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A CLINICAL STUDY OF '*TAGARADI KWATHA*' AND '*TAKRA AMALAKI SHIRODHARA*' IN THE MANAGEMENT OF '*UCCHA RAKTA CHAPA*' W.S.R TO ESSENTIAL HYPERTENSION

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ABSTRACT

Hypertension (HTN or HT), as known as high blood pressure or arterial hypertension, is a chronic medical condition caused by persistently elevated blood pressure in the arteries. Hypertension is a major risk factor for the progression of cardiovascular and cerebrovascular disease, both of which have a high mortality and morbidity rate. It is mostly responsible for strokes and end-stage renal failure. It's also responsible for the improvement of coronary artery disease. It is asymptomatic yet has dreadful effects on the body. It's called the 'Silent or Hidden Killer' because most of sufferers are asymptomatic and in more than 95% cases of hypertension under lying causes is not found. Such patients are said to have Essential Hypertension. According to the WHO's annual report from 2004, India has a four times higher prevalence in all age groups than other developed countries. Hypertension is a common disorder with a growing incidence. **Aims and Objectives:** The study has been planned with the following aims & objectives. To study

the etiopathogenesis of *Uccha Rakta Chapa* W.S.R. to essential HTN on the basis of *Ayurvedic* principles. To study the efficacy & safety of *Tagaradi Kwatha & Takra-Amalaki Shirodhara* in management of Hypertension. **Materials and Methods:** Following materials & Methods were adopted for conducting the present research project.

(1) Selection of cases

The study was conducted on 40 clinically diagnosed & confirmed patients of Hypertension. The selection of patients were made from OPD and IPD of PG Department of *Kayachikitsa* in DSRRAU hospital, Jodhpur.

After the complete examination and investigation all the patients were divided into two groups and randomly described as below.

Group A- 20 well diagnosed and confirmed patients of *Uccha Rakta Chapa* (HTN) were administered with *Tagaradi Kwatha* 10gm twice a day for 30 days.

Group B – 20 well diagnosed and confirmed patients of *Uccha Rakta Chapa* (HTN) were administered with *Tagaradi Kwatha* 10gm twice a day for 30 days along with *Takra-Amalaki Shirodhara* for 10 days.

Result - After treatment it can be saying that Good relief / Moderate relief in group A and Satisfactory / Significant relief was found in group B were found in given symptoms. **Conclusion-** Therefore, it can be concluded that, Both *Tagaradi Kwatha and Takra Amalaki Shirodhara* have been shown to reduce systolic and diastolic blood pressure as well as relieve the symptoms of essential hypertension and safe and effective in the management of *Uccha Rakta Chapa* (Essential Hypertension).

KEYWORDS: *Uccha Rakta Chapa, Essential hypertension.*

INTRODUCTION

Hypertension (HTN or HT), as known as high blood pressure or arterial hypertension, is a chronic medical condition caused by persistently elevated blood pressure in the arteries.[1] Hypertension is a common disorder with a growing incidence; once established treatment is needed. It's becoming more common all throughout the world, especially in developing countries.[2]

Hypertension is a major risk factor for the progression of cardiovascular and cerebrovascular disease, both of which have a high mortality and morbidity rate. It is mostly responsible for strokes and end-stage renal failure. It's also responsible for the improvement of coronary artery disease. It is asymptomatic yet has dreadful effects on the body. It's called the 'Silent or

Hidden Killer.' In India, the overall prevalence havebeen discovered 29.8% (27.6% in rural part & 33.8% in urban parts).[3] It is estimated that 40-45 million Indians have the disease, which is a major risk factor for coronary artery disease, diabetes, and renal failure. The number is expected to rise to 54 million in the future. Hypertension will affect approximately 1 in every 3 adults over the age of 20, or 1.56 billion people, by the year 2025.

Though there is no direct reference to essential hypertension in *Ayurvedic* texts, here is an approach to understand the possible pathogenesis in terms of involved aspects such as *Dosha*, *Dushya*, and *Srotases* etc. *Uccha Rakta Chapa* has been screened as a *Tridoshaja Vyadhi* prime role of *Vyanavayu*. In association with these, *Prana Vayu*, *Udana Vayu***,** *Samana Vayu***,** *Apana Vayu*, *Sadhaka Pitta* and *Avalambaka Kapha* are also involved in the manifestation of essential hypertension.

Need of study

The incidence of hypertension increasing day by day due to anxiety, stress & strain of day to day life. The prevalence of Hypertension is very high in our country and almost taken an epidemic shape.

It is well Known fact that the modern medicine used in hypertension only maintain the normal blood pressure level & when used lifelong curve various adverse effects. Sometimes the clinical effects of these drugs are not satisfactory.

There fore *Ayurvedic* drugs are beneficial in such cases because herbs can positively influence heath & quality of life.

In present study *Ayurvedic* herbal drug like *Tagar, Ashwagndha, Sankhpushpi, Parpataka, Devdaru, Kutaki, Brahmi, Jatamansi, Mustaka, Aragvadha, Haritaki, Darksha* have *Mastishaka Shamak, Nidarajanaka, Medhya, Hridhya, Vednasthapan, Rasayan & Dipan Pachan, Anuloman & Virechan* properties.

For relieving stress *Takra Amalaki Shirodhara* selected for trial.

AIMS AND OBJECTIVES

The study has been planned with the following aims & objectives.

To study the etiopathogenesis of *Uccha Rakta Chapa* W.S.R to essential HTN on the basis of *Ayurvedic* principles.

To study the efficacy and safety of *Tagaradi Kwatha* and *Takra-Amalaki Shirodhara* in management of Hypertension.

LITERARY REVIEW

Ayurvedic review

Ayurveda is a science which has specific beliefs. Its diagnosis approach is entirely based on the sign and symptoms present in the patient. Hypertension is a modern science innovation; there is no clear reference to it in *Ayurveda*. However, there are several references in ancient books concerning the hemodynamic system, which includes the heart, blood vessels, and organs such as *Shira*, *Hridaya*, and *Basti*, which are all affected by high blood pressure. *Nadi*'s knowledge has been known to science since the ancient time. The *Vedas* have a description of blood circulation. In pathogenesis of *Uccha Rakta Chapa* is considered to as a multifactorial disease. Essential hypertension has been screened as a *Tridoshaja Vyadhi* prime role of *Vyanavayu* in association with *Pitta* and *Kapha* and *Manovaha Srotas* involving *Hridaya*, *Rasa-Rakta Samvahana* and *Oja* are main responsible factors.

Morden review

The strength of the heart's contraction, the resistance of arterioles and capillaries, the elasticity of blood vessels, blood flow, and blood viscosity all exert tension on the walls of arteries.[4]

The lateral force exerted by blood against the walls of the vessels through which it flows is known as blood pressure.[5]

Hypertension is currently seen in adults over the age of 18 who are not sick. SBP of 140 mm Hg or greater, and DBP of 90 mm Hg or greater, or any amount of BP in patients taking antihypertensive medication, according to the definition.[6] Hypertension is characterised as a persistent increase in systolic blood pressure (SBP) of 140 mm Hg and diastolic blood pressure (DBP) of 90 mm of Hg. Using the standard criterion with an average of three blood pressure readings on one occasion of 140 mm Hg systolic and 90 mm Hg diastolic, or the use of hypertensive medicine.[7]

MATERIALS AND METHODS

Following materials & Methods were adopted for conducting the present research project.

1) Selection of Cases

The study was conducted on 40 clinically diagnosed & confirmed patients of Hypertension. The selection of patients were made from OPD /IPD of PG Department of *Kayachikitsa* in DSRRAU Jodhpur.

A) Inclusion criteria

i) Well clinically diagnosed and confirmed cases of primary Hypertension.

ii) Patients between the age group of 18 to 70 years of either sex.

B) Exclusion Criteria

i) Secondary Hypertension

ii) Age below 18 & above 70 years

iii) Very severe / Malignant Hypertension/Hypertensive crisis

iv)Drug induced Hypertension

v) Hypertension with complications

vi)Gestational Hypertension

vii) Patient with any other acute illness

All of the patients in this study were thoroughly examined, and data was collected in a systematic way. A special research pro-forma was designed based on modern and *Ayurvedic* parameters.

Study design – Open Randomized trial.

Administration of drug

After the complete examination and investigation all the patients were divided into two groups and randomly described as below.

Group A- 20 well diagnosed and confirmed patients of *Uccha Rakta Chapa* (HTN) were administered with *Tagaradi Kwatha* 10 gm twice a day for 30 days.

Group B – 20 well diagnosed and confirmed patients of *Uccha Rakta Chapa* (HTN) were administered with *Tagaradi Kwatha* 10 gm twice a day for 30 days along with *Takra-Amalaki Shirodhara* for 10 days.

Clinical and laboratory hypertension assessment were done before treatment on day first and than15th, 30th day of treatment and after the completion of treatment blood pressure level were observed on day first (pretreatment) and after 30 days (post treatment). The patient was

regularly follow up after completion of trial once in 15 days for one month for observing any changes in clinical profile and blood pressure levels.

Criteria for Assessment

The effect of trial drug were assessed in terms of subjective and laboratory parameters.

1) Subjective assessment – All the patients registered for clinical trial were asked for any changed in their clinical manifestation.

i) *Shirahashoola* (Headache)

Nil	O
Rarely headache relieves without medication	1
Frequently headache relieves by rest does not disturb daily activities	2
Frequently severe headache disturbs daily activities requires medication	3
Continuous /severe headache disturbs sleeps and daily activities and also not managed by the medications	4

ii) *Klama* (Fatigue)

Nil	0
Rarely feeling of tiredness without any exertion	1
Rarely feeling of tiredness without any exertion with inability in concentration	2
Frequently feeling of tiredness without any exertion with inability in concentration	3
Continuous feeling of tiredness without any exertion with inability in concentration	4

iii) *Bhrama* (Giddiness)

Nil	0
Rarely *Bhrama* for some movement during change of posture	1
Often for some movement during change of posture	2
Often for each movement even in lying condition also	3
Patient unable to hold himself without any support	4

iv) *Anidra* (Insomnia)

Sound sleep	0
Delayed sleep after gone to bed but complete the minimal need (6 to 8 hrs)	1
Disturbed sleep wakeup 1 to 2 times a night but complete the minimal need (6 to 8 hrs)	2
Disturbed sleep wakeup 3 to 4 times a night with sleep < 6 hrs /night	3
Sleep <4 hrs/night	4

v) *Hritspandan* (Palpitation)

No palpitation	0
Palpitation occasionally	1
Palpitation on exertion only	2
Palpitation on moderate /severe exertion	3
Palpitation even at rest	4

vi) *Swedadhikyata* (Excessive sweating)

No sweating	0
Excessive sweating while climbing upstairs	1
Profuse sweating with speedily	2
Profuse sweating during walking	3
Profuse sweating even at rest	4

vii) *Shotha* (Oedema)

Absence of clinical oedema	0
Mild oedema with no visible pitting on pressure	1
Moderate oedema with mild visible pitting on deep pressure	2
Deep pitting oedema on mild pressure	3
Massive oedema along with gross distortion of leg contour from swelling	4

2) Objective parameters

i) Assessment of change in blood pressure in supine position.

7th JNC Criteria for Diagnosis of Hypertension

Category of HTN	Systolic BP (mmHg)	Diastolic BP (mmHg)
Normal	</=120	</=80
Pre hypertensive	120-139	80-89
Hypertension	>/= 140	>/=90
Stage 1	140-159	90-99
Stage2	>/=160	>/=100

Systolic BP (mmHg)

130 < (Normal)	0
130-139 (High normal)	1
140-160 (stage 1 HTN)	2
160-179 (stage 2 HTN)	3
180 > (stage 3 HTN)	4

Diastolic BP (mmHg).

80-85>normal	0
85-89 (high normal)	1
90-99 (Stage 1 HTN)	2
100-109 (Stage 2 HTN)	3
110 > (Stage 3 HTN)	4

ii) Routine Hematological Tests – Hb%, TLC, DLC, ESR.

iii) Biochemical Investigations – (Optional) Lipid profile (Sr. Triglyceride, Sr. Cholesterol)

iv) Urine analysis.

v) ECG - (Excluding patient for LVH, prolonged QRS complex, MI indicative T wave elevation).

vi) RFT

vii) LFT

Assessment on basis of systolic and diastolic blood pressure level

Result	Observation	Change in blood pressure	% improvement
Excellent	Excellent relief	The fall in S.B.P=30mmHg & fall in D.B.P is 15& >15 mmHg	76-100
Good	Significant relief	The fall in S.B.P=20-29 mmHg & fall in D.B.P is 10-14 mmHg	51-75
Fair	Moderate relief	The fall in S.B.P=10-19 mmHg & fall in D.B.P is 5-9 mmHg	25-50
Poor	Mild relief	The fall in S.B.P=<10 mmHg & fall in D.B.P is <5 mmHg	< 25

The criteria for the assessment of overall effect of the therapies

NO.	Symptoms Relieved	Grading	Assessment
1.	< 25%	Mild relief	Non-Satisfactory
2.	25% to 50%	Moderate relief	Good
3.	51% to 75%	Significant relief	Satisfactory
4.	76% to 100%	Complete relief	Excellent

1. *Tagaradi Kwatha*[8] (*Yogratnakar – Jawar Chikitsha*)

Name of drug	Latin Name	Part used	Amount (*Matra*)
Tagar	*Valeriana wallichii*	Root	1 part
Ashwagndha	*Withania somnifera*	Root	1 part
Parpataka	*Fumaria vaillanti*	*Panchang*	1 part
Sankhpushpi	*Convolvulus pluricaulis*	*Panchang*	1 part
Devdaru	*Cedrus deodara*	*Kandasara*	1 part
Kutaki	*Picrorhiza kurroa*	Root	1part
Brahmi	*Bacopa monnieri*	*Panchang*	1 part
Jatamansi	*Nordostachys jatamanshi*	Root	1part
Mustaka	*Cyperus rotundus*	Rhizome	1part
Aargvadha	*Cassia fistula*	Root bark	1 part
Haritaki	*Terminalia chebula*	Fruit	1 part
Darksha	*Vitis vinifera*	Fruit	1part

METHOD OF PREPARATION OF TRIAL DRUG

The coares powder (Yavakuta Churna) from all the drugs described in the *Tagaradi Kwatha* were maded and packed airtight. Patient was adviced to take the medicine in prescribed dose 10 gm of *Yavakuta Churna* soaked in eight parts of water then again add eight parts of water and boil it till it reduced to one fourth in the quiantity. Then filtered and administred. Twice a day for 30 days

TAKRA-AMALAKI SHIRODHARA

Name of drug	Latin name	Part used
Takra		
Amalaki	*Embilica Officinelis*	Fruit
Musta	*Cyperus rotundus*	Rhizome

METHOD OF PREPARATION OF *TAKRA* FOR *SHIRODHARA*

The following method is in general practic in Kerala.[9] But it is not found mentioned in ancient medical literature. 1.5 litre of milk diluted with 4 times of water is boiled with 2 Pal of skinned and crused tuber of *Musta* tied in a muslin bag, till reduced to the original quaninty of milk taken out and squeezed well. After it has cooled, this prepared milk is fermented by the addition of a little sour buttermilk overnight. The next morning now the fermented medicated curd is churned, sprinkling over with, 500 ml of *Amalaki Kawath* derived by boiling and reducing 2 litre of water with 4 Pal of dry endocarp of *Amalaki* fruits, untill all the butter is removed. *Dhara* is made from the resulting mixture of buttermilk and decoction. This mixture is used for Dhara after filtering.

OBSERVATION

The highest incidence of EHT was found in between age group of 61-70 years (45%), Male sex (67.5%), Hindu religion (100%), Urban area (62.5%), primary & secondary education (25%), Middle socio-economic status (75%), Majority of the patient were of vegetarian diet (77.5%), Occupations in which incidence of EHT were found maximum in house wives (32.5%).

Majority of the patients (45%) were of *Vata-Pitta Prakriti*, Maximum number of patients (65%) *Rajasika Prakriti*, Maximum (52.5%) were of *Madhyama Sara*, Maximum (55%) *Madhyama* type of *Samhanana*, Maximum (50%) were of *Madhyama Satva*, Majority of patients (45%) were having *Madhyama Saatmya*, Maximum number of patients (57.5%) had *Madhyama Aahara Abhyaharana Shakti*, Maximum number of patients (62.5%) had

Madhyama Aahara Jarana Shakti, Maximum number of patients (37.5%) had *Madhyama Vyayama Shakti*, Maximum (35%) were having *Vishamagni*, Maximum number of patients (45%) were having *Madhyama Kostha*. Maximum patients 21 (52.5%) were having *Chinta*, and *Krodha* were found in 17 (42.5%) and 7 (17.5%) patients were having *Bhaya*.

Among all the patients of EHT, 80% patients had complaint of *Shirshool*, 72.5% patients had complaints of *Kalma*, 70% Patients had complaints of *Bhrama* & *Anidra*, 65% Patients had complaints of *Hritspandan* & *Swedadhikyata*, and 30% patients had complaint of *Shotha.*

Among 40 patient's series of *Uccha Rakta Chapa,* Systolic Blood Pressure were recorded 75% patients had Stage 1 Hypertension while 12.5% patients had Hypertension and Stage 2 Hypertension.

Among 40 patient's series of *Uccha Rakta Chapa*, Diastolic Blood Pressure were recorded 67.5% patients had Stage 1 Hypertension while 20% patients had Stage 2 Hypertension, 12.5% patients had Hypertension.

Laboratory Investigation

In Group A mean score of HB was 12.72 and in Group B the mean score was 12.00. In Group A mean score of TLC was 5855 and in Group B the mean score was 5855. In Group A mean score of Blood Urea was 25.23 and in Group B the mean score was 26.12. In Group A mean score of Serum Creatinine was 0.862 and in Group B the mean score was 0.954. In Group A mean score of Serum Cholesterol was 218.5 and in Group B the mean score was 224. In Group the mean score of Serum Triglyceride was 156.9and in Group B the mean score was 157.1. In Group A mean score of Blood Sugar (Fasting) was 100.95 and in Group B the mean score was 93.40.

RESULTS

Below Table Showing effect of therapeutic trial on Subjective Parameters (Clinical symptomatology) using Wilcoxon matched pairs signed rank test.

S.No.	Variable	Gr.	Mean		Mean Diff.	Relief %	SD±	SE±	P	S
			BT	AT						
1.	***Shirshoola* (Headache)**	A	1.500	0.7000	0.8000	53.33%	0.5231	0.1170	< 0.0001	**ES**
		B	2.200	0.7500	1.450	65.90%	1.146	0.2562	< 0.0001	**ES**
2.	***Klama* (Fatigue)**	A	0.8500	0.4000	0.4500	52.94%	0.6048	0.1352	0.0039	**VS**
		B	0.9000	0.4000	0.5000	55.55%	0.6070	0.1357	0.0020	**VS**

3.	***Bhrama* (Giddiness)**	A	0.9000	0.4500	0.4500	50%	0.5104	0.1141	0.0020	**VS**
		B	1.100	0.5000	0.6000	54.54%	0.5026	0.1124	0.0002	**ES**
4.	***Anidra* (Insomnia)**	A	1.500	0.6500	0.8500	56.66%	0.7452	0.1666	<0.0001	**ES**
		B	2.100	0.7000	1.400	66.66%	1.046	0.2340	<0.0001	**ES**
5.	***Hritspandan* (Palpitation)**	A	0.9000	0.4500	0.4500	50%	0.6863	0.1535	0.0078	**VS**
		B	0.9500	0.4500	0.5000	52.63%	0.6882	0.1539	0.0039	**VS**
6.	***Swedadhikata* (Excessive sweating)**	A	1.350	0.7500	0.6000	44.44%	0.8208	0.1835	0.0039,	**VS**
		B	0.9500	0.5000	0.4500	47.36%	0.5104	0.1141	0.0020	**VS**
7.	***Shotha* (Oedema)**	A	0.2500	0.1500	0.1000	40%	0.3078	0.06882	.2500	**NS**
		B	0.3500	0.2000	0.1500	42.85%	0.3663	0.08192	0.1250	**NS**

(Gr: Group; BT: Before Treatment; AT: After Treatment; %: Percentage; S.D: Standard Deviation; SE: Standard Error; p: P Value; ES: Extremely Significant; VS: Very Significant; S: Significant).

Below Table Showing effect of therapeutic trial on Objective Parameters using Paired 't' test.

	Gr.	Mean		Mean Diff.	Relief %	SD±	SE±	P value	t value	S
		BT	AT							
Blood Pressure (Systolic)	A	147.20	128.20	19.000	12.90%	7.691	1.720	< 0.0001	11.047	**ES**
	B	149.00	125.10	23.900	16.04%	6.373	1.425	< 0.0001	16.770	**ES**
Blood Pressure (Diastolic)	A	95.000	85.000	10.000	10.52%	3.044	0.6806	< 0.0001	14.694	**ES**
	B	95.300	84.000	11.300	11.85%	3.570	0.7984	< 0.0001	14.154	**ES**

Biochemical improvement profile

Variable	Gr.	Mean		Mean Diff.	% Relief	SD±	SE±	P	t	S
		BT	AT							
Haemoglobin	A	12.725	12.660	0.06500	0.51	0.2621	0.05861	0.1406	1.109	**NS**
	B	12.000	11.910	0.09000	0.75	0.3478	0.07776	0.1307	1.157	**NS**
TLC	A	5855.0	5730.0	125.00	2.13	484.36	108.31	0.1314	1.154	**NS**
	B	5855.0	5680.0	175.00	2.98	497.23	111.18	0.0660	1.574	**NS**
Blood Urea	A	25.235	24.685	0.5500	2.17	1.926	0.4306	0.1084	1.277	**NS**
	B	26.125	25.165	0.9600	3.67	3.541	0.7917	0.1201	1.213	**NS**
Serum Creatinine	A	0.8620	0.8415	0.02050	2.37	0.08648	0.01934	0.1512	1.060	**NS**
	B	0.9540	0.9345	0.01950	2.044	0.08224	0.01839	0.1511	1.060	**NS**
Serum Cholesterol	A	218.55	203.10	15.450	7.06	21.816	4.878	0.0025	3.167	**VS**
	B	224.00	207.90	16.100	7.18	22.009	4.921	0.0020	3.271	**VS**
Serum Triglyceride	A	156.90	143.50	13.400	8.54	23.710	5.302	0.0103	2.528	**S**
	B	157.10	143.00	14.100	8.97	18.166	4.062	0.0013	3.471	**VS**
Blood Sugar (Fasting)	A	100.95	97.455	3.490	3.45	9.433	2.109	0.0572	1.655	**S**
	B	93.400	90.575	2.825	3.024	5.186	1.160	0.0124	2.436	**S**

INTER-GROUP STUDY

Below table showing effect of therapeutic trial on Subjective Parameters (Clinical symptomatology) using Mann-Whitney test.

S. No.	Variable	U(Mann-Whitney)	P-value	Significance
1	*Shirshoola* (Headache)	137.50	0.0350	S
2	*Klama* (Fatigue)	190.50	0.3899	NS
3	*Bhrama* (Giddiness)	170.00	0.1782	NS
4	*Hritspandan* (Palpitation)	191.00	0.3942	NS
5	*Swedadhikyata* (Excessive sweating)	192.00	0.4089	NS
6	*Anidra* (Insomnia)	139.00	0.0431	S
7	*Shotha* (Oedema)	190.00	0.3269	NS

Below table showing effect of therapeutic trial on Objective Parameters using Unpaired 't' test.

S.No.	Variable	t -value	P -value	S
1.	Blood Pressure (Systolic)	2.194	0.0172	S
2.	Blood Pressure (Diastolic)	1.239	0.1114	NS

Below table showing effect of therapeutic trial on Objective Parameters using Unpaired 't' test.

S.No.	Variable	t -value	P -value	S
1.	Haemoglobin	0.2567	0.3994	NS
2.	TLC	0.3746	0.3221	NS
3.	Blood Urea	0.4550	0.3259	NS
4.	Serum Creatinine	0.01875	0.4926	NS
5.	Serum Cholesterol	0.09380	0.4629	NS
6.	Serum Triglyceride	0.1048	0.4585	NS
7.	Fasting Blood Sugar	0.2185	0.4141	NS

Overall effect of clinical trial

Below table showing the % Relief in both the groups in Subjective parameters.

S. No.	Subjective parameters	% Relief in Group A	% Relief in Group B
1.	*Shirshoola* (Headache)	53.33%	65.90%
2.	*Klama* (Fatigue)	52.94%	55.55%
3.	*Bhrama* (Giddiness)	50%	54.54%
4.	*Anidra* (Insomnia)	56.66%	66.66%
5.	*Hritspandan* (Palpitation)	50%	52.63%
6.	*Swedadhikyata* (Excessive sweating)	44.44%	47.36%
7.	*Shotha* (Oedema)	40%	42.85%
Total		49.62%	55.7%

that symptomatically, 49.62% relief was observed in group A While 55.7% relief was observed in group B. So, it can be saying that Good relief / Moderate relief in group A and Satisfactory / Significant relief was found in group B.

Below table showing the % Relief in both the groups in objective parameters.

S.No.	objective parameters	% Relief in Group A	% Relief in Group B
1.	Blood Pressure (Systolic)	12.90%	16.04%
2.	Blood Pressure (Diastolic)	10.52%	11.85%

Below table showing the % Relief in both the groups in objective parameters (Lab. Investigation.

S.No.	objective parameters	% Relief in Group A	% Relief in Group B
1.	Haemoglobin	0.51%	0.75%
2.	TLC	2.13%	2.98%
3.	Blood Urea	2.17%	3.67%
4.	Serum Creatinine	2.37%	2.044%
5.	Serum Cholesterol	7.06%	7.18%
6.	Serum Triglyceride	8.54%	8.97%
7.	Blood Sugar (Fasting)	3.45%	3.024%

EFFECT OF TREATMENT

EFFECT OF *TAGARADI KWATHA*

- In **group A:** the mean Systolic Blood Pressure before treatment was 147.20 which reduced to 128.20after treatment, with SD±7.691 giving a relief of 12.90% which is statistically **extremely significant (P< 0.0001).**
- In **group A: the** mean Diastolic Blood Pressure before treatment was 95.000 which reduced to 85.000 after treatment, with SD±3.044 giving a relief of 10.52% which is statistically **extremely significant (P< 0.0001).**
- The percentage of relief in the symptoms was as follows *Shirshoola* (Headache) 53.33%, *Klama* (Fatigue) 52.94%, *Bhrama* (Giddiness) 50%, *Anidra* (Insomnia) 56.66%, *Hritspandan* (Palpitation) 50%, *Swedadhikyata* (Excessive sweating) 44.44%, *Shotha* (Oedema), 40%.

EFFECT OF*TAGARADI KWATHA* AND *TAKRA AMALAKI SHIRODHARA*

- In **group B** the meanSystolicBlood Pressurebefore treatment was 149.0 which reduced to 125.10after treatment, with SD±1.425 giving a relief of 16.04% which is statistically **extremely significant (P< 0.0001).**

- In **group B** the mean Diastolic Blood Pressure before treatment was 95.300 which reduced to 84.000after treatment, with SD±3.570 giving a relief of 11.85% which is statistically **extremely significant (P< 0.0001).**
- The percentage of relief in the symptoms was as follows *Shirshoola* (Headache) 65.90%, *Klama* (Fatigue) 55.55%, *Bhrama* (Giddiness) 54.54%, *Anidra* (Insomnia) 66.66%, *Hritspandan* (Palpitation) 52.63%, *Swedadhikyata* (Excessive sweating) 47.36%, *Shotha* (Oedema) 42.85%.

In present study overall effect of therapy as follow.

Below table showing Systolic Blood Pressure the overall effect of therapy.

Effects	GroupA		GroupB	
	No. of Patients	Percentage	No. of Patients	Percentage
No relief (Unchanged)	00	00	00	00
Mild relief	01	5	0	0
Moderate relief	06	30	03	15
Significant relief	11	55	14	70
Excellent relief	02	10	03	15

In group A- Excellent relief was found in 10% of patients, while significant relief in 55% moderate relief in 30% where as 5% were found milde relief. while in group B- Excellent relief was found in 15 % of patients, while significant relief in 70%, where as 15 % were found moderate relief.

Below table showing Diastolic Blood Pressure the overall effect of therapy -

Effects	GroupA		GroupB	
	No. of Patients	Percentage	No. of Patients	Percentage
No relief (Unchanged)	00	00	00	00
Mild relief	0	0	0	0
Moderate relief	09	45	06	30
Significant relief	10	50	10	50
Excellent relief	01	5	04	20

Ingroup A -Excellent relief was found in 5% of patients, while significant relief in 50%, moderate relief in 45 %. While in group B- Excellent relief was found in 20 % of patients, while significant relief in 50%, 30% were found moderate relief.

PROBABLE MODE OF ACTION OF *TAGARADI KWATHA*

- In present study drug "*Tagar*adi *Kawatha*" contains twelve *Ayurvedic* herbal drugs like *Tagar, Ashwagndha, Parpataka, Sankhpushpi, Devdaru, Kutaki, Brahmi, Jatamansi, Mustaka, Aragvadha, Haritaki, Darksha*. The most of the ingredients in this drug *Tikta, Katu, Kashaya Rasa; Laghu, Snigdha* and *Ruksha Guna; Ushna, Sheeta Virya; Katu, Madhur Vipaka*; *Tridosha Shamaka, Mastishaka Shamak, Nidarajanaka, Medhya, Hridhya, Vednasthapan, Rasayan, dipan, pachan, Anuloman* and *Virechan* properties.
- *Tagaradi Kawatha* are having *Manasdoshahara*, *Nidraakar*, *Hridaya*, *Medhya*, *Mastishka Shamak, Rasayana*, *Dipana Pachana, Anuloman, Virechan* and *Stroto Shodhana* properties. By combine action of all these *Guna, Karma* and *Prabhava* the trial drug *Tagaradi Kwatha* produce synergic action by induced sleep reduce *Shirshool, Klama, Bhrama, Hritspandan, Swedadhikyata, Sotha* and produce desirable effect in the management of *Uccha Rakta Chapa*.
- *Medhya Prabhava* of *Sankhpusphi, Bhutaghna Prabhava* of *Jatamansi* correct the vitiation of *Bhrama* (*Raja*&*Tama*) by reaching into *Manovaha Strotsa*.
- *Tagar* is a *Nindrakar* property that relieves stress and helps normalized the *Raja Dosha* of *Mana*, hence giving stability of mind.
- The drug has the *Tridoshahara* (*Jatamansi*, *Sankhpusphi*) property, which causes the disease's etiopathogenesis to be broken at the level of *Tridosha*, as *Tridosha* is involved in essential hypertension.
- *Tagaradi Kawatha* acts as a sedative, hypotensive and tranquillizer as a result of the combined effects of all of the above chemical constituents.

PROBABLE MODE OF ACTION OF *TAKRA-AMALAKI SHIRODHARA*

Takra Dhara Ayurveda's Best Gift to Hypertension (Blood Pressure) Patients

Takra Dhara is the best option for managing hypertension among the many treatment and medication choices available in *Ayurveda*. The combination of *Amalaki, Musta*, and *Takra* has a cooling impact on the brain and neurological system, releasing stress and anxiety that has been trapped in our body's main controlling station.

In *Takra Amalaki Shirodhara* therapy, pouring of the medicated '*Takra*' over the fore head induces the normal sleep, causes lowering the blood pressure level and affects the other psycho-somatic diseases like anxiety, lack of sleep, migraine etc. which acts through above said mechanism. It also improves all the sense organs as well as body strengths, boosts

memory power, normalizes the mental status and increases body vitality, skin lustre. It is a very safe and not very expensive method.

As we all know, the brain is in control of all body functions. The hypothalamus, which controls many physical and mental functions, and the master gland Pituitary gland are both located in the head. When all of these things are relaxed, the body's functions, including heart functions, are also relaxed.

The proper circulation of blood and nutrients is maintained. The resistance on the periphery is reduced. The body's channels are opened. Toxins are flushed from the cells, and general metabolism improves.

Finally, it may be concluded that *Shirodhara* is simply a method of changing excitability in dysfunctional brain circuits in order for the individual to perform normally. As a result, it is useful in the management of essential hypertension.

CONCLUSION

- Therefore, it can be concluded that, Both *Tagaradi Kwatha and Takra Amalaki Shirodhara* have been shown to reduce systolic and diastolic blood pressure as well as relieve the symptoms of essential hypertension. Clinical response regarding improvement in blood pressure and several symptoms of essential hypertension was milder in *Tagaradi Kwatha* treated group, moderate in patients of *Tagaradi Kwatha and Takra Amalaki Shirodhara* group.
- Therefore, it can be concluded that, During the trial therapy in the form of administration *Tagaradi Kwatha* and *Takra Amalaki Shirodhara* separately or in combination is a safe and effective in the management of *Uccha Rakta Chapa* (Essential Hypertension).

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