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A CLINICAL STUDY ON MANAGEMENT OF UCCHARAKTACHAPA (ESSENTIAL HYPERTENSION) WITH TRIPHALA CHOORNA AND MEDHYA RASAYANA

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ABSTRACT

Introduction- *Hypertension is a major public health problem due to its prevalence all around the globe. There is no direct reference of Hypertension in any Ayurvedic classic. But, Acharya Charak has given a guideline to understand a new clinical entity not described by him in the Samhita. He narrates as " A Physician should not be puzzled while coming across a new clinical entity as it is not necessary that each and every disease should have nomenclature". That if a physician is unable to diagnose the disease, he should diagnose and treat the unknown disease by its Prakruti, Samuthan and Adhishtan.*

Material and methods- *This is a randomised open label clinical trial(single group). For this study patients of Essential Hypertension were selected randomly from the O.P.D. and I.P.D. of the Govt. Ayurvedic College and Hospital, Balangir.*

Observation and Results- *It had been observed that, 20(66.67%) patients were having Remarkable improvement, 8(26.67%) were having Moderate improvement, 2 (6.67%) were having mild improvement.*

Conclusion- *Clinical study concludes that Medhya Rasāyana and Triphala choorna was beneficial in Uccharaktachapa. No adverse effects were noticed during clinical trial in the group.*

KEYWORDS- *Uccharaktachapa, EHTN, SBP, DBP, Dosha, Dushya*

INTRODUCTION

The 21st century is described as the age of anxiety and stress. This stress and strain of day today life affects one's body organs through several psycho-physical mechanisms causing many psychosomatic disorders. The *"Uccharaktachapa*" (Essential Hypertension) is one of such Diseases.

Though, *Ayurvedic* texts provide no straight reference to Essential Hypertension, here is an effort to understand the possible pathogenesis in terms of involved factors like *Doshas*, *Dushyas* etc. *Acharya Charak* has given a guideline to understand a new clinical entity not described by him in the *Samhita*. He narrates, a physician should not be puzzled while coming across a new clinical entity as it is not necessary that each and every disease should have nomenclature. That if a physician is unable to diagnose the disease, he should diagnose and treat the unknown disease by its *Prakruti*, *Samuthhan* and *Adhishtan*.[1] He can design a treatment protocol for such disease, the disease by ruling out vitiated *dosha* out of *Tridoshas* and main *Nidan* factors.

Rasa Rakta dhatus are the chief involved *Dushya* foundin the observed symptomatology of the disease essential hypertension. *Rasavaha, Raktavaha* and *Manovaha srotasa* are involved in the generation of present disease. The Drug under trial itself is *Rasayana* in nature and hence it has to affect the main *dhatus* involved as *Rasa* and *Rakta*.

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AIM OF THE STUDY

- To study the efficacy of *Triphala Choorna* and *Medhya Rasayana* in the management of *Uccharaktachapa* (Essential Hypertension)

MATERIAL AND METHODS

IEC number- 1799 /G.A.C & H of dated 29.08.2022
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Selection of Patients

This is an open label randomised clinical trial.30 numbers of patients suffering from Essential Hypertension (*Uccharaktachapa*) were taken for this study. They were randomly selected and screened by a special proforma which included details history taking, physical sign and symtoms and pathological investigation from OPD and IPD of Govt. Ayurvedic Hospital Balangir. The consent of patientwas also taken before clinical trial. The following inclusion and exclusion criteria had been followed for this study.

INCLUSION CRITERIA

1) Stage of Grade-1 Hypertension (Systolic BP-140-159, Diastolic BP-90-99mmHg)
2) Patients between 30-60 years age of either sex.
3) Patient not taking antihypertensive drugs.

EXCLUSION CRITERIA

Ischemic heart disease (IHD),coronary heart disease (CHD), coronary artery disease (CAD) and coarctation of aorta, Renal failure, Endocrine diseases, Hypertension with cerebral complications e.g Hypertensive encephalopathy, Cerebral heamorrhage, Convulsive seizure, Malignant hypertension, Pregnant and lactating mother, Patients age < 30 and > 60 years.

SELECTION OF DRUGS

Two medicines *Triphala choorna*[2] and *Medhya Rasayana*[3] had been taken for the clinical trial. The drugs of both the medicines were identified by the experts of Dept of Dravyaguna which was approved by DRC and IEC of Govt. Ayurvedic college and Hospital, Balangir and Sambalpur University

Triphala Choorna was prepared as per GMP certified methods in Mini pharmacy of College under the supervision of expert of Rasashastra & Bhaisajya Kalpana. The sample of *Triphala choorna* was sent to Quality control Laboratories of Sambalpur University for analytical study. *Medhya Rasayana Swarasa* was prepared in the college campus by collecting the fresh drugs from the garden of GAC & H, Balangir on daily basis. The pharmacodynamics of the Triphala Choorna and Medhya Rasayana are mentioned below.

Table no 1- Showing the pharmacodynamics of drugs of *Triphala and Medhya Rasayana*

Rasa panchaka	*Medhya Rasayana*	*Triphala choorna*
Rasa	*Tikta*	*Kashaya*
Guna	*Laghu*	*Ruksha*
Virya	*Sheeta*	*Anushna*
Vipaka	*Madhura*	*Madhura*
Prabhaba	*Rasayana*	*Rasayana,Medohara*
Doshghnata	*Tridoshahara, Rasayana*	*Tridoshahara, Rasayana*

Dose

Triphala Choorna: 5gm once daily for 30 days at bed time.(30 minutes after food) with Lukewarm water**.**
Medhya Rasayana (Swarasa* form):**20ml twice daily in empty stomach for 30 days. (Morning and Evening) with ***Madhu

Assessment Criteria

The degree of severity was assessed by the grading score from 0-3 and data collected from patients on 10th day, 20th day and 30th day were assessed.

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Table No 2- Showing the assessment of subjective and objective parameters

Systolic Blood pressure	<140	0
	140-149	1
	150-159	2
Diastolic blood pressure	<90	0
	90-95	1
	96-99	2
Headache(*Shirashoola*)	Absent	0
	Mild	1
	Moderate	2
	Severe	3
Chest pain(*Hridpida*)	Absent	0
	Mild	1
	Moderate	2
	Severe	3
Vertigo*(Bhrama)*	No dizziness or imbalance	0
	Occasional and mild dizziness	1
	Persistent or moderate	2
	Persistent and severe	3
Breathlessness(*Swasakrichhrata)*	Absent	0
	Present after a moderate or heavy work	1
	Present after a little work	2
	Present in resting condition	3
Nausea*(Hrillasa)*	Absent	0
	Reduced feeding	1
	Very reduced feeding	2
	No feeding	3
Vomiting*(chhardi)*	Absent	0
	1 episode per 24hr	1
	2-5 episode/24hr	2
	6-10 episode/24hr	3
Swelling in legs*(Pada sotha)*	No edema	0
	Mild pitting edema (2mm)dissapper rapidly	1
	Moderate pitting edema(4mm) disappear in 10-15 sec	2
	Moderately severe pitting edema(6mm) last more than 1 min	3
Swelling under eye *(Akshi sotha)*	Absent	0
	Present	1
Haziness of vision (*Tamo darshana)*	No *tamodarsana*	0
	Rare or occasionally *tamodarshana*(1-2 times in a month)	1
	Frequent *tamodarshana* (1-2 times in a week)	2
	Often *tamodarshana* 2-3 times in a week	3
Feeling burning sensation in hands and feets*(Hasta pada daha*)	No burning sensation	0
	Daha present occasionally	1
	Most of the time feeling burning sensation	2
	Always feeling burning sensation	3
Numbness in hands and feet(*Hastapadasupti)*	No *Suptata*	0
	Suptata present occssionaly	1
	Most of the time feeling *Suptata*	2
	Always feeling *Suptata*	3

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OBSERVATION AND RESULTS

The clinical study of 30 patients were observed based on Age, sex, marital status etc. along with incidence of *Dasavidha parikshya* (Table No-3) and the subjective and objective parameters. The percentage of improvement were also observed and assessed after clinical trial . After observation of subjective and objective parameters, the statistical analysis of parameters, was assessed by the help of statistical method (Table No-4, 5)

Table No 3- Incidence of *Dasavidha Parikshya* of Registered patients (n=30)

Sl.No.	Criteria	Category	Maximum Percentage
01	*Prakriti*	*Vatapittaja*	80.00%
02	*Vikriti*	*Madhyambalavyadhi*	63.33%
03	*Sara*	*Madhyam sara*	93.33%
04	*Samhanana*	*Madhyama*	80.00%
05	*Pramana*	*Madhyama sarira*	50.00%
06	*Satwa*	*Madhyama*	60.00%
07	*Satmya*	*Madhyama*	63.33%
08	*Ahara Shakti*	*Madhyam*	63.33%
09	*Vyayama Shakti*	*Madhyam*	50.00%
10	*Vaya*	*Madhyavasta*	100.00%

Table No 4- Showing the statistical Analysis of Subjective parameters (n=30)

Subjective parameters		Mean	Median	SD	SE	Wilcoxon W	P-Value	% Effect	Result
Headache	BT	1.33	2.00	0.92	0.17	-4.244[b]	0.00002	77.50	Sig
	AT	0.30	0.00	0.47	0.09				
Chest pain	BT	0.27	0.00	0.45	0.08	-2.828[b]	0.00468	100.00	Sig
	AT	0.00	0.00	0.00	0.00				
Vertigo	BT	0.60	1.00	0.62	0.11	-3.900[b]	0.00010	94.44	Sig
	AT	0.03	0.00	0.18	0.03				
Breathlessness	BT	0.17	0.00	0.53	0.10	-1.633[b]	0.10247	NA	NS
	AT	0.00	0.00	0.00	0.00				
Nausea	BT	0.03	0.00	0.18	0.03	-1.000[b]	0.31731	NA	NS
	AT	0.00	0.00	0.00	0.00				
Vomiting	BT	0.00	0.00	0.00	0.00	.000[c]	1.00000	NA	NS
	AT	0.00	0.00	0.00	0.00				
Swelling in legs and under eyes	BT	0.07	0.00	0.37	0.07	-1.000[b]	0.31731	NA	NS
	AT	0.03	0.00	0.18	0.03				
Haziness of vision	BT	0.47	0.00	0.68	0.12	-3.207[b]	0.00134	85.71	Sig
	AT	0.07	0.00	0.25	0.05				
feeling burning sensation in hands and feet	BT	0.03	0.00	0.18	0.03	-1.000[b]	0.31731	NA	NS
	AT	0.00	0.00	0.00	0.00				
Numbness in hands and feet	BT	0.63	0.00	0.76	0.14	-3.557[b]	0.00038	84.21	Sig
	AT	0.10	0.00	0.31	0.06				

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Table No 5- Showing the statistical Analysis of Objective parameters (n=30)

Objective parameters		Mean	N	SD	SE	t-Value	P-Value	% Change	Result
SBP	BT	153.13	30	8.83	1.61	7.167	0.000	7.31	Sig
	AT	141.93	30	6.59	1.20				
DBP	BT	94.93	30	2.50	0.46	9.277	0.000	3.44	Sig
	AT	91.67	30	2.17	0.40				
Blood Urea	BT	24.57	30	6.03	1.10	1.772	0.087	10.99	NS
	AT	21.87	30	4.10	0.75				
Sr. Creatinine	BT	0.84	30	0.26	0.05	-0.814	0.423	3.59	NS
	AT	0.87	30	0.15	0.03				
RBS	BT	143.57	30	32.37	5.91	-0.883	0.385	3.02	NS
	AT	139.23	30	25.17	4.59				
Total Cholesterol	BT	174.50	30	30.41	5.55	5.243	0.000	5.56	Sig
	AT	164.80	30	25.20	4.60				

DISCUSSION

***Dosha Dusti Lakshana*:** In the present study *Bhrama, Shirashoola, urahshoola, Supti* were found to be major *Vata dusti Lakshanas. Tamodarshana, Daha* a major *Pitta* and *Rakta dusti Lakshana* and *Swasakrichhrata* as a major *Kapha Vata dusti Lakshanas*. These are the common complains observed in the patients of EHTN also. The data also reveals the fact that all the *Tridosha* were involved in the pathology of EHTN in *Taratamabhava*.

EFFECT OF THERAPY

EFFECT ON SIGN AND SYMPTOMS

It is very clear from the observation test drugs had excellent effect in reducing and relieving sign and symptoms.

Headache (*Shirashoola*)- The percentage of relief was 100 %, p-Value is less than 0.05 which was significant. *Vatadidosha* with *raktadusya* causes *shirashoola*[4]. The drugs like *Medhya rasayana* and *Triphala choorna* had *tridosha shamak* and *Bramhi* had *rakta prasadkara guna* along with this *Medhya rasayana* had antistress properties.

Chest pain (*Urashoola)-* On the symptom *Urahashoola*, improvement was observed with 100% and result was statistically significant. *Urahashula* is mentioned under the symptoms of Rasa *kshaya*[5]. Due to *Rasa kshaya* vitiated *Vyana vayu* causes pain in the chest. *Rasadi dhatu poshana* is the function of *rasayana* drugs.

Vertigo (Bhrama)- P-Value is less than 0.05. Hence, we can conclude that, effect observed in vertigo is significant.*Sharira Dosha Vata* and *Pitta* along with *Mano Dosha Raja* cause *Bhrama*. The *Rasayana* therapy has *Tridosha shamaka* property. And also it acts on *Mansika bhava* also, because of inclusion of *Medhya Rasayana* and *Triphala choorna.*So it has *Medhya, Rasayana* and *Tridosahara* effect, which remove the effect of vitiated *Raja Dosha*.

Brethlessness, feeling burning sensation in hands and feet, Nausea,Swelling in legs and under eyes- Although the result is not negative but as these symtoms were found in very less number of sample (1-2) so the result is not significant.

Haziness of vision - P-Value is less than 0.05. Hence, we can conclude that, effect observed in haziness of vision is significant. *Tamodarshana* in *Rakta Pradosajavyadhi*[6]*: medhya rasayana* found to be useful in disease of nerves and blood (rakta)

Numbness in hands and feet *(Hastapadasupti)*-P-Value is less than 0.05. Hence, we can conclude that, effect observed in *hastapadasupti* is significant. *Supti* comes under the *vataj nanatmaja vikara*[7] and the drugs selected here was *tridhashamak* and neuroprotective.

Effect on Systolic and Diastolic blood pressure:

The systolic blood pressure and diastolic blood pressure decreased by 7.31% and 3.44% respectively. The results were statistically significant in lowering systolic and diastolic blood pressure.

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Effect of therapy on Haemetological and Biochemical parameters

Random blood sugar level was statistically non significant as the value of it before treatment and after treatment was within normal range in all patients. And the drugs taken here were not affecting on blood sugar level.

Serum Creatinine and Blood Urea level was statistically non significant as the value of it before treatment and after treatment was within normal range in all patients.

S Cholestrol: S Cholesterol was reduced by 5.56%., P-Value is less than 0.05. Hence, we can conclude that, effect observed in Total Cholesterol is significant.

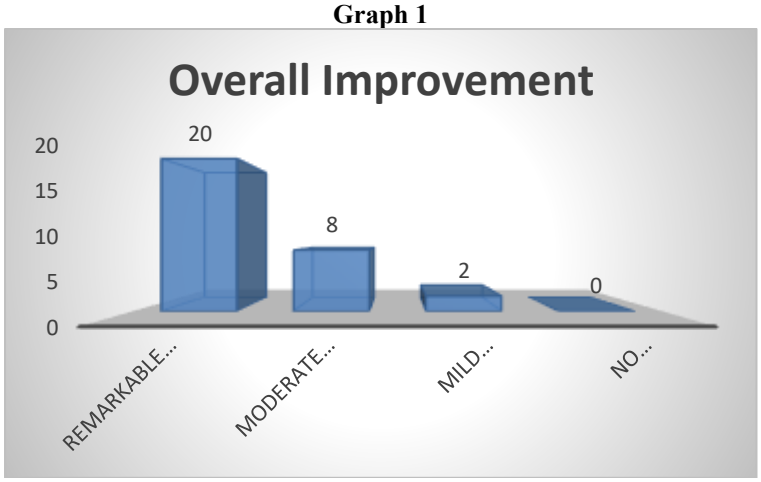
TOTAL EFFECT OF THERAPY

The clinical assessment was done basing on the sign and symptoms both subjective and objective parameters. After 30 days of treatment 2 patients (6.67%) got mild improvement, 8(26.67%) patients got Moderate improvement and 20(66.67%) patients got Remarkable improvement.

Table No 6- Showing clinical assessment of result in patients (n=30)

Overall Improvement	Frequency	Percentage
Remarkable Improvement	20	66.67%
Moderate Improvement	8	26.67%
Mild Improvement	2	6.67%
No Improvement	0	0.00%
TOTAL	30	100.00%

Graph 1



PROBABLE MODE OF ACTION

To understand the probable mode of action to main concepts can be taken as deliberation viz. 1. *Rasapanchak* of *Medhya Rasayana* and *Triphala choorna*. 2 The *Samprapti ghatak* of the disease.*Medhya Rasyana* and *triphala choorna* is *Tikta. Kashaya* so, it should act upto *Rasa, Rakta dhatu* along with their *Srotas*. It reduces the *Aama* in the *Rasa Rakta* and thereby viscosity of *Rasa Rakta*. This in turn reduces the pressure on the heart muscle and *Rasa* Vikshepana is ease to though. *Laghu* and *Ruksha Guna* of both *Medhya* Rasayana & *Triphala choorna* initially help *Mandagni* factor with *Ushna Virya* of the *Triphala*. The *guna* and *virya* of Drugs should collectively correct the *Mandagni*, and reduce the *Dhamani Upalepa* and *virya* pacify the *vayu*. In addition *Madhur vipaka* should help to pacify *Vata*. Collective mode of action of *vipaka* should have nourishing effect on disturbed Mana, as *Madhur* is the only nutrition to mind *[Shadhindriyaprasadana]*[8]. Besides this, *Medhya rasayana* are *Balya* in nature especially '*Nadibalya'* (neurotonic). In recent years *Medhya Rasayana* has been reported to possess varying degree of anxiolytic activity that helps to reduce the stress. By virtue of all these properties, *Medhya Rasayana* acts on higher centers and improves the nervine control. The drug under trial itself is *Rasayana* in nature and hence it has to affect the main *dhatus* involved as *Rasa* and *Rakta*. EHTN being a purely lifestyle related unless and until life style modification executed. A permanent solution is not expectable. For this *Acharyas* have prescribed *AACHAR RASAYANA* as life style modification model. This role of *AACHARA RASAYANA* if implemented as long term project a complete resolution from Hypertension

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can be theoretically achievable but till then *Medhya Rasayana* like *Neimittika Rasayan* has to be an *AAJASRIK RASAYANA* i.e. to be taken lifelong.

CONCLUSION

At the verge of completion of this study the final conclusion can be drawn from the deductive reasoning of the relevant information and none deceiving data comprehended in the present study.

On objecting the cardinal sign and symptomatology of the disease to *Ayurvedic* fundamentals, it is evident that there is predominance of *Vata Pradhana Dosha* its accompaniment with *Rasa Rakta dusti*. Role of *mandagni* is the principal source at the back of every disease that told by *Acharyas*, which causes *uttapti* of *Aama*. *Aama* in the *Rasa Rakta Dhatu* increases the viscosity and also pressure to combat this. Dhamani uplepa is one of the main incidences in Hypertension and is stated in *Kapha Nanatmaja vyadhi*. Hence, the Hypertension (EHTN) can be assigned as *Tridoshaja vyadhi* with predominance of *Vata*. Regarding the *Nidana* factors mainly genetic, dietary, psychological and environmental factors were observed practically, it may be, asserted that none of these factors influence the expression of the disease in segregation. They interact amongst each other in a variety of permutations to compliment and compound the resultant effect on this pathological phenomenon. Hence it is known as multifactorial disease.

Clinical study conclude that *Medhya Rasayana* and *Triphala choorna* is beneficial where systemic involvement is present with somatic symptoms like *Shirashoola*, *Tamodarshana, Bhrama, Urahshoola*, etc

As the study was conducted over a small sample, a similar study performed over a large sample for a longer period would have procured much sharper and more accurate results.

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