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CLINICAL EVALUATION OF EFFECT OF *BHARANGYADI AVALEHA* IN MANAGEMENT OF *TAMAK SHWASA*

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Abstract: *In the Current Study 30 Patients of Tamaka Shwasa have been selected randomly divided in two groups. The patients showing classical symptoms of Tamaka Shwasa such as Shwasakruchhrata (Dyspnoea), Kasa (Cough), Ghur-Ghurak Shabda (Wheezing or Rhonchi) During night, Kasten Shleshma Moksha (Difficult in Expectoration), Kasten Bhashya (Difficult in speech) etc. were included in this study. For the present study we were given Bharangyadi Avaleha orally. It reduces Respiratory Rate effectively and increases Expansion of Chest, Breath Holding Time, and Peak Expiratory Flow Rate & Sustained Maximal Inspiration which was highly significant statistically as compared with Tab. Deriphyllin. Out of 30 patients included in Group A none patients showed total relief in symptoms, 7 patients was markedly improved (50 to 75%), 21 patients were improved (25 to 50%), 2 patients were unchanged (less than 25%). Out of 30 patient included in Group B none patient showed total relief in symptom, 3 patients were markedly improved (50 to 75%), 26 patients were Improved (25 to 50%), 1 patients were Unchanged (less than 25%). At the end of the study it was found that Bharangyadi Avaleha in Group A is more effective than in Group B.*
Key Words: *Tamaka Shwasa, Bharangyadi Avaleha, Bronchial Asthma*

Introduction: "Science of Life" known as "*Ayurveda*". In the literature of *Ayurveda* there are various chapters, which deal with behavioral & dietary changes according to diurnal changes. It suggests if one follows these rules we can lead to healthy life for longer period. *Shwasa* Propounded by *Lord Atreya* in *Charka Samhita*.[1] It is a disease of *Pranvaha Srotasa*. *Shwasa* arises due to dust, smoke, wind residing in cold place using cold water physical exertion, intake of rough food, irregular meals, vitiation of *Ama*. Bronchial Asthma has 4 to 5 % of the population in United States is affected. Data from the Centers of Disease control and prevention suggest that 10 to 11 million persons had acute attack in 1998, which resulted in 13.9 million outpatient visits, 2 million request for urgent care, and 423,000 hospitalization which are total >$6 billion.[2] Nearly 5 to 10% population suffer from it. In India prevalence of asthma has been found to be around 6%. [3] This disease can start at any age, but in a majority it starts before 10 years of age. It is twice more common amongst boys than girls, whereas in adults the male–female ratio is usually equal. This alarming raise in the prevalence of Tamaka Shwasa can be accounted to factors such as Atmospheric pollution, rapid environmental changes, adaptation of newer dietetic preparations and tremendous psychological stress.

Aim and Objectives: To evaluate the efficacy of *Bharangyadi Avaleha* in *Tamaka Shwasa*.

Materials and Methods

Group A: 30 Patients were treated with Bharangyadi Avaleha

Dose: 5 gm Twice a Day, after meal for 15 days

Group B: 30 Patients were treated with "Tab. Deriphyllin"

Dose: 100 mg Thrice a day.

Design: A randomized, open label, controlled clinical trial will be conducted on diagnosed patients.

Inclusion Criteria

Age - 16 to 60 years

Sex - Both male & female

- Newly onset uncomplicated Bronchial Asthma
- Mild & Moderate Bronchial Asthma
- Samtamaka Shwasa

Exclusion Criteria: Patients having following criteria-

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

Objective Criteria

- X-Ray chest PA view to rule out other respiratory disease
- Peak Flow Meter for lung capacity
- Spirometry for vital capacity of lung
- ESR
- Eosinophil Count

Preparation of Drug: Avaleha Kalpana was selected for present study on the basis of references of Acharya Charaka:

कुर्यात् पश्यशिने धूमलेहादिशमनं ततः / / (Cha.Chi.17/89)

तस्मात्तन्मार्गशुद्धयर्थं देया लेहा न निष्कफे / /(Cha.Chi.17/120)

These are specific indications of Leha Kalpana given by Acharya. In present study Avaleha Kalpana has been prepared as Gudavaleha. For this purpose especially Purana Guda was used. According to opinion of Bhavaprakasha new Guda increases Kapha & Shvasa both, while Purana Guda is explained as Laghu Pathya, Balya, Vataghna, Agnivriddhikar & Rakta Prasadaka property

Contents of *Bharangyadi Avaleha*

Bharangi (Mula) : 1 part
Haritaki (Fruit) : 1 part
Dashmool (Mula) : 1 part
Trijat : 1/20 part (Prakshepa)
Guda : Half of total kwath dravya

S.N.	Name	Rasa	virya	Vipaka	Guna	Doshaghnata
1	Bharangi	Katu Tikta Kashaya	Ushna	Katu	Ruksha Ushna Laghu	Kaphavatashamaka
2	Haritaki	Kashaya, Katu, Tikta, Madhur, Amla	Ushna	Madhura	Ruksha Laghu Anulomana	Tridosha shamaka Specially Vatanulomana
3	Dashmool	Madhura, katu	ushna	madhur	Vata kaphashamaka	Vata kaphashamaka
4	Trijat	Katu, tikta	ushna	katu	Vata shamaka, deepana	Vata shamaka, deepana
5	Guda	Madhura	shita	madhura	Balya	Balya

Table 1 Showing effect of therapy on physical parameter of 30 patients of *Tamaka Shwasa* in Group A

Physical parameter	Mean BT	Mean AT	% of relief	SD	SE	t value	p value
Respiratory rate	22.86	18.56	18.80	2.03	0.37	8.62	< 0.05
Expansion of chest	83.86	85.06	1.43	0.69	0.12	13.83	< 0.05
Breath Holding Time	10.53	12.2	15.82	0.76	0.14	11.14	< 0.05
Peak ExpiratoryFlow rate	165.33	195.66	18.34	11.08	2.02	16.5	< 0.05
Sustained Maximal Inspiration	3.7	5.8	53.98	0.45	0.08	25.37	< 0.05

Table 2 Showing effect of therapy on physical parameter of 30 patient of *Tamaka Shwasa* in Group B

Physical parameter	Mean BT	Mean AT	% of relief	SD	SE	t value	p value
Respiratory rate	22.9	19.43	15.15	2.02	0.38	9.4	< 0.05
Expansion of chest	83.86	84.86	1.19	0.52	0.09	11.77	< 0.05
Breath Holding Time	10.43	11.83	13.09	0.62	0.11	9.6	< 0.05
Peak ExpiratoryFlow rate	170.66	192.66	12.89	10.38	1.89	12.16	< 0.05
Sustained Maximal Inspiration	14.3	5.66	40.44	0.49	0.09	17.77	< 0.05

Effect of *Bharangyadi Avaleha* (Group-A) & Tab. Deriphylline (Group-B) on physical Parameters

Respiration Rate

Group A: The mean grade score of Respiratory rate was 22.86 at the start of the treatment which was reduced to 18.56 at the end of treatment its 't' value is 12.14 (P<0.05%) which is statistically significant. **Group B:** The mean grade score of Respiratory rate was 22.9 at the start of the treatment which was reduced to 19.43 at the end of treatment its 't' value is 13.20 (P<0.05%) which is statistically significant.

Expansion of Chest

Group A: The mean grade score of Expansion of chest was 83.86 at the start of the treatment which

was increase to 85.06 at the end of treatment its 't' value is 9.2 (P<0.05%) which is statistically significant.

Group B: The mean grade score of Expansion of chest was 83.86 at the start of the treatment which was increase to 84.86 at the end of treatment it's' value is 9.2 (P<0.05%) which is statistically significant.

Breath Holding Time

Group A: The mean grade score of Breath holding time was 10.53 at the start of the treatment which was increased to 12.20 at the end of treatment its 't' value is 10.37 (P<0.05%) which is statistically significant.

Group B: The mean grade score of Breath holding time was 10.46 at the start of the treatment which was increased to 11.83 at the end of treatment its 't' value is 1.80 (P<0.05%) which is statistically significant.

Peak Expiratory Flow Rate

Group A: The mean grade score of Peak Expiratory flow rate was 165.33 at the start of the treatment which was increased to 195.66 at the end of treatment its 't' value is 14.16 (P<0.05%) which is statistically significant.

Group B: The mean grade score of Peak Expiratory flow rate was 170.66 at the start of the treatment which was increased to 192.66 at the end of treatment its 't' value is 38.96 (P<0.05%) which is statistically significant.

Sustained Maximal Inspiration

Group A: The mean grade score of Sustained maximal inspiration was 3.7 at the start of the treatment which was increased to 5.8 at the end of treatment its 't' value is 4.61 (P<0.05%) which is statistically significant.

Group B: The mean grade score of Sustained maximal inspiration was 14.03 at the start of the treatment which was increased to 40.44 at the end of treatment its't' value is 4.6 (P<0.05%) which is statistically significant.

Table 3 Statistical analysis of symptoms of patient of *Tamaka Shwasa* Wilcoxon

Symptoms	Sum of ranks of BT	Sum of ranks of AT	No of pairs	Z	Comment (Critical value of z at 5% level of significance=1.96)
Shwasakrucchrata	52	20	30	12.76	Highly significant
Kasa	49	17	30	12.80	Highly significant
Ghur –Ghur Shabda	63	27	30	12.59	Highly significant
Kasten shleshma moksha	55	20	30	12.71	Highly significant
Krucchren Bhashyatsa	46	18	30	12.84	Highly significant
Anidra	41	16	30	12.92	Highly significant

Table 4Statistical analysis of symptoms of patient of *Tamaka Shwasa* Wilcoxon

Symptoms	Sum of ranks of BT	Sum of ranks of AT	No of pairs	Z	Comment (Critical value of z at 5% level of significance=1.96)
Shwasakrucchrata	53	22	30	12.74	< 0.05 Highly significant
Kasa	52	23	30	12.76	< 0.05 Highly significant
Ghur –Ghur Shabda	55	21	30	12.49	< 0.05 Highly significant
Kasten shleshma moksha	60	21	30	12.64	< 0.05 Highly significant
Krucchren Bhashyatsa	52	24	30	12.53	< 0.05 Highly significant
Anidra	48	21	30	12.59	< 0.05 Highly significant

Shwasakricchata

Group A: It was observed in 30 patients of Group A i.e. 100% there was 61.53% relief observed after treatment. At the end of treatment its 'Z' value is 12.76 (P<0.05%) which is statistically significant.

Group B: It was observed in 30 patients of Group A i.e. 100% there was 58.49% relief observed after Treatment. At the end of treatment its 'Z' value is 12.74 (P<0.05%) which is statistically significant.

Kasa

Group A: It was observed in 30 patients i.e. 100% there was 65.30% relief observed after treatment. At the end of treatment its 'Z' value is 12.80 (P<0.05%) which is statistically significant. Group B**:** It was observed in 30 patients i.e. 100% there was 55.76 % relief observed after treatment. At the end of treatment its 'Z' value is 12.76 (P<0.05%) which is statistically significant.

Ghur-Ghurakshabda

Group A: It was observed in 30 patients i.e. 100% there was 57.14% relief observed after treatment. At the end of treatment its 'Z' value is 12.59 (P<0.05%) which is statistically significant. Group B: It was observed in 30 patients i.e. 100% there was 61.81% relief observed after treatment. At the end of treatment its 'Z' value is 12.49 (P<0.05%) which is statistically significant.

Kastenshlesma moksa

Group A: It was observed in 30 patients i.e. 100% there was 63.63% relief observed after treatment. At the end of treatment its 'Z' value is 12.71 (P<0.05%) which is statistically significant.

Group B: It was observed in 30 patients i.e. 100% there was 65.00% relief observed after treatment. At the end of treatment its 'Z' value is 12.64 (P<0.05%) which is statistically significant.

Krcchren Bhashya

Group A: It was observed in 30 patients i.e.100% there was 60.86% relief observed after treatment. At the end of treatment its 'Z' value is 12.84 (P<0.05%) which is statistically significant.

Group B: It was observed in 30 patients i.e. 100% there was 60.97% relief observed after treatment. At the end of treatment its 'Z' value is 12.92(P<0.05%) which is statistically significant.

Anidra

Group A: It was observed in 30 patients i.e. 100% there was 53.84% relief observed after treatment. At the end of treatment its 'Z' value is 12.53 (P<0.05%) which is statistically significant.

Group B: It was observed in 30 patients i.e. 100% there was 56.25% relief observed after treatment. At the end of treatment its 'Z' value is 12.59 (P<0.05%) which is statistically significant.

Discussion

Features like appetite, digestion, weight gain, improved due to improved nutrition at the cellular level by *deepan-pachan* (carminative and digestive) and *Agnivardhan (*increase digestive power of individual) properties of *Pippali* improved nutrition to each and every body tissue results in improvement in features like general and mental feeling of well being, ability to work and fatigue *Bharangyadi Avaleha* through *Vata-kapha* pacifying, *Srotoshodhan* and *Kapha Nissarana* properties makes the pathway clear for proper circulation of *Vata* thus relieving various respiratory signs and symptoms. It was observed that Respiratory Rate reduces significantly. Expansion of Chest, Breath Holding Time & Sustained Maximum Inspiration Increases significantly in Group A as compared to Group B. No side effects were observed from the drug during the present study in both groups.

Conclusion: During the comparative study values of both the Groups has been compared and the conclusion were drawn. This it seems that the significant effect of *Bharangyadi Avaleha* (Group A) is more effective than Tab. Deriphyllin (Group B). On the basis of this study, it can be concluded that trial drug, ''*Bharangyadi Avaleha*" is very much effective in the management of respiratory diseases as an adjuvant. No untoward effects of the drugs were noted during the trial and follow-up period.

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