



## Research Article

### A CLINICAL STUDY OF CHARAKOKTA SAUVARCHALADI CHURNA IN SHWAS (ASTHMA)

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#### KEYWORDS:

Shwas, Asthma, Sauvarchaladi churna, Theo-Asthalin.

#### ABSTRACT

**Objectives:** This study was conducted to evaluate the comparative effectiveness of *Charakokta sauvarchaladi churna* and Theo-asthalin in *Shwas*, it aimed at evaluating the efficacy of *Sauvarchaladi Churna* in *Shwas*. **Materials and Methods:** A study was conducted and 60 patients were randomly selected of *Shwas*, attending OPD or IPD department of Kayachikitsa OPD was included in study and divided into 2 groups. In Group A 30 patients were selected and trial drug was advocated in a dose of 3gm twice a day with *Koshna Jal* as *Anupana*. In Group B 30 patients were selected, Tab Theo-Asthalin was given twice a day. Treatment was given for 30 days with the result assessment recorded at every 5 days. Subjective and objective parameters were analyzed before and after the treatment. In subjective parameters *Pinasa*, *Kasa veg*, *Kapha Sthivan*, *Shwas Veg gati*, *Asino Labhate Saukhyam*, *Ghurghurakam*, while ESR, Chest Expansion, Breath holding time and Peak Expiratory Flow Rate (PEFR) are considered as objective parameters.

**Results:** Effect of the *Sauverchaladi churn* (Group A) and Tab. Theo-Asthalin (Group B) on symptoms observed in *Shwas* is statistically proved to be significant. But on comparison between two groups, group A is more effective in reducing the symptoms *Kasa veg*, *Kapha Sthivan*, *Shwas Veg gati*, *Asino Labhate Saukhyam*. In reducing the symptoms *Pinasa* and *Ghurghurakam* there is no significant difference between two groups i.e. both groups are equally effective. It was observed that total percentage of relief in symptoms in Group A is 75.24%, whereas in Group B it was found 63.86%. It shows that Group A therapy of *Sauvarchaladi churna* is more effective in relieving symptoms of *Shwas*.

**Conclusion:** Comparison between two groups was statistically evaluated by chi-square test. The Chi-square value 7.929 at 2 degrees of freedom,  $P < 0.001$  which is statistically highly significant which suggest that Group A was more effective than Group B.

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#### INTRODUCTION

Ayurveda is a science of life. Each & every human being wants to live happy & comfortable life. But now a day's life is becoming busy for Reducing the span of consumption of time human created facilities around him. For utilizing these facilities he got time bounded. Due to busy life, lot of work, negligence to health, junk foods, irregular of meals, lack of exercises, etc human beings are getting

affected with various diseases. Ayurveda tell us how to live. In Ayurved there is *Prayojan* about how to live & how to prevent diseases. 'Prevention is better than cure' is told by Ayurveda in *Hetu parimarjan chikitssa*.

In Ayurveda there is description in which disease what to eat & how to live. *Shwas* disease arise due to dust, smoke, wind, residing in cold

place & using cold water, physical exertion, sexual intercourse, travelling on foot & intake of rough food & irregular meals.

Besides *Shwas* also rise, due to intake of *Nispava*, Black gram, oil cake, Sesamum & oil, flour preparations, tubers, distending, burning & heavy foods. When *Vayu* taking severe course reaches (respiratory) passages seizing neck & head & aggravating (Secretion of) phlegm it produces coryza which creates obstruction & trouble-some dyspnoea.

The patient due to severe paroxysmus faints, coughs with obstruction, while coughing becomes unconscious frequently, in absence of expectoration becomes too much distressed & after expectoration gets temporary relief. The patient of hiccup & dyspnoea should, at first be managed with unctuous sudation by the tabular, bed, & bolves methods after he is massaged with salted oil. By this his inspissated phlegm into the channels get dissolved & *Vayu* returns to its normal course.

*Sauvarchala*, *Sunthi*, *Bharangi* mixed with double sugar should be taken with hot water. This alleviates hiccup & dyspnoea. I came across many people having history of *Tamak shwasa*. That particular fact I accepted & attracted me towards 'Bronchial Asthma'. As the disease *Shwas* having five types one of them is '*Tamak Shwas*'.

There are many fatal diseases but they do not take away the life so quickly as hiccup & dyspnoea. Moreover, in the person suffering from other various disorders severe hiccup or dyspnoea arises at the End. As in any acute disease as mentioned Earlier powerful drugs are given to treat the patients which plays an important & effective role, but in between on & off attacks there is same silent phase. Which is called as *Avegavastha* of *Shwas*. In this stage if drug like '*Sauvarchaladi churna*' is plays an important role for the prevention of *Vegavastha*. Hence '*Sauvarchaladi churna*' was thought to be used as a treatment. In the pathogenesis of the disease vat *Dosha* is more responsible in association of *Kapha* i.e. the drug '*Sauvarchaladi churna*' acts on Respiratory tract be Meane of *Ushna*' '*Tikshna*' & *Yogvahi Guna*.

The disease is affecting very young kids also more in cosmopolitan & humid cities like Mumbai. Despite very potent bronchodilators in the form injections, various types of inhalers and pumps & electrical nebulisers, administrating oxygen therapy along with the help of antihistamines & steroids. The severity of disease & suffering of patients goes on decreasing by passage of time with climatic changes. Here in this scenario an Ayurvedic

practitioners thinking & working on the basis of fundamental principles can provide appropriate counselling to such patients along with proceedings. Hence we Ayurvedic people are required to play very important crucial role in the management of patients Of this disease (i.e. Asthma/*Shwas*)

## MATERIALS & METHODS

**Type of Study:** Open Randomized Control Study.

### Medium of Dissertation

English, supplemented with Ayurvedic terminology wherever necessary in Sanskrit.

### Ethical Clearance

Clearance from Ethical Committee of concerned institute was taken.

### Consent

An informed written consent of all 60 patients included in the study was taken in their own language. Their disease and line of treatment was explained to them.

**Study Centre:** O.P.D. & I.P.D. of Hospital related to concerned Institute.

### Materials

#### Group A: *Sauvarchaladi Churna*

Contents -

|                     |         |
|---------------------|---------|
| <i>Sauvarchal</i> - | 1 part  |
| <i>Shunthi</i> -    | 1 part  |
| <i>Bharangi</i> -   | 1 part  |
| <i>Sharkara</i> -   | 2 parts |

#### Group B: Tab. Theo-Asthalin

### Method of Preparation of Churna

#### *Churna kalpana*

Powder of dried *Dravya* with or without any addition of liquid is called as *Churna*. *Churna* is any dry substance is brushed and made into fine powder by *Vastra-galan* i.e. poured by clothes. Powder can be made by disintegrator also.

**Matra:** 1 *Kol*

### Process of Churna preparation

Equipments: Cleaned and dried drug, mortar and pestle, cloth.

### Process

The ingredients of *Sauvarchaladi yog* viz. *Sauvarchal*, *Bharangi*, *Shunthi* and *Sharkara*; were purchased from market and its physio-chemical analysis was carried out at Research Lab. After that all *Churnas* in given quantity are to be mixed properly to form homogeneous mixture, filtered through clean cloth and subjected to further study. All aseptic precautions were taken during the preparation.

**Methodology**

Randomly selected 60 patients of *Shwas*, attending OPD or IPD department of Kayachikitsa OPD was included in study and divided into 2 groups.

**Baseline Assessment**

This included a detailed history including family history, personal history, habits etc. Clinical examination including all *Strotopariksha*, *Ashtavidh pariksha* and *Artavahastrotas pariksha* were carried out.

**Criteria of Selection**

**Inclusion criteria**

1. Selection according to age - patients in the age group 16 to 60 yr age.
2. Selection according to sex - patients of both, male and female was selected.
3. Patients having cardinal sign & symptoms of *Tamakshwas avegavastha* were selected.

**Exclusion criteria**

- 1) Patients below the age of 16 yrs and above 60 yrs were excluded.
- 2) Patients in *Vegavastha* as well as status asthmatics (very acute asthmatic attack) & having serious complication.
- 3) Unco-operative healthy *Shwas* patients.
- 4) *Shwas* with hypertensive patients.
- 5) *Shwas* with diabetic patients.
- 6) *Shwas* with *Hridrog* (cardiac disorder).

All the patients fulfilling inclusion and exclusion criteria were selected for the study with fully informed consent.

**1) Pinasa**

|                                                 |   |
|-------------------------------------------------|---|
| No <i>Pinasa</i>                                | 0 |
| <i>Pinasa</i> only along with attack            | 1 |
| Very often <i>Pinasam</i> , Even without attack | 2 |
| Persistent <i>Pinasam</i>                       | 3 |

**2) Kasa veg (Aivegat Kasate)**

|                                                      |   |
|------------------------------------------------------|---|
| No <i>Kasa</i>                                       | 0 |
| <i>Kasa vega</i> Sometimes, Not troublesome          | 1 |
| <i>Kasa vega</i> with pain, not disturbing the sleep | 2 |
| Very troublesome, Does not allow to sleep            | 3 |

**3) Kaphasthevan (Quantity of sputum)**

|                  |   |
|------------------|---|
| 10ml/day         | 0 |
| 20ml/day         | 1 |
| 30ml/day         | 2 |
| 40ml/day or more | 3 |

**Plan of clinical trial**

**Group A: Trial group**

No of patients – 30  
 Drug – *Sauvarchaladi Churna*  
 Dose – 3gm B.D.  
*Anupana – Koshna Jal*  
 Duration of treatment – 30 Days  
 Follow up – Each 5 Days

**Group B: - Control group**

No of patients – 30  
 Drug – Tab Theo-Asthalin  
 Dose – 1 tab B.D.  
 Duration of treatment – 30 Days  
 Follow up – Each 5 Days

**Criteria for Assessment**

**Investigations:** Baseline investigations required for screening of patients were carried out initially, such as CBC, ESR, LFT, RFT, BSL (fasting & postprandial), HIV, VDRL etc.

Out of these investigations Hb% and ESR were done after completion of treatment and were assessed statistically. Also Peak expiratory Flow Rate (PEFR), Chest expansion and Breath holding time were recorded before and after treatment and assessed statistically.

**Subjective parameters:** Cardinal sign and symptoms of the disease were noted and were used for assessment of the effect of treatments.

**4) Shwas veg gati (Respiratory rate)**

|                |   |
|----------------|---|
| 18/min         | 0 |
| 24/min         | 1 |
| 30/min         | 2 |
| 40/min or more | 3 |

**5) Asino labhate Saukhyam**

|                                                        |   |
|--------------------------------------------------------|---|
| Relief in lying down position & can sleep              | 0 |
| No coughing in sitting posture & can sleep             | 1 |
| Intermittent coughing in sitting posture but can sleep | 2 |
| In sitting posture pt can't sleep                      | 3 |

**6) Ghurghurakam (Wheezing)**

|                             |   |
|-----------------------------|---|
| No wheezing                 | 0 |
| Wheezing only during attack | 1 |
| Very often wheezing sound   | 2 |
| Wheezing throughout the day | 3 |

**Clinical examination:** Complete clinical examination from the point of view of *Shwas* was done to diagnose and assess signs and symptoms of patients. Also patients undergoing trial was examined clinically at every follow up to maintain record of the same.

**Case record form:** Record of all the patients included in this study was documented and maintained. A case record form to meet all the requirements of the trial has been designed and follow up was maintained in the case record form.

**OBSERVATIONS****Table 1: Age wise Distribution of 60 Patients of Shwasa**

| S. No. | Age Group | Group A     |      | Group B     |      | Total       |      |
|--------|-----------|-------------|------|-------------|------|-------------|------|
|        |           | No. of Pts. | %    | No. of Pts. | %    | No. of Pts. | %    |
| 1      | 16-30 yrs | 3           | 10   | 5           | 16.6 | 8           | 13.3 |
| 2      | 30-40 yrs | 6           | 20   | 5           | 16.6 | 11          | 18.3 |
| 3      | 40-50 yrs | 10          | 33.3 | 13          | 43.3 | 23          | 38.3 |
| 4      | 50-60 yrs | 11          | 33.6 | 7           | 23.3 | 18          | 30   |

**Age** -Patients included in the trial range from 16 yrs. to 60 yrs. of Age. 8 patients (13.3%) were from the age group 16-30 yrs. 11 patients (18.3%) were from age group 30-40 yrs. 23 patients (38.3%) were from the age group 40-50 yrs. 18 patients (30%) were from the age group 50-60 yrs.

**Table 2: Education wise Distribution of 60 Patients of 'Shwasa'**

| S. No. | Education    | Group A     |      | Group B     |    | Total       |      |
|--------|--------------|-------------|------|-------------|----|-------------|------|
|        |              | No. of Pts. | %    | No. of Pts. | %  | No. of Pts. | %    |
| 1      | Educated     | 13          | 43.3 | 9           | 30 | 22          | 36.6 |
| 2      | Non Educated | 17          | 56.6 | 21          | 70 | 38          | 63.3 |

**Education**- Out of 60 patients 22 (36.6%) patients were Educated, 38 (63.3%) patients were non-educated.

**Table 3: Occupation wise distribution of 60 Patients of 'Shwasa'**

| S. No. | Occupation | Group A     |      | Group B     |      | Total       |      |
|--------|------------|-------------|------|-------------|------|-------------|------|
|        |            | No. of Pts. | %    | No. of Pts. | %    | No. of Pts. | %    |
| 1      | Student    | 2           | 6.6  | 3           | 10   | 5           | 8.3  |
| 2      | Service    | 4           | 13.3 | 4           | 13.3 | 8           | 13.3 |
| 3      | Labor      | 18          | 60   | 14          | 46.6 | 32          | 53.3 |
| 4      | Housewife  | 6           | 20   | 9           | 30   | 15          | 25   |



**Occupation:** Out of 60 patients included in the trial 5 patients (8.3%) were Students, 8 patients (41.6%) were service persons, 32 patients (53.3%) were Labor and 15 patients (15%) were Housewives respectively.

**Table 4: Gender wise distribution of 60 Patients of 'Shwasa'**

| S. No. | Gender | Group A     |      | Group B     |      | Total       |      |
|--------|--------|-------------|------|-------------|------|-------------|------|
|        |        | No. of Pts. | %    | No. of Pts. | %    | No. of Pts. | %    |
| 1      | Male   | 16          | 53.3 | 19          | 63.3 | 35          | 58.3 |
| 2      | Female | 14          | 46.6 | 11          | 36.6 | 25          | 41.6 |

**Gender** –Out of 60 patients, 35 (58.3%) patients were male while 25 (41.6%) were Female patients.

**Table 5: Socio-Economic Status wise Distribution of 60 Patients of 'Shwasa'**

| S. No. | Socio-Economic Status | Group A     |      | Group B     |      | Total       |      |
|--------|-----------------------|-------------|------|-------------|------|-------------|------|
|        |                       | No. of Pts. | %    | No. of Pts. | %    | No. of Pts. | %    |
| 1      | HC                    | 7           | 23.3 | 8           | 26.6 | 15          | 25   |
| 2      | MC                    | 10          | 33.3 | 7           | 23.3 | 17          | 28.3 |
| 3      | LC                    | 13          | 43.3 | 15          | 50   | 28          | 46.6 |

**Socio-Economic Status** – Out of 60 patients selected in the trial 15 patients (25%) were from higher class, 17 patients (28.3%) were of Middle class and 28 patients (46.6%) were of Lower Class.

**Table 6: Aahara (Diet) wise Distribution of 60 Patients of 'Shwasa'**

| S. No. | Aahar | Group A     |      | Group B     |    | Total       |      |
|--------|-------|-------------|------|-------------|----|-------------|------|
|        |       | No. of Pts. | %    | No. of Pts. | %  | No. of Pts. | %    |
| 1      | Veg   | 16          | 53.3 | 21          | 70 | 37          | 61.6 |
| 2      | Mix   | 14          | 46.6 | 9           | 30 | 23          | 38.3 |

**Diet** – out of 60 patients included in the study 23 patients (38.3%) were having mix diet and 37 patients (61.6%) having vegetarian diet.

**Table 7: Prakruti wise Distribution of 60 Patients of 'Shwasa'**

| S. No. | Prakruti      | Group A     |      | Group B     |      | Total       |      |
|--------|---------------|-------------|------|-------------|------|-------------|------|
|        |               | No. of Pts. | %    | No. of Pts. | %    | No. of Pts. | %    |
| 1      | Vata – Pitta  | 8           | 26.6 | 11          | 36.6 | 19          | 31.6 |
| 2      | Pitta – Kapha | 8           | 26.6 | 7           | 23.3 | 15          | 25   |
| 3      | Kapha – Vata  | 14          | 46.6 | 12          | 40   | 26          | 43.3 |

**Prakruti** – out of 60 patients included in the study 19 patients (31.6%) were having Vata- Pitta dominance Prakruti. 15 patients (25%) having Pitta- Kapha Prakruti and 26 patients (43.3%) were having Kapha- Vata dominance Prakruti.

**Table 8: Agni wise Distribution of 60 Patients of 'Shwasa'**

| S. No. | Agni    | Group A     |      | Group B     |    | Total       |      |
|--------|---------|-------------|------|-------------|----|-------------|------|
|        |         | No. of Pts. | %    | No. of Pts. | %  | No. of Pts. | %    |
| 1      | Manda   | 16          | 53.3 | 12          | 40 | 28          | 46.6 |
| 2      | Vishama | 9           | 30   | 9           | 30 | 18          | 30   |
| 3      | Tikshna | 5           | 16.6 | 9           | 30 | 14          | 23.3 |
| 4      | Sama    | 0           | 0    | 0           | 0  | 0           | 0    |

**Agni** - Out of 60 patients selected in the study 28 patients (46.6%) were having Manda Agni, 18 patients (30%) were having Vishama Agni, 14 patients (23.3%) were having Tikshna Agni and No patient were observed having Sama Agni.

**Table 9: Koshtha wise Distribution of 60 Patients of 'Shwasa'**

| S. No. | Koshtha | Group A     |      | Group B     |      | Total       |      |
|--------|---------|-------------|------|-------------|------|-------------|------|
|        |         | No. of Pts. | %    | No. of Pts. | %    | No. of Pts. | %    |
| 1      | Krura   | 13          | 43.3 | 11          | 36.6 | 24          | 40   |
| 2      | Mrudu   | 8           | 26.6 | 11          | 36.6 | 19          | 31.6 |
| 3      | Madhya  | 9           | 30   | 8           | 26.6 | 17          | 28.3 |

**Koshtha:** Out of 60 patients selected in the study 24 patients (40%) were having *Krura Koshtha*, 19 patients (31.6%) were having *Mrudu Koshtha* and 17 patients (28.3%) were having *Madhya Koshtha*.

**Table 10: Chronicity wise Distribution of 60 Patients of 'Shwasa'**

| S. No. | Chronicity | Group A     |      | Group B     |      | Total       |      |
|--------|------------|-------------|------|-------------|------|-------------|------|
|        |            | No. of Pts. | %    | No. of Pts. | %    | No. of Pts. | %    |
| 1      | 0-1 yr     | 5           | 16.6 | 7           | 23.3 | 12          | 20   |
| 2      | 1-2 yr     | 8           | 26.6 | 9           | 30   | 17          | 28.3 |
| 3      | >2 yr      | 17          | 56.6 | 14          | 46.6 | 31          | 51.6 |

**Chronicity** – Out of 60 patients selected in the study 12 patients (20%) were having disease since less than 1 year, 17 patients (28.3%) were having since 1 to 2 years, 31 patients (51.6%) were having disease since more than 2 years.

**Table 11: Vyasan (Addiction) wise distribution of 60 Patients of 'Shwasa'**

| Vyasan                      | Group (A)   |      | Group (B)   |      | Total       |      |
|-----------------------------|-------------|------|-------------|------|-------------|------|
|                             | No. of Pts. | %    | No. of Pts. | %    | No. of Pts. | %    |
| Tobacco                     | 6           | 20   | 5           | 16.6 | 11          | 36.6 |
| Smoking                     | 7           | 23.3 | 5           | 16.6 | 12          | 20   |
| Alcohol                     | 2           | 6.6  | 4           | 13.3 | 6           | 10   |
| Alcohol & Smoking / Tobacco | 7           | 23.3 | 9           | 30   | 16          | 26.6 |
| No                          | 8           | 26.6 | 7           | 23.3 | 15          | 25   |

**Vyasan** - Out of 60 patients selected in the study 11 patients (36.6%) were addicted to Tobacco, 12 patients (20%) were addicted to Smoking, 6 patients (10%) were having Alcohol addiction, 16 patients (26.6%) were addicted to Alcohol as well as Smoking or Tobacco. 15 patients (25%) included in this study not having any addiction.

### Result

Effect of the *Sauvarchaladi churn* (Group A) is and Tab. Theo-Asthalin (Group B) on symptoms observed in *Shwas* is statistically proved to be significant. But on comparison between two groups there is Group A is more significant than Group B.

Effect of the *Sauvarchaladi Choorna* (Group A) and Tab. Theo-asthalin (Group B) on symptoms observed in *Shwas* is statistically proved to be significant. But on comparison between two groups, group A is more effective in reducing the symptoms *Kasa veg, Kapha Sthivan, Shwas Veg gati, Asino Labhate Saukhyam*. In reducing the symptoms *Pinasa* and *Ghurghurakam* there is no significant difference between two groups i.e. both groups are equally effective.

### Discussion

The findings of clinical study are discussed critically as under.

- ❖ Discussion on demographic analysis.
- ❖ Discussion on clinical efficacy of therapy with symptoms.
- ❖ Discussion on clinical efficacy of therapy on Objective parameters.
- ❖ Discussion on total effect of therapy.
- ❖ Discussion on Comparative efficacy of both groups.
- ❖ *Samprapti* and *Samprapti-bhanga*.
- ❖ Probable mode of action of drugs.

### Discussion on Demographic analysis

**1.Age:** It was found that out of 60 patients of *Shwas*, 13.3% of patients were from age group of 16-30 yrs. 18.3% were from age group of 30-40 yrs. & 38.3% were from age group of 40-50 yrs. & 30% of patients were from age group of 50-60 yrs. There is a predominance of the patients between Age group of 40 to 60 years observed, because of *Vata*

*Pradhanyata* and *Vardhakyajanya srotodaurbalya* in this Age group is observed. (Table 1, Graph 1).

**2. Education:** Out of 60 patients 22 (36.6%) patients were Educated, 38 (63.3%) patients were non-educated. The percentage of Non educated patients is found more. (Table 2, Graph 2).

**3. Occupation:** Out of 60 patients of '*Shwas*', 5 patients (8.3%) were students, 8 patients (13.3%) were service men and women, 32 patients (53.3%) were Labor worker and 15 patients (25%) were Housewives respectively. The percentage of Labor workers & Housewives were observed more. This explains labor workers and Housewives were exposed to dust which is major etiological factor for the *Shwas*. Also Labour workers have *Srotodaurbalya* and unhygienic condition at work, this may explain higher no of patients in this category. (Table 3, Graph 3).

**4. Gender:** Out of 60 patients, 35 (58.3%) patients were male while 25 (41.6%) were Female patients. Thus percentage of male patients found more in study. (Table 4, Graph 4).

**5. Socio-Economic status:** Out of 60 patients of '*Shwas*', 15 patients (25%) were from higher economical class. 17 patients (28.3%) were from middle class and 28 patients (46.6%) were from lower Socio-economical class. More percentage of lower class is observed, this may be due to poor hygiene and more exposure to dust. (Table 5, Graph 5).

**6. Diet (Aahara):** Out of 60 patients of '*Shwas*' 37 patients (61.6%) were having vegetarian diet and 23 patients (38.3%) having mixed diet. (Table 6, Graph 6).

**7. Prakruti:** Out of 60 patients of '*Shwas*', 19 patients (31.6%) were having *Vata-pitta* dominance *Prakruti*. 15 patients (25%) having *Pitta-Kapha Prakruti* and 26 patients (43.3%) were having *Kapha-Vata* dominance *Prakruti*. A predominance of *Kapha vata Prakruti* is observed. (Table 7, Graph 7)

**8. Agni:** Out of 60 patients selected in the trial 28 patients (46.6%) were having *Manda Agni*, 18 patients (30%) were having *Vishama Agni*, 14 patients (23.3%) were having *Tikshna Agni* and no patients were observed having *Sama Agni*. A more percentage of *Mandagni* patients followed by *Vishama agni* and *Tikshna agni* is observed. (Table 8, Graph 8).

**9. Koshtha:** Out of 60 patients selected in the trial 24 patients (40%) were having *Krura Koshtha*, 19 patients (31.6%) were having *Mrudu Koshtha*, 17 patients (28.3%) were having *Madhya Koshtha*. A

predominance of *Krura Koshtha* followed by *Mrudu Koshtha* is observed. (Table 9, Graph 9)

**10. Chronicity:** Out of 60 patients selected in the study 12 patients (20%) were having chronicity of '*Shwas*' less than 1 year, 17 patients (28.3%) were having chronicity 1 to 2 years and 31 patients (51.6%) were having chronicity More than 2 years. (Table 10, Graph 10). More percentage of patients having disease chronicity more than 2 years is observed.

**11. Vyasana (Addiction):** Out of 60 patients selected in the study 11 patients (36.6%) were having tobacco addiction, 12 (20%) patients were addicted to smoking, 6 (10%) of patient were having Alcohol addiction. 16 (26.6%) of patients were having Alcohol and Smoking/tobacco addiction & 15 (25%) of patients were recorded as non-addict. This data shows, Addiction is also one of the responsible factors for *Shwas*, Because 75% patient from total 60 patients were addicted to any of tobacco, Smoking or alcohol. (Table 11, Graph 11)

### Discussion on clinical efficacy of therapy with symptoms

It was observed that total percentage of relief in symptoms in Group A is 75.24%, whereas in Group B it was found 63.86%.

It shows that Group A therapy of *Saauvarchaladi churna* is more effective in relieving symptoms of *Shwas*.

**Pinasa:** The % of relief observed in Group A was 64.78% and in Group B was 54.16%.

- By applying Wilcoxon signed rank test, significant results were obtained in both groups. (Group A: Z=4.78, P<0.0001 ; Group B: Z =4.70, P<0.0001).
- *Kasa veg:* The % of relief observed in Group A was 72.5% and in Group B was 63.15%.
- By applying Wilcoxon signed rank test, significant results were obtained in both groups. (Group A: Z=4.78, P<0.0001 ; Group B: Z =4.78, P<0.0001).
- *Kaphasthivan:* The % of relief observed in Group A was 71.62% and in Group B was 57.97%.
- By applying Wilcoxon signed rank test, significant results were obtained in both groups. (Group A: Z=4.78, P<0.0001; Group B: Z =4.70, P<0.0001).
- *Shwas veg gati:* The % of relief observed in Group A was 79.68% and in Group B was 65.51%.
- By applying Wilcoxon signed rank test, significant results were obtained in both groups.

(Group A:  $Z=4.78$ ,  $P<0.0001$ ; Group B:  $Z =4.78$ ,  $P<0.0001$ ).

- *Asino Labhate Saukhya*: The % of relief observed in Group A was 81.35% and in Group B was 62.06%.
- By applying Wilcoxon signed rank test, significant results were obtained in both groups. (Group A:  $Z=4.70$ ,  $P<0.0001$  ; Group B:  $Z =4.62$ ,  $P<0.0001$ ).
- *Ghurghurkam*: The % of relief observed in Group A was 84.37% and in Group B was 83.33%.
- By applying Wilcoxon signed rank test, significant results were obtained in both groups. (Group A:  $Z=4.70$ ,  $P<0.0001$  ; Group B:  $Z =4.78$ ,  $P<0.0001$ ).

**Discussion on clinical efficacy of therapy on Objective parameters:** To observe effect on Objective parameters paired 't' test was applied. And for comparison of both groups unpaired 't' test was applied.

**Haemoglobin:** By applying Paired t test, significant result obtained in group A but result of group B was insignificant. (Group A:  $t=2.155$ ,  $P= 0.039$ ; Group B:  $t = 0.196$ ,  $P = 0.845$ ).

**ESR:** By applying paired t test, significant results were obtained in both groups. (Group A:  $t = 5.196$ ,  $P<0.0001$ ; Group B:  $t =4.593$ ,  $P<0.0001$ ).

**Chest Expansion:** By applying Paired t test, significant results were obtained in both groups. (Group A:  $t= 7.760$ ,  $P<0.0001$ ; Group B:  $t = 7.746$ ,  $P<0.0001$ ).

**Breath holding time:** By applying paired t test, significant results were obtained in both groups. (Group A:  $t = 11.698$ ,  $P<0.0001$ ; Group B:  $t =9.302$ ,  $P<0.0001$ ).

**Peak Expiratory Flow Rate:** By applying paired t test, significant results were obtained in both groups. (Group A:  $t = 11.433$ ,  $P<0.0001$ ; Group B:  $t =5.426$ ,  $P<0.0001$ ).

From above statistical calculations it was observed that both treatments significant for the criteria like ESR, Chest Expansion, Breath holding time and Peak Expiratory Flow Rate (PEFR). Group A is also effective on Hemoglobin but group B is insignificant to increase hemoglobin.

**Discussion on total effect of therapy:** Out of 60 patients 21 patients were highly improved, 32 patients were having moderate relief and 7 patients were mildly improved. No aggravations of symptoms were observed in any patient & all patients have above 25% relief. It clearly indicates that both therapies are effective in management of *Shwas*.

## Discussion on Comparative efficacy of both groups:-

**By Mann- Whitney test:** Comparison between two groups with respect to symptom score was statistically evaluated by Mann- Whitney test. There was significant difference found between two groups for the symptoms *Kasa veg*, *Kapha Sthivan*, *Shwas Veg gati*, *Asino Labhate Saukhyam*. As the  $\Sigma R_1$  value of Group A is more than group B; Group A is more effective than Group B in relieving above symptoms. No significant difference found between two groups for the symptoms *Pinasa* and *Ghurghurakam*. That means both groups are equally effective in relieving these symptoms.

**By Unpaired t test:** Comparison of objective parameter in both groups done by using Unpaired t test. There was significant difference found between two groups for the parameters chest expansion, breath holding time and PEFr. That is Group A is more effective than Group B in improving these parameters. No significant difference found between two groups for parameters Hemoglobin and ESR. That means both groups are equally effective in improving Hemoglobin and ESR.

**By Chi-square test:** Comparison between two groups was statistically evaluated by chi- square test. The Chi-square value 7.929 at 2 degrees of freedom,  $P<0.001$  which is statistically highly significant which suggest that Group A was more effective than Group B.

## Overall Properties of Sauvarchaladi Churna

Aachrya Charak mentioned '*Sauvarchaladi Churna*' in '*Shwas Chikitsa*'. It contains four ingredients namely *Sauvarchal*, *Bharangi*, *Shunthi* in equal proportions and *Sharkara* 2 parts. When properties of all ingredients of the *Churna* were observed at a time it has seen that, majority of drugs are of *Katu*, *Tikta* & *Madhur rasa*, *Katu vipaka* and *Ushna virya* which are having potent *Kaphaghna* & *Vataghna* properties. While observing overall *Gunas* of all the contents, it is found that most of the drugs having *Laghu guna*.

## CONCLUSION

The Drug "*Savurachaladi choorna*" in *Avegavastha* of *Tamakshwas* is useful in *Kaphapradhan tamksh* was than that of *Vatapradhan*. The Drug *Savurachaladi Choorna* in *Avegavastha* of *Tamakshwas* shows significant relief in *Lakshana*. This drug is effective in *Tamak shwas*, further research is necessary.



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