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CLINICAL STUDY ON VASADI KWATHA SHARKARA IN THE MANAGEMENT OF TAMAKA SHWASA (BRONCHIAL ASTHMA) IN CHILDREN

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ABSTRACT

Bronchial asthma is a disease characterized by an increased responsiveness of the airways to various stimuli. It manifests by widespread narrowing of the airways causing paroxysmal dyspnoea, wheezing or coughing. Most of the clinical features of *Tamaka Shwasa* can be correlated to the clinical features of Bronchial asthma. *Shwasa Roga* is the aggravated Vayu along with vitiated *Kapha* obstructs the channels of *Prana, Udaka* and *Annavaha* and spreads throughout the body and produces *Shwasa*. *Acharya Charaka* has mentioned two-allied stages of *Tamaka Shwasa* known as two sub-types i.e., *Pratamaka* and *Santamaka*. *Sushruta* and *Vagbhata* have only mentioned the name as *Pratamaka*, which includes clinical manifestation of *Santamaka*. Patients suffering from *Tamaka Shwasa* when get afflicted with fever and fainting, the condition is called as *Pratamaka Shwasa*. It is suggestive of involvement of *Pitta* dosha in *Pratamaka Shwasa*. When the patients of *Pratamaka Shwasa* feel submerged in darkness, the condition is called as *Santamaka Shwasa*. *Tamaka Shwasa* is having *Kapha, Vata* predominance.

For its management Acharya's have explained that those diet & drugs which are having *Kapha Vataghna, Ushna & Vatanulomana* properties are useful. In *Yogaratnakara, Vasadi Kwatha* is mentioned in the management of the *Shwasa Roga*. Therefore, in this present study it has been considered as a trial drug. To enhance its palatability and taste in children, Vasadi Kwatha will be prepared in the form of *Sharkara*. *Vasadi Kwatha* is a Herbo-mineral preparation. Contents of *Vasadi Kwatha* are *Vasa, Haridra, Dhanyak, Amrita, Bharangi, Pippali, Nagara, Kantakari, Marich* Most of the drugs are *Ushna* and *Vata Kaphashamaka* in property.

Keywords: Asthma, Bronchial Asthma, *Pratamaka Vasadi Kwatha, Sharkara*.

INTRODUCTION

According to *Acharya Charaka* the aggravated *Vayu* along with vitiated *Kapha* obstructs the channels of *Prana, Udaka* and *Annavaha* and spreads throughout the body and produces *Shwasa*[1]. *Shwasa Roga* is of five types as described in all *Ayurvedic* books Out of which *Tamaka Shwasa* is one of them which is a *"Swatantra" Vyadhi"* (independent disease) having its own etiological factors, Pathophysiology and management. In *Kashyap Samhita - Sutrasthana* chapter 25th "*Vedana Adhyaya*" it is mentioned that child suffering from disease *Shwasa* exhales warm air[2]. The disease is called *Tamaka Shwasa* as attack of the disease precipitates during night and during the state of attack dyspnea becomes so severe that patient feels entering into the darkness. Main causative factors responsible for *Tamaka Shwasa* are *Dhuma* (smoke), *Raja* (dust), *Ativyayama* (excessive exercise/work), *Sheeta Sthananivasa* (residing in cold areas), *Guru Bhojana* (heavy diet) and *Sheeta Bhojana* (cold food/drinks). These factors lead to the vitiation of *Vata* which in turn vitiates *Kapha* leading to vitiation of *Rasa* and impeding the function of *PranaVata*[3]. According to our *Ayurvedic* literature *Vata* is captured by the *Aavrana* of *Kapha* in this disease. *Acharya Charaka* has mentioned that *Tamaka Shwasa* is *Kapha-Vataja Vikar*, and site of its origin is *Pitta Sthana*[4]. In *Sushruta Samhita, Madhava Nidana* and *Yogratnakar* it is mentioned that *Tamaka Shwasa* is *Kapha* predominant disorder. When going through the symptoms of *Tamaka Shwasa* in our *Ayurvedic* literature, our *Acharaya's* has told *Gurghurkam* (audible wheezing), *Pinasa* (coryza), *Shirogaurava* (heaviness in head region), *Kricchat Bhashitum* (difficulty in speaking) etc. all the symptoms show *Kapha* predominance. *Tamaka Shwasa* in general is described as *Vapya* (Pliable) disease[5]. However, in individual with recent origin of disease, person of *Pravara Bala* or both said to be *Sadhya. Acharya Charaka* has mentioned two-allied stages of *Tamaka Shwasa* known as two sub-types i.e., *Pratamaka and Santamaka*[6]. *Sushruta* and *Vagbhata* have only mentioned the name as *Pratamaka*, which includes clinical manifestation of *Santamaka*[7,8]. Patients suffering from *Tamaka Shwasa* when get afflicted with fever and fainting, the condition is called as *Pratamaka Shwasa*. It is suggestive of involvement of *Pitta dosha in Pratamaka Shwasa*. It is aggravated by *Udavarta*, dust, indigestion, humidity *(Kleda*) and *Tamoguna* (darkness) gets alleviated instant by cooling regimens. When the patients of *Pratamaka Shwasa* feel submerged in darkness, the condition is called as *Santamaka Shwasa*[9, 10] In the modern, Bronchial Asthma is a disease characterized by an increased responsiveness of the airways to various stimuli. It manifests by widespread narrowing of the airways causing paroxysmal dyspnoea, wheezing or cough[11]. Asthma is a serious global health problem. People of all ages in countries throughout the world are affected by chronic airway disorder that, when uncontrolled, can place severe limits on daily life and is sometimes fatal. The prevalence of asthma is increasing in most countries, especially among children aged [12]. Incidences as declared by WHO Asthma are the most common chronic disease among children worldwide. More than 339 million people are living with asthma. Over 80% of asthma-related deaths occur in low-and lower-middle income coun-

tries. Treatment and effective management of asthma saves lives[13].

NEED OF STUDY-

The current management of *Tamaka Shwasa* by modern medicine is only providing short term symptomatic relief but does not provide any long-term relief to the patient. On the other hand, prolonged use of these drugs is not safe, as it has many adverse effects with systemic manifestation and as the chronicity increases drug dose dependency increases & dilates the lung tissue to such an extent that at least it leads to respiratory failure. In present scenario *Ayurveda* is the best way to effectively & safely manage the condition without inducing any drug dependency where use of various *Shodhana* (Purification) procedures and use of internal medication not only detoxifies the body but also provides nutrition & increases the elasticity of lung tissue & develops natural immunity of the body. Thus, decreasing episodic recurrence of the disease and providing long term relief to the patient. In now day's scholars of various disciplines are working on the problem and various modern means and measures have been discovered, even than the effective drug without any side effect could not be stabilized. This highlights the need for clinical research in suitable designs to evaluate the efficacy of *Ayurveda* drugs in the treatment of Asthma. In *Yogaratnakara*, *Vasadi Kwatha* is mentioned in the management of the *Shwasa Roga*. No research work or documentation is available for the use of, *Vasadi Kwatha Sharkara* in the management of *Tamaka Shwasa* in children. Therefore, in this present study it has been taken considered as a trial drug. To enhance its palatability and taste in children, *Vasadi Kwatha* was prepared in the form of *Sharkara.*

AIMS & OBJECTIVES-

To evaluate the efficacy of *Vasadi Kwatha Sharkara* in the management of *Tamaka Shwasa (Bronchial Asthma) in children.*

MATERIALS AND METHOD-

I.E.C. No.-S.No./DSRRAU/UCA/IEC/19-20/315

CTRI No. - CTRI/2021/04/033236

(A)Selection of Cases: -

1. Source of Patients- Patient affected from *Tamaka Shwasa* (Bronchial Asthma) Were Selected from O.P.D. & I.P.D. P.G. department of Kaumarbhritya, Ayurveda Hospital Attached to University Post Graduate Institute of Ayurveda Studies & Research, *Dr. Sarvepalli Radhakrishnan* Rajasthan *Ayurved* University, Jodhpur, *Kani Ram* Salag Ram Tak Satellite Ayurved Hospital, Magra Punjala, Jodhpur and screened patient from various medical camps (if necessary)
2. Study design – Open label Randomized Trial
3. Sample size – 40 Patient
4. Age of patients- Children suffering from *Tamaka Shwasa* (Bronchial Asthma) were of 05 to 12 years of age selected for the present study.
5. Duration of study- 45 days
6. Follow up – 15th day

7.Posology- The patients were selected randomly and examined clinically along with laboratory investigations.

Selection of drugs: -

Many preparations have been mentioned in the *Ayurvedic* classics for the treatment of *Tamaka Shwasa*. So, in the present study oral drug *Vasadi Kwatha* which is described in *Yogaratnakara* under the chapter of *Shwasa Nidana* has been selected for research study. To enhance its palatability for easy administration in children formulation has been prepared in the form of *Sharkara (*Syrup*)*.

Preparation of drug: -

Drugs were prepared in pharmacy of University Post Graduate Institute of *Ayurveda* Studies & Research, Dr. *Sarvepalli Radhakrishnan* Rajasthan *Ayurved* University, Jodhpur.

Trial Drug *Vasadi Kwatha Sharkara*-

"Vasaharidradhanikaguduchibharngikananagagariganinaam"

Kwathen maricharajonviten Shwasah shamm yati na kasya punsh (Yogratnakar Shwasa Nidana /05)

S.no	Ratio	Ingredient	Latin name	Part used
1.	1	*Vasa*	Adhatoda vasica Linn.	Leaf
2.	1	*Haridra*	Curcuma longa Linn.	Rhizome
3.	1	*Dhanyak*	Coriandrum sativum Linn.	Fruit
4.	1	*Amrita*	Tinospora cordifolia Miers.	Stem
5.	1	*Bharangi*	Clerodendrum serratum Spreng.	Roots
6.	1	*Pippali*	Piper longum Linn.	Fruit
7.	1	*Nagara*	Zingiber officinale Roscoe.	Rhizome
8.	1	*Kantakari*	Solanum surattense Burm.	*Panchanga*
9.	1	*Maricha*	Piper nigrum Linn.	Fruit used as *Prakshepa Dravya*
10.	-	Sugar	-	-

Drug preparation method-

Firstly, all crude drugs were cleaned and dried. After that all dried drugs was pulverized into *Yavkuta* form. The decoction was prepared with drugs mentioned at serial no. 1 to 8. In decoction sugar in double quantity was added & mixed well during boiling process, and after 0.3% sodium benzoate as preservative and *Maricha* as *Prakshepa Dravya*. Thus, *Sharkara* was prepared. It was filtered with cotton cloth and after cooling this *Sharkara* was collected in utensils packaging of 200 or 100 ml.

Name of Drug	*Vasadi Kwatha Sharkara*
Number of Patients	40
Duration	Thrice in a day
Type of Study	Open label
Anupan	Lukewarm Water
Duration of Drug Trial	45days
Route	Oral
Randomization	Simple random sampling

Dose & Duration: The dose of drug administration is calculated based on Young Formula. In this formula adult dose was considered as per dose of *Kashaya* mentioned in *Sharngadhara Samhita.*

Dose of *Kashaya / Kwatha* mentioned in *Sharngadhara Samhita*- 2 Pal i.e., = 80 grams

Young Formula: - $\frac{\textbf{\textit{Adult dose X Age in years}}}{\textbf{\textit{Age}}+12}$

Title	Drug - *Vasadi Kwatha Sharkara*		Dose - 20 ml to 40 ml
Age of the child	5–7 years	8–10 years	10–12 years
Total Dose	25 ml	35 ml	40 ml
Duration	Thrice in a day	Thrice in a day	Thrice in a day

(A)Diagnostic Criteria-

A. Inclusion criteria

1. Children age group from 05-12 years of either sex having clinical signs & symptoms of *Tamaka Shwasa*
2. Pre diagnosed and confirmed patients of *Tamaka Shwasa.*

B. Exclusion criteria-

1. Child below 05 year & above 12 years of age was excluded from present study.
2. Patients suffering from chronic respiratory disorders like pulmonary tuberculosis, chronic lung disease, pulmonary edema, branchiogenic carcinoma were excluded from the present study.
3. Patient suffering from cardiac disease, metabolic disorders like diabetes mellitus and behavioral disorders etc. was excluded from study.

Assessment Criteria

➢ **Subjective Criteria**

- The improvement in the patient was assessed mainly on the basis of relief in the signs and symptoms of the disease.
- To assess the effect of therapy, all the signs and symptoms was given scoring depending upon their severity.

➢ **Objective criteria-**

Assessment of the therapy was also carried out by comparing the before treatment and after treatment, values of Objective Parameters.

Observations-

Total 52 patients were selected for the study of *Tamaka Shwasa* (Bronchial Asthma) but only 40 patients completed their trial for study.

Distribution of patients

S. No.	Status of patient	No. of patients	Total
1.	Registered	52	52
2.	Completed	40	40
3.	Discontinue	12	12

A total of 40 patients were continuing during this trial out of 52 patients. The remaining 12 patients were dropped out before completing their trial period.

Age: - Maximum numbers of patients are between age range of 11-12 years old with 21 patients (52.5%), 10 patients from the age group of 9-10 years (25%), and 9 patients from the age group of 5-8 years (22.5%). This is in line accordance with previous research.

Sex: -Total out of 40, male patients were 27 (67.5%) and 13 (32.5%) Patients were female as shown in the table. This shows that male patients are more likely than female patients to have *Tamaka Shwasa.* This is in line accordance with previous research. It's because males have narrower airways for their lung size, which is inherited separately, as well as increased airway tones and higher IgE.

Religion: - Almost all the patients i.e., 38(95%) were *Hindu* and rest 02(05%) patients were belonging to *Muslim* religion**.** Majority of *Hindu* religion and again the maximum number to patients visiting the O.P.D. is *Hindu* religion. Therefore, these findings were observed.

Socioeconomic Status: - Maximum patients were of Lower middle-class family i.e., 15(37.5%), followed by 07(17.5%) middle class, 11(27.5%) lower class, and 07 (17.5%) upper middle class respectively. There can be two reasons for these findings- one is World's second highest population living in India, it is also classified as a lower-middle class income country and second reason is, the incidence of both food and respiratory allergies increased with rising economic levels.

Habitat: - Maximum number of patients 27(67.5%) were from urban areas and 13(32.5%) were from rural areas**.** Pollution in cities is far higher than in rural areas.

Dietary Habits: -Maximum number of patients 23(57.5%) were of vegetarian dietary pattern followed by 17(42.5%) of mixed dietary pattern. Rajasthan is one of the vegetarians (74.9%) state in India[12] and Jodhpur is the second largest district of Rajasthan, so these findings observed.

***Sharirika Prakriti:* -** Maximum 24 (60%) patients were of *Vata-Kapha Prakriti*, followed by 04 (10%) patients were of *Pitta-Kapha Prakriti* and followed by 02 (5%) patients were of *Vata-Pitta Prakriti* and followed by 04 (10%) patients were of *Kapha-Pitta Prakriti* and remaining 06(15%) patient of *Kapha-Vata Prakriti*. *Tamaka shwasa* is *Vata-Kapha Pradhana Vyadhi* hence, these findings observed.

***Manasika Prakriti:* -** Maximum 29 (72.5%) patients were of *Rajasika-Tamasika Mansika Prakriti* followed by 07(17.5%) of *Satvika- Tamasikaprakriti* and 04(10%) of Satvika-*Rajasikaprakriti. Vayumahabhuta* is abundantly present in *Raja Dosha* which is chiefly responsible for causing allergic disorders. Patients with *Rajasika- Tamasika Prakriti* are

more likely to be involved in *Nidana Sevana* and are less able to follow the treatment protocols, making them more susceptible to *Tamaka Shwasa*.

***Samhanan*: -** Maximum patients were *Madhyama Samhanan* 26(65%), followed by *Avara Samhanan* 08(20%) and *Pravara Samhanan* 06 (15%). A weak *Samahana* is always prone to acquiring various diseases due to a lack of physical strength and disease resistance.

***Satmya:* -** Maximum patients were *Madhyama Satmya* 28(70%), followed by *Avara Satmya* 04 (10%) and *Pravara Satmya* 08 (20%). It is tough to determine a patient's actual *Satmya* because they are not always aware of their eating habits.

***Satva:* -**Maximum patients were of *Madhyama Satva* 27(67.5 %), followed by *Avara Satva* 07 (17.5%) and *Pravara Satva* 06 (15%).

***Vyayamshakti:* -** Maximum number 28 (70%) of patients had *Madhyam Vyayamshakti* followed by *Avar Vyayamshakti* 08(20%) and *Pravar Vyayamshakti* 04(10%). *Vyayamshakti* depends upon *Sarata* and *Samhanana* that mentioned earlier.

***Aaharshakti:* -** The *Abhyavaran Shakti* (one's capacity to eat a certain amount of food) and *Jaran Shakti* (one's capacity to digest a certain amount of food) are two factors to consider while evaluating the *Aahar Shakti*. Both of these elements have an impact on overall body health. Proper *Agni Bala* plays an important role for proper *Dhatu Nirmana* and *Bala Vridhdhi.*

- ***Abhyavaran Shakti:* -** Maximum patients were *Madhyam Abhyavaran Shakti* 30(75%), *Avar Abhyavaran Shakti* 04(10%) and *Pravar Abhyavaran Shakti* 06 (15%)**.**
- ***Jaran Shakti:* -** Maximum patients were *Madhyam Jaran Shakti* 21(52.5%), *Avar Jaran Shakti* 15 (37.5%) and *Pravar Jaran Shakti* 04 (10%).

***Vaya:* -** Maximum number 40 (100%) of patients were *Annada Vaya*.

***Agni:* -** Maximum numbers of patients were of *Mandagni* i.e., 30 (75%), followed by 0 (0%) patients of *Samagni*. *Vishmagni* and *Tikshnagni* patients were 06 (15%) and 04 (10%) respectively. *Tamaka Shwasa* is mainly *Vata-Kapha Pradhana Vyadhi* so due to *Kapha Dosha Agnimandhya* condition found in patients of Bronchial asthma.

***Desha:* -** All the patients who were suffering from bronchial asthma, they all were related to *Jangal Desha.* Jodhpur considered as *Jangal Desha* and in this study; all patients registered from Jodhpur, so these findings observed.

***Koshtha:* -** Maximum numbers of patients were having *Madhya Koshtha* i.e., 32 (80%) and remaining 04 (10%) and 04 (10%) were of *Krura Koshtha and Mirdu*.

Addiction: - Maximum number of patients were addicted to tea i.e., 18 (45%) patients. Some patients were not addicted to any kind of addiction i.e., 03 (7.5%) patients and the remaining 09 (22.5%) patients were having an addiction to coffee.

Sleep: -Maximum patients were of Disturbed Sleep i.e., 27(67.5%) patients, followed by 13(32.5%) patients of Sound Sleep. Sleep was found disturbed in patients of bronchial asthma because of *Kapha Dosha*.

Result-

All the results were calculated by using Software: **InStatGraphPad 3.0**.

For Nonparametric Data **Wilcoxon signed ranks test** was used while for Parametric Data **Paired‘t’ Test** was used and results were calculated.

Subjective Parameters: -

Effects of Therapy on *Shwasakrichchhata* (Dyspnoea)-

- In *Shwasakrichchhata* (Dyspnoea) giving a relief of 68.80% which was statistically extremely significant (<0.0001).

Effects of Therapy on *Kasa* (Cough)-

- In *Kasa (*Cough) giving a relief of 75.23% which was statistically extremely significant (<0.0001).

Effects of Therapy on *Ghurghuraka* (Wheezing)-

- In *Ghurghuraka (*Wheezing) giving a relief of 75% which was statistically extremely significant (<0.0001).

Effects of Therapy on *Pinsa (*Rhinorrhea)-

- In *Pinsa (*Rhinorrhea) giving a relief of 68.62% which was statistically extremely significant (<0.0001).

Effects of Therapy on *Bhasanakricchta* (Difficulty in Speech)-

- In *Bhasanakricchta* (Difficulty in Speech) giving a relief of 72.54% which was statistically extremely significant (<0.0001).

Effects of Therapy on *Kapha Nishthivanam* (Expectoration of sputum)-

- In *Kapha Nishthivanam* (Expectoration of sputum) giving a relief of 74.25% which was statistically extremely significant (<0.0001).

Effects of Therapy on Nidraalpata (Disturbance in Sleep)-

- In *Nidraalpata* (Disturbance in Sleep) giving a relief of 69.90% which was statistically extremely significant (<0.0001).

Effects of Therapy on *Ashino labhate saukhyam* (orthopnea)-

- In *Ashino labhate saukhyam* (orthopnea) the mean Score before treatment was 2.75 which lowered down to 0.975 after treatment, with SD±0.6597 giving a relief of 64.54% which was statistically extremely significant (<0.0001).

Effects of Therapy on *Pranprapidakam* (Tachycardia)-

- In *Pranprapidakam* (Tachycardia) giving a relief of 59.80% which was statistically extremely significant (<0.0001).

Effects of Therapy on *Arati (*Restlessness)-

- In *Arati (*Restlessness) giving a relief of 74.50% which was statistically extremely significant (<0.0001).

Effects of Therapy on *Vishushkasya Muhu* (Dry mouth)-

- In *Vishushkasya Muhu* (Dry mouth) giving a relief of 71.27 % which was statistically extremely significant (<0.0001).

Effects of Therapy on *Kanthoddhvansanam (*Irritation in throat)-

- In *Kanthoddhvansanam* (Irritation in throat) giving a relief of 73% which was statistically extremely significant (<0.0001).

Objective Parameters: -

Effects of Therapy on H
.B.-

- In H.B. giving a change of 4.01% which was statistically extremely significant (0.0007).

Effects of Therapy on Neutrophils-

- In Neutrophils giving a change of 45.68% which was statistically extremely significant (0.4744).

Effects of Therapy on Lymphocytes-

- In Lymphocytes giving a change of 35.70% which was statistically considered significant (0.0419).

Effects of Therapy on Eosinophils-

- In Eosinophils giving a change of 31.24% which was statistically considered very significant (0.0024).

Effects of Therapy on Monocytes-

- In Monocytes giving a change of 60.33% which was statistically extremely significant (0.0001).

Effects of Therapy on Basophils-

- In Basophils giving a change of 58.98% which was statistically considered significant (0.0425).

Effects of Therapy on E.S.R.-

- In E.S.R. giving a change of 52.13% which was statistically extremely significant (0.0001).

Effects of Therapy on FEV1 (Forced Expiratory Volume in 1 second): ____%

- In FEV1 (Forced Expiratory Volume in 1 second): ____% giving a change of 32.04% which was statistically extremely significant (0.0001).

Effects of Therapy on PEFR (Peak expiratory flow rate)-

- In PEFR (Peak expiratory flow rate) giving a change of 19.32% which was statistically extremely significant (0.0001).

Overall effect of Therapy-

Table: Showing overall effect of therapy on Subjective parameters

Subjective Parameter	Parentage
Shwasakrichchhata (Dyspnoea)	68.80

Kasa (Cough)	75.23
Ghurghuraka (Wheezing)	75
Pinsa (Rhinorrhea)	68.62
Bhasanakricchta (Difficulty in Speech)	72.54
Kapha Nishthivanam (Expectoration of sputum)	74.25
Nidralpata (Disturbance in Sleep)	69.90
Ashino labhate saukhyam(orthopnea)	64.54
Pranprapidakam (Tachycardia)	59.80
Arati (Restlessness)	74.50
Vishushkasya Muhu (Dry mouth)	71.27
Kanthoddhvansanam (Irritation in throat)	73
Overall Average effect	70.62%

Table: Showing overall effect of therapy on Subjective parameters

Objective Parameters	Percentage
HB	-4.01
Neutrophils	45.68
Lymphocytes	35.70
Eosinophils	31.24
Monocytes	60.33
Basophils	58.98
ESR	52.13
FEV1(Forced Expiratory Volume in 1 second): _____%	-32.04
PEFR (Peak expiratory flow rate)	-29.79
Overall Average effect	38.87%

The effect of trail drug *"Vasadi kwatha Sharkara"* on subjective parameters was 70.62% while on objective parameters was 38.87%.

For assessment of overall improvement, following grading used.

S.No.	Effect	% Relief
1.	Complete improvement	100%
2.	Marked improvement	76-99%
3.	Moderately improvement	51-75%
4.	Mild improvement	26-50%
5.	Unchanged	Below 25%

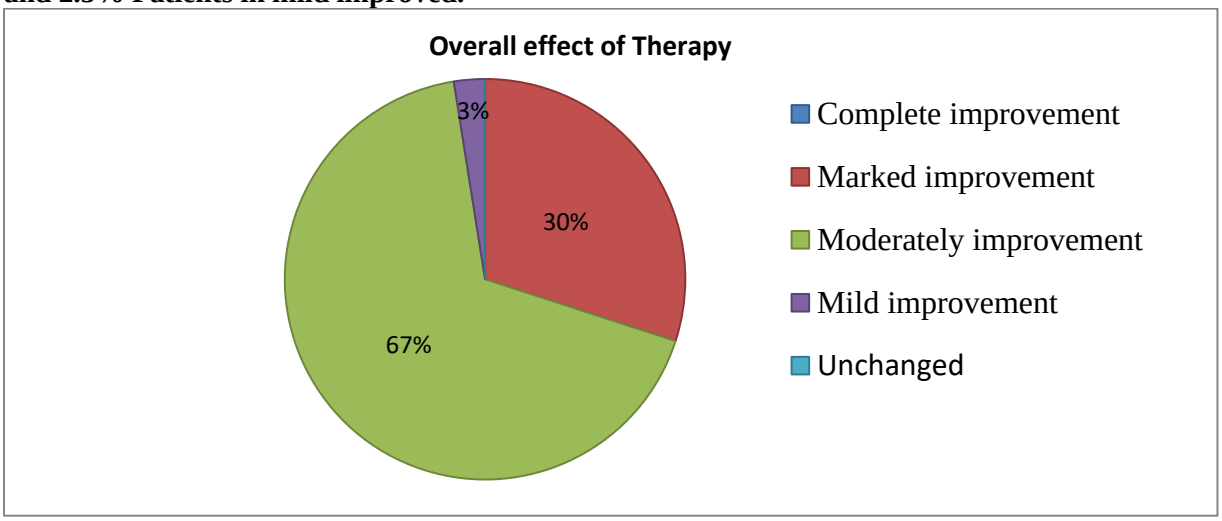
Table

S.No.	Effect	No of patients	%
1.	Complete improvement	00	00
2.	Marked improvement	12	30%
3.	Moderately improvement	27	67.5%
4.	Mild improvement	01	2.5%

5.	Unchanged	00	00
	Total	40	100

As shown in the above table 67.5% patients were Moderately improvement followed by 30% patients were Markedly improvement and 2.5% Patients were Mild improvement. No patients were found who had no change and no patients were found with complete improvement.

So, a total of 67.5% patients were found in moderately improved followed by 30% in markedly improved and 2.5% Patients in mild improved.



DISCUSSION

The most important aspect of research is discussion. To get accurate information about facts, one must examine the facts' merits and faults. Before drawing any conclusions, the *Vimarsha*, or debate, was used in traditional research methods.

Total 40 patients of *Tamaka Shwasa* (Bronchial asthma) were studied in the present study. They were in the age between 05-12 years with maximum patients in the age group of11-12 years year's (52.5%).This series maximum numbers of patients were male27 (67.5%), Hindu (95%), from Lower middle Class (37.5%), from Urban Area (67.5%), Vegetarian (57.5%), having *Vata-Kapha Prakriti* (60%), 72.5% patients were *Rajasika-Tamasika Manasika Prakriti*, *Madhyama Samhanan* (65%), *Vyamishra Satmya* (70%), *Madhyama Satva* (67.5 %), *Madhyam Vyayamshakti* (70%), *Madhyam Abhyavaran Shakti* (75%), *Madhyam Jaran Shakti* (52.5%) and *Annada Balyavastha Vaya* (100%).Maximum patients were of *Mandagni* (75%), Disturbed Sleep (67.5%), *Jangal Desha* (100%), having *Madhya Koshtha* (80%), Addicted of tea (45%).

Effect of Therapy on Subjective Parameters-

- In *Shwasakrichchhata* (Dyspnoea) has been given a relief of 68.80% which was statistically extremely significant (<0.0001).
- In *Kasa* (Cough) has been given a relief of 75.23% which was statistically extremely significant (<0.0001).
- In *Ghurghuraka* (Wheezing) has been given a relief of 75% which was statistically extremely significant (<0.0001).
- In *Pinsa* (Rhinorrhea) has been given a relief of 68.62% which was statistically extremely significant (<0.0001).
- In *Bhasanakricchta* (Difficulty in Speech) has been given a relief of 72.54% which was statistically extremely significant (<0.0001).
- In *Kapha Nishthivanam* (Expectoration of sputum) has been given a relief of 74.25% which was statistically extremely significant (<0.0001).

- In *Nidraalpata* (Disturbance in Sleep) has been given a relief of 69.90% which was statistically extremely significant (<0.0001).
- In *Ashino labhate saukhyam* (orthopnea) has been given a relief of 64.54% which was statistically extremely significant (<0.0001).
- In *Pranprapidakam* (Tachycardia) has been given a relief of 59.80% which was statistically extremely significant (<0.0001).
- In *Arati* (Restlessness) has been given a relief of 74.50% which was statisticallyextremely significant (<0.0001).
- In *Vishushkasya Muhu* (Dry mouth) has been given a relief of 71.27 % which was statistically extremely significant (<0.0001).
- In *Kanthoddhvansanam* (Irritation in throat) has been given a relief of 73% which was statistically extremely significant (<0.0001).

Effect of Therapy on Objective Parameters-

- In H.B. has been given a change of 4.01% which was statistically extremely significant (0.0007).
- In Neutrophils has been given a change of 45.68% which was statistically extremely significant (0.4744).
- In Lymphocytes has been given a change of 35.70% which was statistically considered significant (0.0419).
- In Eosinophils has been given a change of 31.24% which was statistically considered very significant (0.0024).
- In Monocytes has been given a change of 60.33% which was statistically extremely significant (0.0001).
- In Basophils has been given a change of 58.98% which was statistically considered significant (0.0425).
- In E.S.R. has been given a change of 52.13% which was statistically extremely significant (0.0001).
- In FEV1 (Forced Expiratory Volume in 1 second): ____% has been given a change of 32.04% which was statistically extremely significant (0.0001).
- In PEFR (Peak expiratory flow rate) has been given a change of 19.32% which was statistically extremely significant (0.0001).

Probable Mode of Action of Trial Drug: -

Tamaka Shwasa is having *Kapha, Vata* predominance. For its management *Acharya's* have explained that those diet & drugs which are having *Kapha Vataghna, Ushna* &*Vatanulomana* properties are useful. Further, *Arundutta* has mentioned role of *Dipana- Pachana* drugs in the management of *Tamaka Shwasa*, as in the pathogenesis of this disease, *Mandagni* leads to the formation of *Ama*, which results in the formation of *Malarupa Kapha* producing the obstruction in the normal path of *Vata. Charaka* while describing the line of treatment of *Apasmara* has mentioned the role of *Rasayana* drugs in the management of chronic and deep-rooted diseases. taking above points in view two formulations viz. In *Yogaratnakara, Vasadi Kwatha* is mentioned in the management of the *Shwasa Roga*. No research work or documentation is available on the use of *Vasadi Kwatha Sharkara* to evaluate the efficacy of *Vasadi Kwatha Sharkara* in the management of *Tamaka Shwasa* in children. Therefore, in this present study it has been taken considered as a trial drug. To enhance its palatability and taste in children, *Vasadi Kwatha* will be prepared in the form of *Sharkara. Vasadi Kwatha* is a Herbo-mineral preparation. Contents of *Vasadi Kwatha* are *Vasa, Haridra, Dhanyak, Amrita, Bharangi, Pippali, Nagara, Kantakari, Marich* Most of the drugs are *Ushna* and *Vata Kaphashamaka* in property. Furthermore, various studies on these medications have shown their anti-inflammatory, anti-allergic, immunomodulatory, antioxidant, and bronchodilator effects.

Action of *Sharkara Vasadi Kwatha:* -

Contents of *Vasadi Kwatha* are *Vasa, Haridra, Dhanyak, Amrita, Bharangi, Pippali, Nagara, Kantakari*. to find out the probable mode of action of drug, it is also essential to analyse the *Rasapanchaka* or the properties by which it works *Sharkara* has properties of the overall pharmacodynamics of *Vasa Kwatha Sharkara* are i.e., *Katu, Tikta Rasa, Laghu, Ruksha Guna, Ushna Virya and Katu Madhura*

Vipaka. *Katu, Tikta Rasa* has the property of *Dipana, Pachana* and *VataKaphaghna* and thus helps in *Amanashana* formed due to *Nidanasevana.*

CONCLUSION

- *Vatapradhana Samprapti* and *Kaphapradhana Samprapti* may be correlated with pathophysiology of asthma like inflammation and endobronchial obstruction.
- Early morning is the *Vata* and *Kapha* Dosha dominancy time because of this early morning may lead to aggravation of concerned Dosha of *Tamaka Shwasa.*
- Overall Result in subjective parameters showed extremely significant, but best result in *Kasa* (Cough) symptoms 75.23% out of 100% that means this trail drug best work in *Kasa* (Cough) symptom.
- Overall, objective parameters showed significant.
- Overall Effect of trial drug- total 67.5% patients were found in moderately improved followed by 30% in markedly improved and 2.5% Patients in mild improved. Effect of trial drug "*Vasadi Kwatha Sharkara"* on subjective parameter was 70.62% While on objective parameter was 38.87%.
- It can be concluded from the study that the trial drug i.e., *Vasadi Kwatha Shakara* can be successfully used in the patients with *Tamaka Shwasa*. No adverse effect noted in the trial drug, but further *Vasadi Kwatha Shakara* proves more effective in the patient of *Tamaka Shwasa.*
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