

SCIENTIFIC CLINICAL ROLE OF SYRUP OF DRAKSHADI CHURN IN SHWAS (ASTHAMA) IN PAEDIATRIC AGE GROUP OF PATIENTS

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ABSTRACT

Shwas roga described in Ayurveda is having its own importance. *Shwas roga* is described in all Ayurvedic texts from both the aspects preventive as well as curative. Present study was carried out to assess the efficacy of *Drakshadi* syrup on *Shwas* (Asthama) in paediatric age group. The entire study 30 patients were enrolled in two groups. Study was carried out at Shree Ayurved College Nagpur, Maharashtra. These patients were divided into two groups experimental group & control group. Entire study was done within 1.5yrs. Follow up recommended as 3, 7 & 15 days. To evaluate statically 'Dunn's multiple comparison test' and 'Kruskhal wall's test' was applied for individual signs and symptoms. The changes in investigations were studied by 'wilcoxon signed rank test'. Conclusion of this study is *Drakshadi* syrup is moderately effective in *Shwas* of paediatric age group. Can be included in national paediatric health programme.

Key words- *Drakshadi syrup, Shwas, Tamakshwas shaman.*

INTRODUCTION

Shwas roga described in Ayurved is having its own importance which is compared with Asthma in modern medical science. It is the only common treatable condition that is increasing in terms of prevalence, severity or acuteness & mortality. Intensive research over the last decade has significantly enhanced our understanding of pathophysiology of the *shwas roga*. Clinical scientific research has also expanded the scope for the new therapies which are commonly followed up in different sectors of our country. Consequently the management of *shwas roga* has undergone a remarkable transformation resulting in more effective use of existing therapies. In spite of all these clinical approaches the rate of asthma especially

in children is gradually increasing so far etiological factors of *shwas roga* are concerned its range is quite high. *Shwas roga* is described by all the authors of Ayurveda from both the corners curative as well as preventive. In comparison to modern paediatrics this notorious pediatric disorder has been emphasized much by Ayurvedic Acharya, but in present study we highlights '*Tamakshwas*' only. Which is common asthmatic disease, As per ground of modern pathophysiology concerned the introduction of inhaled 2-agonist which remains the most useful bronchodilators has been an important landmark of inhaled anti-inflammatory therapy which virtually known as corticosteroids has had an even greater impact. These drugs act on the all important inflammatory components, the root cause of

the asthma. These drugs control the disease process and appear a comparable better quality of life to the asthmatic pediatric patients. But in total the contribution of therapy is not as satisfactory as it is required.

The drugs taken for clinical trial are absolutely safe having no complications or side effects and fully acceptable and digestible too. These drugs are in two forms which are prepared in sugar contain syrup base. In this study two groups have been proposed treated as well as control group. 30 patients are taken for trial. From both the departments OPD and IPD. Entire study has been covered within 1.5yrs.in well planned and systematic manner. Clinical observations of the patients are done time to time. Patients were followed up without any gap. *Drakshadi* syrup contains *Draksha*, *Vasa*, *Haritaki* and *Pippali*. Drugs reduces *vitiated dosha* and acts as expectorant and bronchodilator.

So far medicinal portion of this existing work is concerned it is highlighted with adequate methodology adopted in this work. Norms of GMP act published by Govt. of India has been fully accepted in existing preparation of drug.

AIMS AND OBJECTIVES-

- 1- To evaluate the efficacy of *Drakshadi* syrup in *shwas roga* in pediatrics.
- 2- To control the recurrent episodes of *shwas*.
- 3- To help an asthmatic child to have normal growth and development.

MATERIAL AND METHODS- Selection of drug- Trial drug *Drakshadi* syrup. *Drakshadi churna* with honey and ghrta described in Yogratnakar. As this is difficult task to administer for infants and children. We present *Drakshadi churna* in syrup form which can be easily administrable.

PROCUREMENT OF DRUG- Ingredients of *Drakshadi churna* namely *Draksha*, *Pippali*, *Haritaki* and *Vasa*. *Draksha* (fruits of *vitis vinifera*), *pippali* (*piper longum*), *Haritaki* (*Termenalia chebula*), *vasa* (*adhatodavasica*). All the drugs were identified and authenticated from *Dravaguna* department Shree Ayurved College Nagpur.

METHOD OF DRUG PREPARATION-

All above mentioned dry items are disintegrated along with wet items. *Quatha* is made according to the *quatha* procedure. To this *quatha* sugar is added and syrup is prepared and bottled according to the requirement.

ANALYSIS OF DRAKSHADI SYRUP TEST RESULT OBTAINED

- Description
Light brown colored viscous liquid with characteristic odor.
- Weight/milliliter 1.3348 gm/ml.
- Sugar percentage 68%

RESEARCH DESIGN

STUDY POPULATION- The Pediatric age group of patients suffering from *shwas roga* from OPD and IPD departments of *Kaumarbhritya* Pakwasa samanyu rugnalay, Shree Ayurved college, All India Ayurved research institute, Hanuman nagar Nagpur Maharashtra were participated in the study.

SAMPLING- Simple random sampling technique.

STUDY SAMPLE- The patients from periphery area of Nagpur Maharashtra having clinical manifestation of *Shwas* (asthma) were enrolled.

SAMPLE SIZE- 30 pediatric patients having clinical manifestation of *Shwas roga* willingly participated in study were selected from Pakwasa Ayurved Hospital, Nagpur, Maharashtra. These patients were divided randomly into two groups.

Experimental group: 15 patients were selected in this group. This group was treated with *Drakshadi* syrup.

Control Group: Other 15 patients were selected in this group. Placebo (plain sugar) syrup was given to these patients.

STUDY SETTING: The study was carried out at Pakwasa Ayurved Hospital Nagpur, Maharashtra, From April 2002 to November 2004 with due written consent of patients.

The grading symptoms are as below.

DIAGNOSTIC CRITERIA:

After detail study of modern and ayurvedic literature special proforma was prepared all signs and symptoms were considered in diagnosing the patients of pediatric *shwas*. Every patient was subjected to physical examinations. Other necessary investigations were carried out to exclude the other pathology.

s.no.	Sign/Symptom	Normal (0)	Mild (1)	Moderate (2)	Severe (3)
1	<i>Shwas</i> (Breathlessness)	No breathlessness	While walking	While talking (infant-softer, shorter cry, difficulty in feeding.)	While at rest (infant-stops feeding.)
2	<i>Kas</i> (cough)	No cough	Night coughing attacks	Intermittent attacks	Day and night coughing attacks
3	<i>Jwar</i> (fever)	98-99 ⁰ F	99-100 ⁰ F	100-103 ⁰ F	>103 ⁰ F
4	<i>Nadi</i> (pulse)	Normal pulse rate	<100/min	100-120/min	>120/min
5	Wheezing	No wheezing	Moderate often only end expiratory	Loud, throughout exhalation	Usually loud throughout exhalation inhalation and or absent
6	Crepitations	No crepitations	Fine crepitations	Moderate crepitations	Coarse crepitations
7	Difficulty in talking	No difficulty while talking	sentences	phrases	Words
8	<i>chhardi</i> (Vomiting)	No vomiting	2 vomiting/day	4 vomiting/day	More than 4 vomiting/day
9	Orthopnea	No orthopnea	Can lie down	Prefers sitting	Sits up right
10	Use of accessory muscles of respiration	No use of accessory muscles	Nil or minimal	Chest indrawing	Chest indrawing flaring up of alae nasi
11	<i>Trishna</i> (thirst)	Normal	Thirsty	-	-
12	Tightness of chest	No tightness	Tightness of chest	-	-
13	Difficulty in walking	No Difficulty in walking	Difficulty in walking	-	-
14	Sweating	No exces-	Excessive	-	-

		sive sweat- ing	sweating		
15	Prolonged expiration	Vesicular breathing	Prolonged expiration	-	-
16	Cyanosis	No Cyano- sis	Cyanosis	-	-
17	Pallor	Normal	Normal	Normal	Pale

INCLUSIVE CRITREIA:

- Age-pediatric age group (<18 yrs.)
- Both sexes.
- Patients with signs and symptoms of *Shwas*.
- Those who regularly attend OPD.

EXCLUSIVE CRITERIA:The pediatric patients suffering from critical diseases mentioned below are excluded from study.

- Status asthmatics.
- Cardiac asthma.
- Pulmonary edema.
- Pleural effusion.
- Pneumothorax.
- Pulmonary tuberculosis.
- Consolidation, etc.

LABORATERY INVESTIGATIONS:

Patients selected by diagnostic criteria were subjected to investigations like Hb%, TLC, DLC, ESR, X-RAY CHEST, PEFR.

TREATMENT METHODOLOGY AND SCHEDULE:

As per inclusion criteria patients were selected by simple randomized method. Methodology of treatment for the patients is as follows.

1. Dose of drug- <5yrs- 5ml, >5yrs-10ml.
2. Time- 3 times/day.
3. Route of administration- oral.

SATASTICAL ANALYSIS:-

1- Table showing sex wise distribution of patients of *shwas roga*.

Sr.no.	Sex	Exp. Group		Control Group		Total	
		No. of pt.	%	No. of pt.	%	No. of p.	%
1	Male	11	73.33	9	60.00	20	66.67
2	Female	4	26.67	6	40.00	10	33.33

4. Duration- 15days. Follow up of 3, 7, 15 days and later assessed for the recurrence of the disease after one month.

ASSESSMENT CRITERIA: The improvement in patients was assessed mainly on the following points.

1. Improvement in sign and symptoms of disease.
2. Clinical pathological investigations.

All the parameters were noted before treatment. The treatment was started to the patients of *shwas* in their respective groups. The patients were assessed 3, 7 and 15 days after starting treatment. Improvement in signs and symptoms were observed.

ADVERSE EFFECT OF EVALUATION CRITERIA:

Evaluation and reporting of adverse effect was done as per guidelines of national pharamacovigilence programme for Ayurveda, Siddha and Unani (ASU) drugs.

DATA ANALYSIS:

To evaluate the data statistically Dunn’s multiple comparison test and Krushkal Walli’s test was applied for every individual signs and symptoms. The changes in the investigations were studied by Wilcoxon signed rank test.

In this series 73.33% males were from experimental group and 60% males were from control group. 26.67% females were from experimental group and 40.00% females were from control group. Overall percentage 66.67% was of males and 33.33% was of females.

2- Table showing **diet** habit wise distribution of patients of *shwas roga*.

Sr.no.	Diet	Exp. Group		Control Group		Total	
		No. of pt.	%	No. of pt.	%	No. of p.	%
1	Mixed	11	73.33	12	80.00	23	76.67
2	Vegetarian	4	26.67	3	20.00	07	23.33

76.67% patients were mix diet and 23.33% patients were vegetarian.

3- Table showing **awastha** wise distribution of *shwas roga* patients.

Sr.no.	Awastha	Exp. Group		Control Group		Total	
		No. of pt.	%	No. of pt.	%	No. of p.	%
1	<i>Kshirad</i>	0	0.00	0	0.00	0	0.00
2	<i>Kshirannad</i>	2	13.33	0	0.00	2	6.67
3	<i>Annad</i>	13	86.67	15	100.00	28	93.33

The *Awastha* of the patients was evaluated in this study according to the classification of *Sushrut* 6.67% were found *kshirannad*, 93.33% were *Annad*.

4- Table showing **Doshaj Prakriti** wise distribution of *shwas roga* patients.

Sr.no.	Prakriti	Exp. Group		Control Group		Total	
		No. of pt.	%	No. of pt.	%	No. of p.	%
1	<i>Vatik</i>	0	0.00	0	0.00	0	0.00
2	<i>Paittik</i>	0	0.00	0	0.00	0	0.00
3	<i>Shleshmik</i>	1	6.67	2	13.33	3	10.00
4	<i>Vatpaittik</i>	1	6.67	1	6.67	2	6.67
5	<i>Vatshlaishmik</i>	5	33.33	6	40.00	11	36.67
6	<i>Pittashleshmik</i>	7	46.67	4	26.67	11	36.67
7	<i>Sannipatik</i>	1	6.67	2	13.33	3	10.00

Out of these 30 patients, 10% were *sannipatik* and *shleshmik*, 6.67% were *vatpaittik* and 36.67% were *vatshleshmik* and *pittashleshmik prakriti* were observed.

5- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in *Shwas* (breathlessness).

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	2	1.933	0.4577	0.1182	-
1	1	2	1.733	0.4577	0.1182	>0.05	NS
	2	1	1.4	0.5074	0.1309	>0.05	NS
	AT	1	1.267	0.7037	0.1817	<0.05	S
Control Group	BT	1	0.7333	0.4577	0.1182	-	-
	1	1	1.2	0.6761	0.1746	>0.05	NS
	2	1	1.273	0.4671	0.1408	>0.05	NS
	AT	1	1.0	0.0	0.0	>0.05	NS

In case of experimental group the sign *shwas* (breathlessness). was significantly reduced after treatment, while in case of cont. group the result was not significant.

6- Table showing the effect of *Drakshadi* syrup in Control group in **Kas** (cough).
syrup in Experimental group and Sugar

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	2	1.667	0.488	0.126	-
Group	1	2	1.467	0.5399	0.852	>0.05	NS
	2	1	1.0	0.6547	0.189	<0.05	S
	AT	1	1.0	0.6547	0.189	<0.05	S
Control Group	BT	1	0.5333	0.5184	0.1333	-	-
	1	1	0.8667	0.3519	0.09085	>0.05	NS
	2	1	0.8182	0.4045	0.122	>0.05	NS
	AT	1	1.0	0.0	0.0	>0.05	NS

In case of *Kas*(cough). the mean value before treatment was 1.667 and after treatment was 1 it showed significant reduction after 2nd follow up. In the control group there was no significant result.

7- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **JWAR** (fever).

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	0	0.3333	0.488	0.126	-
Group	1	0	0.2	0.414	0.1069	>0.05	NS
	2	0	0.0	0.0	0.0	<0.05	S
	AT	0	0.0	0.0	0.0	<0.05	S
Control Group	BT	0	0.06667	0.2582	0.06667	-	-
	1	0	0.3333	0.488	0.126	>0.05	NS
	2	0	0.5455	0.5222	0.1575	>0.05	NS
	AT	0	0.2857	0.488	0.1844	>0.05	NS

In case of *Jwar*(fever) mean \pm SD was 0.488 before treatment and 0.0 after 2nd follow up and after treatment this shows significant results in exp. group while in case of cont. group insignificant result was seen.

8- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **NADI** (pulse).

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	2	1.733	0.5935	0.1533	-
Group	1	2	1.533	0.6399	0.1652	>0.05	NS
	2	1	0.067	0.7037	0.1817	<0.05	S
	AT	1	0.6667	0.3338	0.2153	<0.05	S
Control Group	BT	0	0.06667	0.2682	0.06667	-	-
	1	0	0.3333	0.488	0.126	>0.05	NS
	2	0	0.5455	0.5222	0.1575	>0.05	NS
	AT	0.5	0.5	0.5477	0.2236	>0.05	NS

In case of *NADI*(pulse) P-value was <0.05 after 2nd and 3rd follow up which shows significant reduction, where as in control group no significant result was seen.

9- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **TRISHNA** (Thirst).

		Median	Mean	SD	SE	P. value	Sign.
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Exp. Group	BT	1	0.8667	0.3519	0.09085	-	-
	1	1	0.7333	0.4577	0.1182	>0.05	NS
	2	1	0.6	0.5071	0.1309	>0.05	NS
	AT	0	0.4	0.5071	0.1309	<0.05	S
Control Group	BT	0	0.06667	0.2582	0.06667	-	-
	1	0	0.3333	0.488	0.126	>0.05	NS
	2	0	0.4645	0.5222	0.1675	>0.05	NS
	AT	0.5	0.5	0.5477	0.2236	>0.05	NS

In exp. Group P value was <0.05 after treatment this indicates significant result. In cont. group no significant results were seen.

10- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **WHEEZING**.

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	2	1.8	0.414	1.069	-
Exp. Group	1	1	1.333	0.7237	0.1889	>0.05	NS
	2	1	1.067	0.7037	0.1867	<0.05	NS
	AT	1	1.9333	0.7988	0.2063	<0.01	MS
Control Group	BT	1	0.6	0.5071	0.1309	-	-
	1	1	0.1067	0.5936	0.1633	>0.05	NS
	2	1	1.0	0.0	0.0	>0.05	NS
	AT	1	1.143	0.378	0.1429	>0.05	NS

More significant results were seen after treatment as P value was <0.01 and significant results were seen after 2nd follow up. No significant results were seen in control group.

11- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **CREPITATIONS**.

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	1	1.2	0.5606	0.1447	-
Exp. Group	1	1	0.9333	0.5936	0.1533	>0.05	NS
	2	1	0.6667	0.6172	0.1594	>0.05	NS
	AT	1	0.5333	0.5164	0.1333	<0.05	S
Control Group	BT	0	0.2	0.414	0.0	-	-
	1	1	0.6	0.6325	0.1069	>0.05	NS
	2	1	0.9	0.3162	0.1633	>0.05	NS
	AT	1	1.0	0.0	0.1	>0.05	NS

In exp. Group P value was <0.05 after treatment this indicates significant reduction in crepitations. In cont. group no significant results were seen.

12- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **TIGHTNESS IN CHEST (HRITSHOOL)**.

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	1	0.8	0.414	0.1069	-
Exp. Group	1	1	0.5333	0.5164	0.1333	>0.05	NS
	2	0	0.4	0.5071	0.1309	>0.05	NS
	AT	0	0.2667	0.4577	0.1182	<0.05	S
Control	BT	0	0.0	0.0	0.0	-	-
	1	0	0.4	0.5071	0.1309	>0.05	NS

Group	2	0	0.4645	0.5222	0.1675	>0.05	NS
	AT	1	0.8333	0.4082	0.1667	>0.05	NS

In exp. Group the mean value before treatment was 0.8 and after treatment was 0.2667 which showed significant result in *Hritshool* (TIGHTNESS IN CHEST). While in control group non significant result was obtained.

13- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **DIFFICULTY IN WALKING**.

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	1	0.7335	0.4577	0.1182	-
	1	1	0.6	0.5071	0.1309	>0.05	NS
	2	0	0.3333	0.488	0.126	>0.05	NS
	AT	0	0.2	0.414	0.1069	<0.05	S
Control Group	BT	0	0.06667	0.2582	0.06667	-	-
	1	1	0.5333	0.5164	0.1333	>0.05	NS
	2	1	0.5455	0.5222	0.1575	>0.05	NS
	AT	1	1.0	0.0	0.0	>0.05	NS

In exp. Group P value was <0.05 after treatment this indicates significant reduction of Difficulty in walking. In cont. group no significant results were seen.

14- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **DIFFICULTY IN TALKING**.

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	1	0.5333	0.5164	0.1333	-
	1	0	0.4	0.5071	0.1309	>0.05	NS
	2	0	0.2667	0.4577	0.1182	>0.05	NS
	AT	0	0.06667	0.2682	0.06667	<0.05	S
Control Group	BT	0	0.0	0.0	0.0	-	-
	1	0	0.2667	0.4577	0.1182	>0.05	NS
	2	0	0.4545	0.5222	0.1675	>0.05	NS
	AT	0.5	0.5	0.5477	0.2236	>0.05	NS

In exp. Group P value was <0.05 after treatment this indicates significant reduction of Difficulty in Talking. In cont. group no significant results were seen.

15- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **CYANOSIS**.

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	0	0.2667	0.4577	0.1182	-
	1	0	0.2	0.414	0.1069	>0.05	NS
	2	0	0.2	0.414	0.1069	>0.05	NS
	AT	0	0.1333	0.3519	0.09085	>0.05	NS
Control Group	BT	0	0.0	0.0	0.0	-	-
	1	0	0.1333	0.3619	0.09085	>0.05	NS
	2	0	0.0	0.0	0.0	>0.05	NS
	AT	0	0.0	0.0	0.0	>0.05	NS

In both groups non significant results were seen after treatment in cyanosis.

16- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **PALLOR**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.
		0	0.2	0.5606	0.1447	-	-
Exp. Group	1	0	0.1333	0.3519	0.09085	>0.05	NS
	2	0	0.1333	0.3519	0.09085	>0.05	NS
	AT	0	0.0	0.0	0.0	>0.05	NS
Control Group	BT	0	0.0	0.0	0.0	-	-
	1	0	0.0	0.0	0.0	>0.05	NS
	2	0	0.0	0.0	0.0	>0.05	NS
	AT	0	0.0	0.0	0.0	>0.05	NS

In both groups non significant results were seen after treatment in PALLOR.

17- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **SWEATING**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.
		1	0.9333	0.2582	0.06667	-	-
Exp. Group	1	1	0.6667	0.488	0.126	>0.05	NS
	2	0	0.4	0.5071	0.1309	<0.05	S
	AT	0	0.4	0.5071	0.1309	<0.05	S
Control Group	BT	0	0.0	0.0	0.0	-	-
	1	1	0.5333	0.5164	0.1333	>0.05	NS
	2	0	0.4645	0.5222	0.1675	>0.05	NS
	AT	1	1.0	0.0	0.0	>0.05	NS

In case of Sweating in experimental gr. The P value after 2nd follow up and after treatment was <0.05. This shows significant reduction. While in control gr. No significant reduction was seen.

18- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **PROLONGED EXPIRATION**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.
		1	1.0	0.0	0.0	-	-
Exp. Group	1	1	0.6667	0.488	0.126	>0.05	NS
	2	0	0.4667	0.5164	0.1333	<0.05	S
	AT	0	0.4667	0.5164	0.1333	<0.05	S
Control Group	BT	0	0.2667	0.4577	0.1182	-	-
	1	1	0.6	0.5071	0.1309	>0.05	NS
	2	1	0.8182	0.4045	0.122	>0.05	NS
	AT	1	1.0	0.0	0.0	>0.05	NS

In case of PROLONGED EXPIRATION in experimental gr. The P value after 2nd follow up and after treatment was <0.05. This shows significant reduction. While in control gr. No significant reduction was seen.

19- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **INFLATION OF CHEST**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.
		1	0.6	0.5071	0.1309	-	-
Exp. Group	1	0	0.4	0.5071	0.1309	>0.05	NS
	2	0	0.2667	0.4577	0.1182	>0.05	NS

Control Group	AT	0	0.06667	0.2582	0.06667	<0.05	S
	BT	0	0.1333	0.3519	0.09085	-	-
	1	0	0.4667	0.5164	0.1333	>0.05	NS
	2	1	0.5455	0.5222	0.1575	>0.05	NS
	AT	1	1.0	0.0	0.0	>0.05	NS

In exp. Group P value was <0.05 after treatment this indicates significant reduction in inflation of chest. In cont. group no significant results were seen.

20- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in *Chhardi* (VOMITING).

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	1	0.9333	0.7037	0.1877	-
Exp. Group	1	1	0.5333	0.5164	0.1333	>0.05	NS
	2	0	0.4667	0.5164	0.1333	>0.05	NS
	AT	0	0.2667	0.4577	0.1182	<0.05	S
	BT	0	0.1333	0.3519	0.09085	-	-
Control Group	1	0	0.5333	0.8338	0.2153	>0.05	NS
	2	1	0.7273	0.7862	0.2871	>0.05	NS
	AT	1	0.8333	0.7528	0.3079	>0.05	NS

In exp. Group P value was <0.05 after treatment this indicates significant reduction in *chhardi* (VOMITING). In cont. group no significant results were seen.

21- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **ORTHOPNOEA**.

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	0	0.2	0.414	0.1069	-
Exp. Group	1	0	0.06667	0.2582	0.06667	>0.05	NS
	2	0	0.0	0.0	0.0	>0.05	NS
	AT	0	0.0	0.0	0.0	>0.05	NS
	BT	0	0.0	0.0	0.0	-	-
Control Group	1	0	0.2	0.414	0.1069	>0.05	NS
	2	0	0.2727	0.4672	0.1408	>0.05	NS
	AT	0	0.3333	0.5164	0.2108	>0.05	NS

In both groups non significant results were seen after treatment in **ORTHOPNOEA**.

22- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **USE OF ACCESSORY MUSCLES**.

Exp. Group		Median	Mean	SD	SE	P. value	Sign.
		BT	1	0.6667	0.5164	0.1333	-
Exp. Group	1	1	0.6	0.5071	0.1309	>0.05	NS
	2	0	0.3333	0.488	0.126	<0.05	S
	AT	0	0.2667	0.4577	0.1182	<0.05	S
	BT	0	0.06667	0.2582	0.06667	-	-
Control Group	1	1	0.7333	0.8837	0.2282	>0.05	NS
	2	1	0.9091	0.5394	0.1626	>0.05	NS
	AT	1	1.0	0.6325	0.2582	>0.05	NS

In case of USE OF ACCESSORY MUSCLES in experimental gr. The P value after 2nd follow up and after treatment was <0.05. This shows significant reduction. While in control gr. No significant reduction was seen.

23- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **Hb%**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.
		10.4	10.25	1.481	0.3826	-	-
Control Group	AT	10.5	10.32	1.387	0.3581	0.2166	NS
	BT	11.3	11.58	1.378	0.3558	-	-
Control Group	AT	11.0	11.22	1.243	0.3209	0.0833	NS

In case of experimental gr. P value was 0.2166 and in control gr. P value was 0.0833 which suggest not significant result in Hb% of the patients.

24- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **TLC**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.
		8400	8527	1614	391.0	-	-
Control Group	AT	9000	8513	1429	368.9	0.804	NS
	BT	7400	7807	1695	411.8	-	-
Control Group	AT	8753	8753	2160	557.7	0.107	NS

In case of TLC not significant results were obtained after treatment in both groups.

25- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **NEUTROPHILS**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.
		57	52.33	14.15	3.654	-	-
Control Group	AT	55	51.93	12.09	3.33	0.7197	NS
	BT	55	49.53	16.86	4.352	-	-
Control Group	AT	55	51.87	13.07	3.375	0.1688	NS

In case of NEUTROPHILS not significant results were obtained after treatment in both groups.

26- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **LYMPHOCYTES**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.
		35	36.67	11.85	3.061	-	-
Control Group	AT	36	38.40	9.03	2.3302	0.0537	NS
	BT	37	40.93	16.05	4.143	-	-
Control Group	AT	34	37.93	13.68	3.531	0.0302	S

There is no significant result seen in the experimental group but significant change is seen in control group but this significant change is seen as the normal range of lymphocytes is 20-45.

27- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **EOSINOPHILS**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.
		5	4.4	1.298	0.3352	-	-
Control Group	AT	4	3.8	1.424	0.3677	0.196	S
	BT	4	4.533	1.606	0.3887	-	-

Group	AT	5	5.0	2.174	0.5606	0.6788	NS
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There is significant change after treatment in the eosinophil count in experimental gr. While no significant result in control group.

28- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **MONOCYTES**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.
		5	4.867	1.407	0.3634	-	-
Control Group	AT	4	4.0	1.069	0.276	0.0068	NS
		5	5.0	1.927	0.4976	-	-
Control Group	AT	5	4.933	1.624	0.4194	0.8077	NS

In case of MONOCYTES not significant results were obtained after treatment in both groups.

29- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **BASOPHILS**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.
		0	0.13333	0.3519	0.09085	-	-
Control Group	AT	0	0.06667	0.2582	0.06667	0.75	NS
		0	0.0	0.0	0.0	-	-
Control Group	AT	0	0.2667	0.4577	0.1182	error	-

In case of BASOPHILS not significant results were obtained after treatment in both groups.

30- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **ESR**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.
		10	11.47	6.534	1.687	-	-
Control Group	AT	10	10.0	6.969	1.799	0.137	S
		5	6.667	4.257	1.099	-	-
Control Group	AT	8	7.487	4.907	1.086	0.258	NS

There is significant change after treatment in the ESR in experimental gr. While no significant result in control group.

31- Table showing the effect of *Drakshadi* syrup in Experimental group and Sugar syrup in Control group in **PEFR**.

Exp. Group	BT	Median	Mean	SD	SE	P. value	Sign.	
		210	261.3	80.17	20.7	-	-	
Control Group	AT	1	260	283.3	82.43	22.28	>0.05	NS
		2	270	299.3	85.4	22.05	>0.05	NS
		280	309.3	97.06	25.06	<0.05	S	
Control Group	AT	300	310.0	109.3	33.22	-	-	
		1	270	288.7	106.8	27.58	>0.05	NS
		2	300	310.0	108.3	32.64	>0.05	NS
		310	336.7	119.8	48.09	>0.05	NS	

The Peak expiratory flow rate was conducted during every follow up visit. It showed significant change after treatment in experimental group. In control group non significant result was observed.

SUMMARY

The present scientific study can be summarised as follows.

1. *Shwas roga* (asthma) is a common pediatric problem. Collected scientific data reveal that the rate of asthma in the pediatric age group of patients is gradually increasing in spite of several preventive and curative measures.
2. Present scientific clinical research work has been proved contributory among *shwas* affected pediatric victims.
3. Collected clinical data highlight the following facts.
 - a) Patients of *Vatapaittik* and *Vatashleshmik prakriti* were observed more sensitive in developing *shwas roga*.
 - b) Risk factors for asthma reveal that male patients are more prone in comparison to female so far the onset of existing disease is concerned.
 - c) Religion has not got any significant role in developing of these disease.
4. Drugs taken for trial had been analysed and their analytic picture is as such.

Experimental Group:

- Significant results were obtained in almost all the symptoms of *shwas roga*. The symptoms are *shwas, kasa, jwar, nadi, trishna*, crepitation, *hritshool*, use of accessory muscles, difficulty in walking, difficulty in talking, sweating, prolonged expiration, inflation of chest and vomiting. Significant results were observed in ESR, PEFr and Eosinophilic count.
- More significant results were obtained in Wheezing.
- Non significant results were obtained in cyanosis, pallor, orthopnoea. Similarly no significant changes were seen in laboratory investigations like-Hb%, TLC, Lymphocytes, Neutrophils and Monocytes.

Control Group: As the control group was given placebo treatment with the help of plain sugar syrup no significant results were seen in almost all symptoms. Only in case of lymphocytes significant results were seen. This change may be because the normal range of lymphocytes in children is wider.

5. In total efficacy of the drugs used in this project have been proved significant on most of the clinical parameters.
6. In present study clinical trials of the drugs were observed only on the patients suffering from *Tamak shwas* which is commonly seen in childhood period.
7. No clinical toxicity or side effect had been observed.
8. The concept of the present research work has been encouraging and may be continued for further higher research work.

CONCLUSION

Clinical observations of the present study are appreciable. The drugs used in present scientific research work may be included in national pediatric health program. Proposed drugs are easily available at cheaper rates all over the country.

LIMITATIONS:- The present study was limited to single geographical area. Sample size was very small.

RECOMMENDATIONS Further study is humbly recommended. Since being small sample size, this study has its own limitations so need have work in better sample size is required.

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