapy, it is concluded that *Shatyadi Churna* has bronchodilator and anti-tussive properties but its anti-eosinophilic effect is less prominent. *Bharangi Shunthi Kwatha* also has bronchodilator activity. It potentiated the effect when given as *Anupana* of *Shatyadi Churna*. *Virechana Karma* doesn't have any direct bronchodilator effect, but it relieves the symptoms by alleviating the associated conditions which provoke asthma attacks such as GERD, constipation, flatulence etc.

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