ejpmr, 2022, 9(10), 317-329

SJIF Impact Factor 6.222

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Research Article

ISSN 2394-3211

EJPMR

AN ETIOPATHOLOGICAL STUDY OF RAKTAGATA VATA W.S.R. TO HYPERTENSION & THEIR UPSHAYATMAK PARIKSHANA WITH SUDHESH VATI (KALPITA YOGA)

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Article Received on 06/08/2022 **Article Revised on 27/08/2022** **Article Accepted on 17/09/2022**

ABSTRACT

The disease Raktagata vata is one of the nanatmaja vata vyadhi i.e., Raktagata vata disease occurs due to vitiation of vata dosha specially. As per Ayurvedic concepts, there are many other factors which are involve in the development of **Raktagata Vata** like Samaan, Vyaan and Praana vata, Saadhak and Paachaka pitta, Avalambak kapha, Rasa, Rakta, Meda dhatu, Pranavaha, Mutravaha, Swedavaha, Medavaha, Udakavaha srotas. Agni Dushti (mandagni) is principal causative factor, at the back of every disease. Agni mandhya give rise to Rasa dushti as a result of this, more and more Vikruta Kapha produced. Vikruta Kapha gives rise to Atherosclerotic changes (dhamni uplepa), which results in aggravation of Vata, hence leads to repeated spasm resulting increased peripheral resistance to the circulating fluid. Dushya Rasa, Rakta are considered under Bhaya Roga Marga, so in its initial stages disease is in bhaya roga marga. But in the advance stages of disease, involvement of the Madhyama Roga Marga namely Hridaya, Sira, and Basti (Trimarma) also occurs. So trimarma (heart, brain, and kidney) are the organ mainly affected in advance stage of disease. The symptomatology quoted under Raktagata vata roga by Acharyas almost coincides with Hypertension symptomatology like Anidra, Sirahashool, Bhrama, etc. So in few aspects it can be compared to hypertension. By reviewing the involvement of main factors, dosha & the possible pathogenesis, the drug selected for the trial was SUDESH Vati, which is the combination of sarpagandha, jatamanshi, gokshura, sankhpushpi, yasthimadhu & praval pisthi.. The dose adopted for the clinical trial was 1000mg in 2 divided doses, half hour after meal with koshna jala. Its effect on controlling HTN were analyzed. In newly diagnosed patients we observed very good control of BP & it worked as supportive drug in controlling rise of BP in patients who were taking antihypertensives since from long time.

KEYWORDS: Raktagata vata, HTN, Samprapti of Raktagatavata, ayurvedic concept of HTN.

INTRODUCTION

Ayurveda is ancient science of medicine in world which originate in Vedic era. In ancient time majority of disease were treated with traditional drugs described in ayurveda but with time entry of conventional modern medicine has overshadow the traditional medicine. In the present time, human beings became a machine because they are doing unknown competition to get more and more resources and maintain high social standard. In this process they are adopting faulty life style and stressful psychological condition. In other words, to say, vishamasana, Avyayama, Ratrijagarana, extreme consumption of tea, coffee, aerated drinkes, oily food has become a daily routine, leading to vitiation of dosha, disturbance in state of Agni, Dhatwaagni and formation of Dhatu. Age linked neurodegenerative variations, structural and functional changes in various organs of body like Heart, Veins and artery are also occur. These factors affect one's mind and homeostasis of the body by several psychosomatic mechanism and lead to disturbance in rasa – Rakta samvahana, Dhatu poshana, Dosha prakopa, results to develop many lifestyle disorders like –Raised Blood pressure, Prameha, klaibya etc.

In the context of Vata Vyadhi acharya Charaka, Sushruta and Vagbhatta have described the disease RAKTAGATVATA, which is one of the nanatmaja vata vyadhi i.e., Raktagata vata disease occurs due to vitiation of vata dosha specially.

The Nidans described by Charak in the context of vata vyadhi vitiates only the vata dosha and not, the other factors involved in disease like dushya, srotas etc. This vitiated vata dosha meet Rakta dhatu, which is in samyaa state and other factors like srotas etc., leads to disease RAKTAGATA VATA. All factors except vata, develop

vishamaavastha due to vitiated vata dosha but not due to Hetu.

As per Ayurvedic concepts, there are many other factors which are involve to develop the disease RAKTAGATA VATA like Samaan, Vyaan and Praana vata, Saadhak and Paachaka pitta, Avalambak kapha, Rasa, Rakta, Meda dhatu, Pranavaha, Mutravaha, Swedavaha, Medavaha, Udakavaha srotas.

In the present era there is no exact correlation of rakatagata vata to any single disease but due to its symptoms are similar to High Blood Pressure, In **1950, Acharya Y.N. Upadhyaya** correlates raktagata vata with Hypertension.

HTN is one of the most common life style disorders. It is a Cardio-vascular disorder which defined as the high blood pressure. When the systolic blood pressure remains elevated above 150mmHg and diastolic blood pressure remains elevated above 90mmHg. It is considered as HTN. About in 90% patients there is no known cause for hypertension and this is very important to be alert.

Most cases of HTN does not exhibit any symptoms i.e., why it is k/a silent killer, but in some cases, people feel- Giddiness, Palpitation, Headache etc.

HTN is also classified into **1)**- PRIMARY HTN & SECONDRY HTN and **2)**- BENIGN & MALIGNANT.

HTN causes major effects on three main organs- Heart and its vessels, Nervous system and kidneys.

According to WHO an estimated 1.3 billion people worldwide have HTN, mostly in low- and middle-income countries. In 2008- 40% of people aged >25yrs had HTN. In 2015-1 in 4 men and 1 in 5 women had HTN. Fewer than 1 in 5 people with HTN have the problem under control. About 26.4% of the worldwide adult population in 2020 had HTN and 29.2% were projected to have this condition by 2025.

Keeping the view of Ayurvedic concepts like samprapti vighattanam and modern concepts the research work entitled "**An Etiopathological Study of Raktagata Vata w.s.r. To HTN and Their Upshayatmak Parikshana with Sudhesh Vati"** has been planned for getting improvement in raised BP.

This thesis consists of seven parts. First part deals with **Review of Ayurvedic Literature, Modern Literature & Drug Review,** second part deals with **Material and Methods,** third part deals with **Observations,** part four deals with **Result,** part 5 deals with **Discussion,** part 6 deals with **Summary** and **conclusion.**

There are six main contents of this drug i.e., Jatamansi, Yastimadhu, Shankhapushpi, Gokshuru, Sarpagandha, and Praval pishtti. In this trial drug, Yastimadhu, Jatamanshi, Sarpagandha, Shankhpushpi. has been used as a Bhavana Dravya. Koshna jala have been used as Anupana for this drug, which has been mentioned in context of Drug Review.

Total 60 patients, suffering from increased BP who fulfilled the criteria of selection for the present study were selected. The patients were subjected for detail clinical examination & investigation as per the specially designed proforma.

In this study observation were made on the basis of samprapti vighattanam occurs or not, according to different nidan-sevan by patient. The study was focused mainly on the nidan-sevan, samprapti formation and vighattanam.

It is hoped that the clinical, investigational data of the effect of Sudhesh Vati in the management of Raktagata Vata will encourage other research workers in the field of cardio-vascular system to conduct more advanced studies for further verification.

AIMS AND OBJECTIVES

- To study the concept of etiopathogenesis of Raktagata Vata.
- To study the comparative analytical description of raktagata vata vis-à-vis Hypertension.
- To study on clinical incidence of etiology, types, signs and symptoms in relation to Hypertension in light of Modern Medicine and Ayurveda.
- To evaluate the role of Sudhesh Vati in the treatment of Hypertension.

MATERIAL AND METHOD

❖ HYPOTHESIS

- **Null hypothesis (H0)**

Sudhesh Vati (Kalpita yoga) does not have definite effect on Raktagata Vata (HTN)

- **Alternate Hypothesis (H1)**

Sudhesh Vati (Kalpita yoga) does have definite effect on Raktagata Vata (HTN)

- **SOURCE OF DATA:** In this study the patient of Uchcharaktachap were registered from OPD amd IPD of RogaNidana and Kayachikitsa & Panchakarma department and other section of Government Ayurveda P.G. college and Hospital chaukaghat Varanasi. The selection of cases was done on the basis of clinical features. The diagnosis was substantiated by laboratory findings.
- **METHOD OF COLLECTION OF DATA:** For the clinical study, 60 patient were selected from the OPD and IPD of Government Ayurveda P.G. college and Hospital chaukaghat. Patients fulfilling the criteria for selection were enrolled into the study irrespective to their caste, religion, etc. A specially designed Proforma was prepared (with details of history taking, physical signs,symptoms as

mentioned in our classics and allied science) and informed consent was taken from the Patients before the treatment.

- **CRITERIA FOR DIAGNOSIS:** A general physical examination on the basis of Ayurvedic and modern medical science parameters was conducted for all the patients. An elaborated Proforma was duly filled for each patient. The states of Dushti of Dosha, Dushya etc. were also incorporated in this Proforma The history of taking drugs was also recorded. Patients shall be diagnosed on the basis of Clinical features, Physical examination, and laboratory investigation.

1. **Three consecutive readings of blood pressure** were taken in supine posture and their average was utilized for diagnosis. A patient with persistent blood pressure above 140/90 mm of Hg. Was designated as Hypertensive. Essential Hypertension was diagnosed by excluding the other known pathologies of high blood pressure. The following investigations were under taken to exclude other pathologies as well as to assess the condition of the patient.
2. **Urine analysis** for blood protein and glucose (Physical, chemical and microscopic examination for its reaction, albumin, sugar, acetone, R.B.C., pus cells, casts etc. were done to exclude other pathologies.
3. **Blood glucose-** Diabetes was defined as fasting plasma glucose >125mg/dl or postprandial plasma glucose (2-hr plasma glucose) >200mg/dl. The fasting serum sample was taken for lipid profile and fasting glucose estimation and 2-hr after eating serum sample was taken for pp glucose estimation. Plasma glucose was determined by Glucose Oxidase method
4. **Lipid profile-** Dyslipidaemia was defined as Tg >150mg/dl, LDL >100mg/dl, HDL< 40mg/dl in males and in females <50 mg/dl, Toatal Chol. >200mg/dl. The fasting serum sample was taken for lipid profile. HDL was determined by-modified polyvinylsulfonic acid (PVS) and polyethyleneglycol-methyl ether (PEGME) coupled classic method. Total chol. Was calculated by dynamic extended stability CHOD-PAP method (with LCF), Triglyceride was calculated by dynamic extended stability with lipid clearing agent gpo-trinder method and LDL is calculated.

5. 12-lead ECG

INCLUSION CRITERIA

1. Patient suffering from Uchcharaktachap
2. Patient >18 years of age of both sex.

EXCLUSION CRITERIA

1. Suffering from malignancies and Chronic systemic diseases like Uncontrolled diabetes [above the range of 160-200 mg\dl (RBS)], sever renal disease, severe heart disease, endocrine disease.
2. Uchcharaktachap during pregnancy (preeclampsia and eclampsia)

ADMINISTRATION OF DRUG FOR UPSHAYATAMAKA PARIKSHANA-

Drug Name-Sudhesh Vati (it is Kalpit yoga made by mixing of Jatamansi, Shankhpushpi, Gokshur, Sarpagandha, Yastimadhu in equal parts and Praval Pistti in half parts. Then a Bhavana gives by Yastimadhu, Jatamanshi, Sarpagandha, Shankhpushpi kwatha in it and made it in the form of Vati)

Administration- One tablet (500mg) – B.D. was given to each patient with Anupana Koshna Jala after food for 30 days.

Fallow up- During the treatment, all the patients were advised to report in the O.P.D. at the regular interval of one week for the follow up study. Their blood pressure was recorded after 15 minutes rest.

DIET & RESTRICTIONS

Patients were advised to take salt restricted diet and fallow the pathya and apthya available in ayurvedic literature on raktagatavata.

FOLLOW UP STUDY

After completion of treatment, all the patients were advised to report in the O.P.D. at the regular interval of one week for at least two weeks for the follow up study. Their blood pressure was recorded after 15 minutes rest. The condition of other sign and symptoms was also noted.

ASSESSMENT CRITERIA

Uchcharaktachap lakshans explained in classics.

Sign and symptoms of hypertension.

The assessment will be done on the basis of subjective and objective parameters.

Grading of Assessment of criteria

Grading of Assessment of Subjective criteria.

Table

Sign/Symptoms	Absent	Mild	Moderate	Sever
Ruja (Pain)	0	1	2	3
Santapa (Irritataion)	0	1	2	3
Vivarnata	0	1	2	3
Krishta	0	1	2	3
Aruchi	0	1	2	3
Stambha	0	1	2	3
Paad daah (burning feet)	0	1	2	3
Bhram (Giddiness)	0	1	2	3
Shotha	0	1	2	3
Klama (fatigue)	0	1	2	3
Raktasrava	0	1	2	3
Spandan(Palpitation)	0	1	2	3
Excessive sweating	0	1	2	3
Dyspnoea	0	1	2	3
Insomnia	0	1	2	3
Tinitus	0	1	2	3

Table No. 16: Grading of Assessment of Objective criteria:

Investigations	0	1	2	3
BP(SBP) mmHg	<140	141-150	151-160	>160
(DBP) mmHg	<90	90-100	100-110	>110
S.Cholesterol (mg/dl)	<200	200-250	250-300	>300
S.Triglyceride (mg/dl)	<190	260-440	441-876	>877
LDL (mg/dl)	<100	100-130	130-160	>160
HDL (mg/dl)	>60	50-60	35-50	<35
LDL/HDL		0·5-3·0	3-6	>6
S.Chole./HDL	3·3-4·4	4·4-7·1	7·1-11·0	>11

ASSESSMENT OF OVERALL EFFECT

Assessment has done on the basis of relief in Clinical signs & Symptoms. All the Comparisons for assessment were made separately on two occasions i.e., before treatment and after treatment**,** and then these were compared to assess the efficacy of drugs. Overall percentage improvement of each patient was calculated by the following formula.

Total BT-Total AT

---------- x 100

Total BT

The result thus obtained from individual patient was categorized according to the following grades: Patients were graded into 4 groups to assess the overall effect of therapy with Subjective / objective parameters.

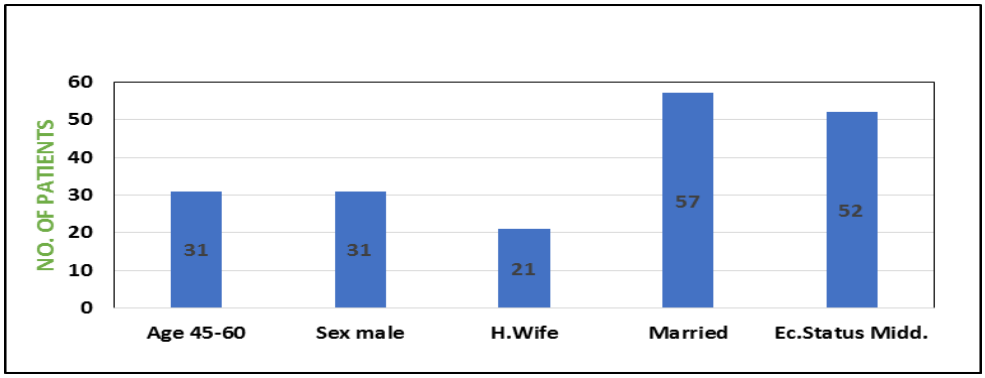
Table No: 17.

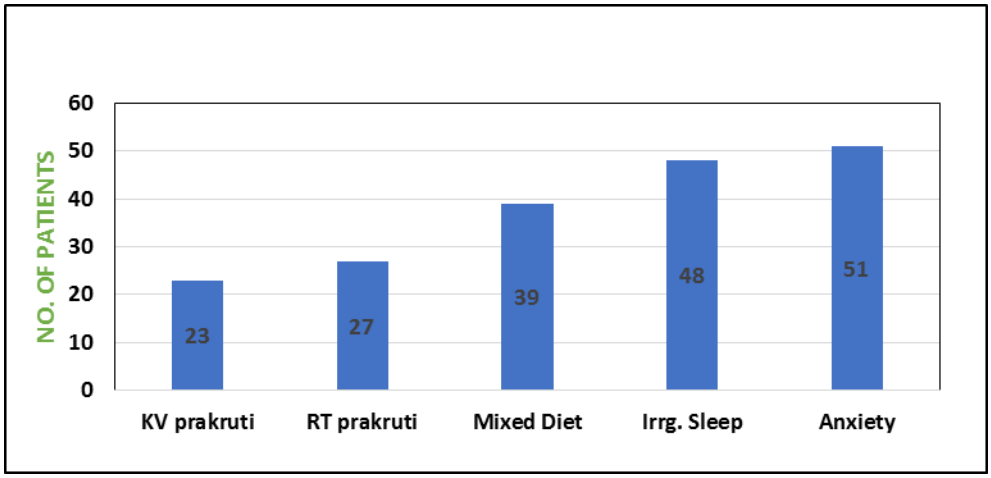
1.	Unchanged	<25 % relief
2.	Mild improvement	>25%-50% relief
3.	Moderate Improvement	>50%-75% relief
4.	Marked Improvement	>75%- relief

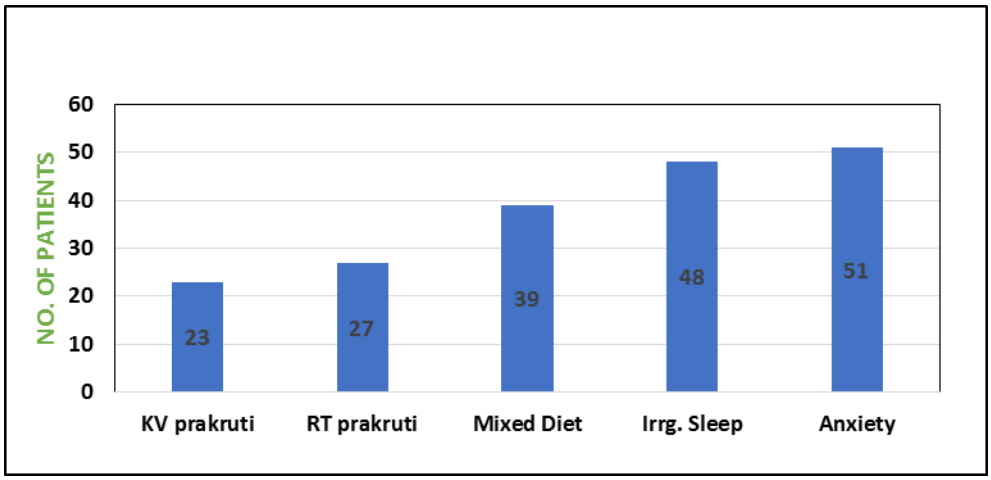
Result of therapy, evaluated on the basis of improvement both in complaints as well as objective parameters.

OBSERVATION

- Distribution of Patients.




NO. OF PATIENTS
60
50
40
30
20
10
0
23
27
39
48
51
KV prakruti
RT prakruti
Mixed Diet
Irrg. Sleep
Anxiety


NO. OF PATIENTS
60
50
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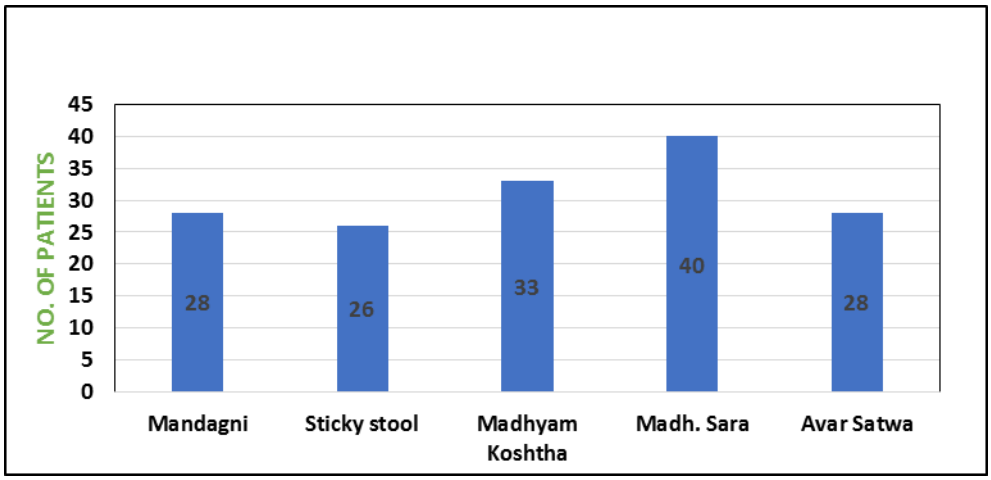
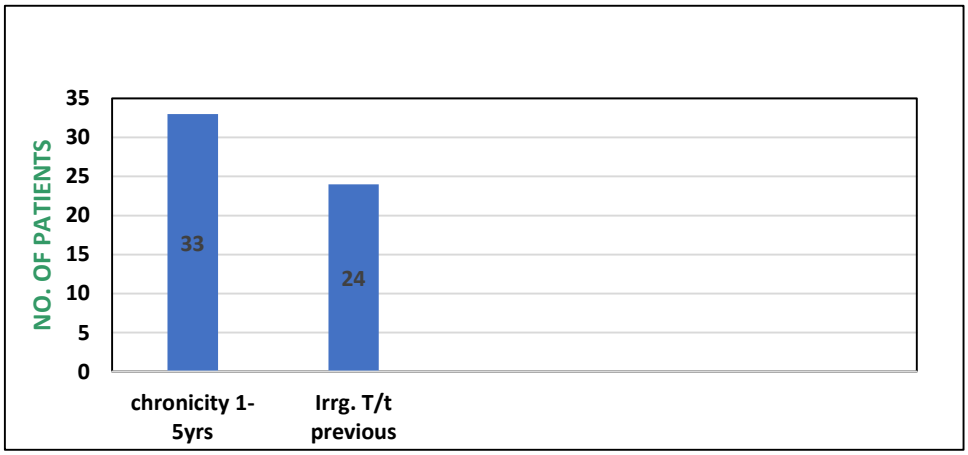
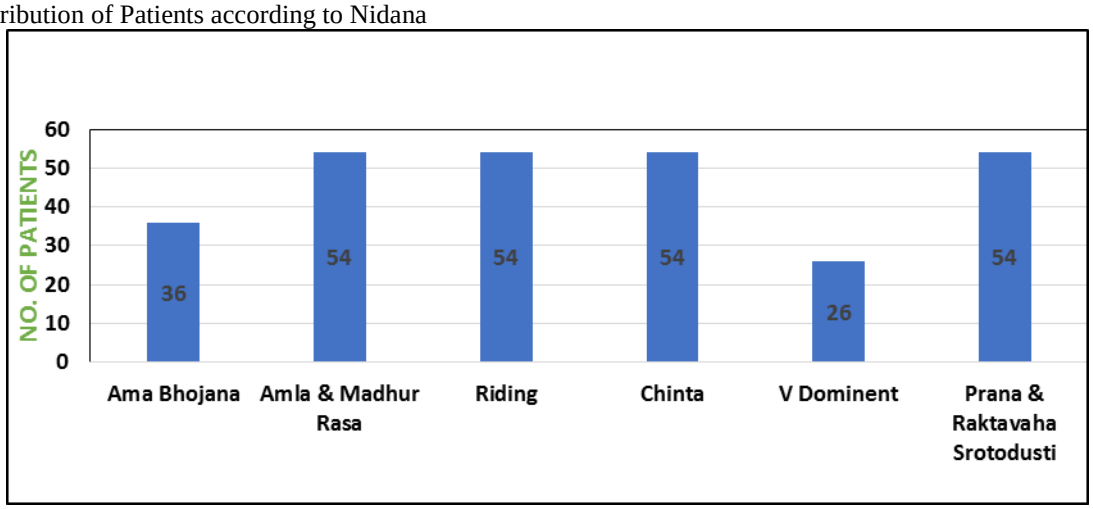
51
KV prakruti
RT prakruti
Mixed Diet
Irrg. Sleep
Anxiety

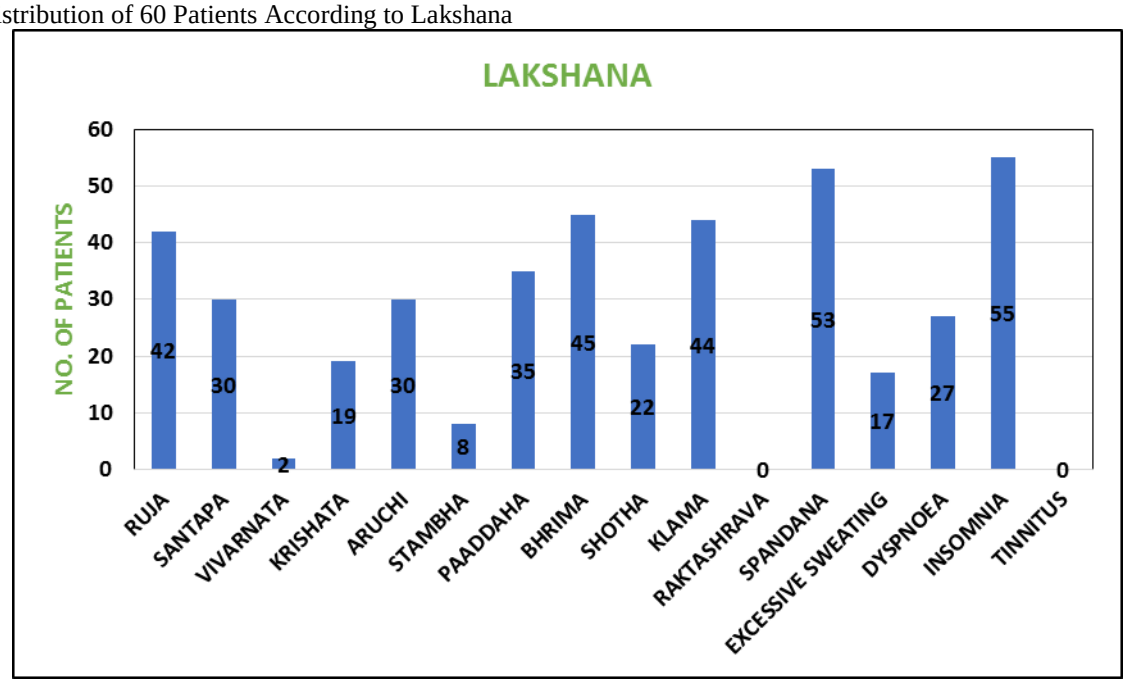

NO. OF PATIENTS
45
40
35
30
25
20
15
10
5
0
28
26
33
40
28
Mandagni
Sticky stool
Madhyam Koshtha
Madh. Sara
Avar Satwa



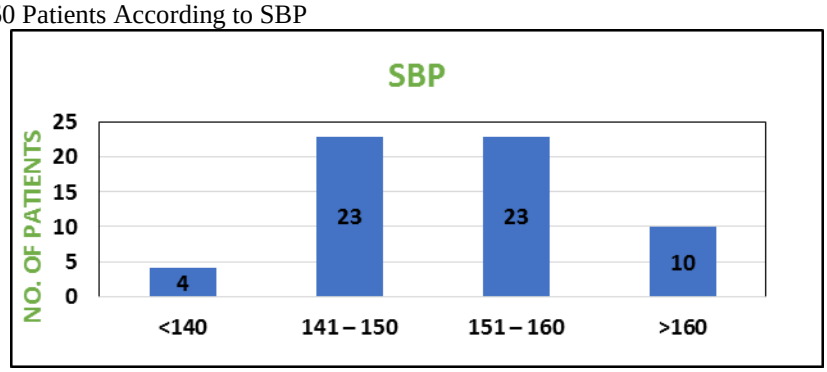
- Distribution of Patients according to Nidana



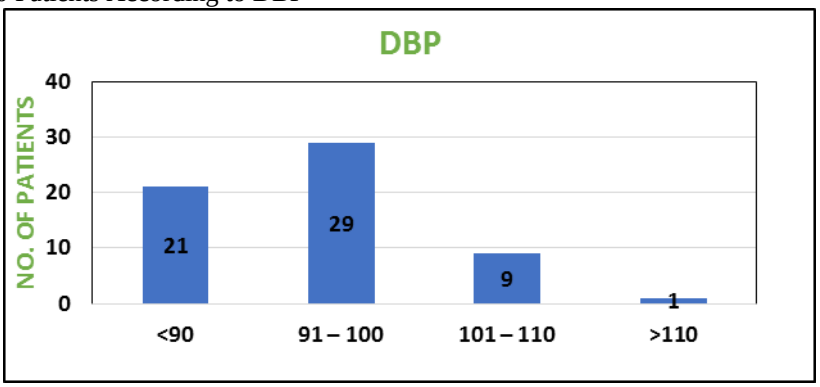
- Distribution of 60 Patients According to Lakshana



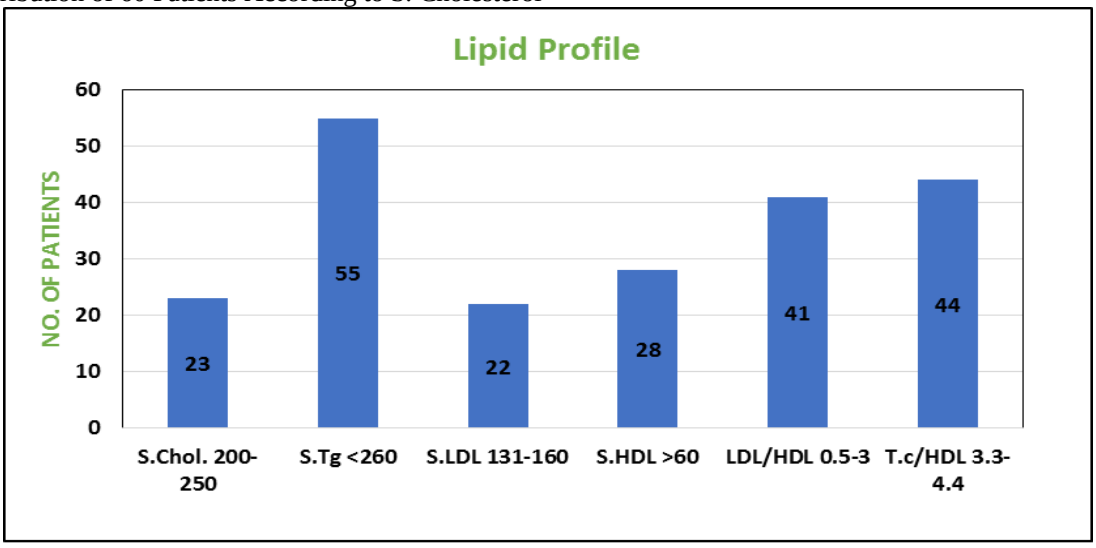
- Distribution of 60 Patients According to SBP



- Distribution of 60 Patients According to DBP



- Distribution of 60 Patients According to S. Cholesterol

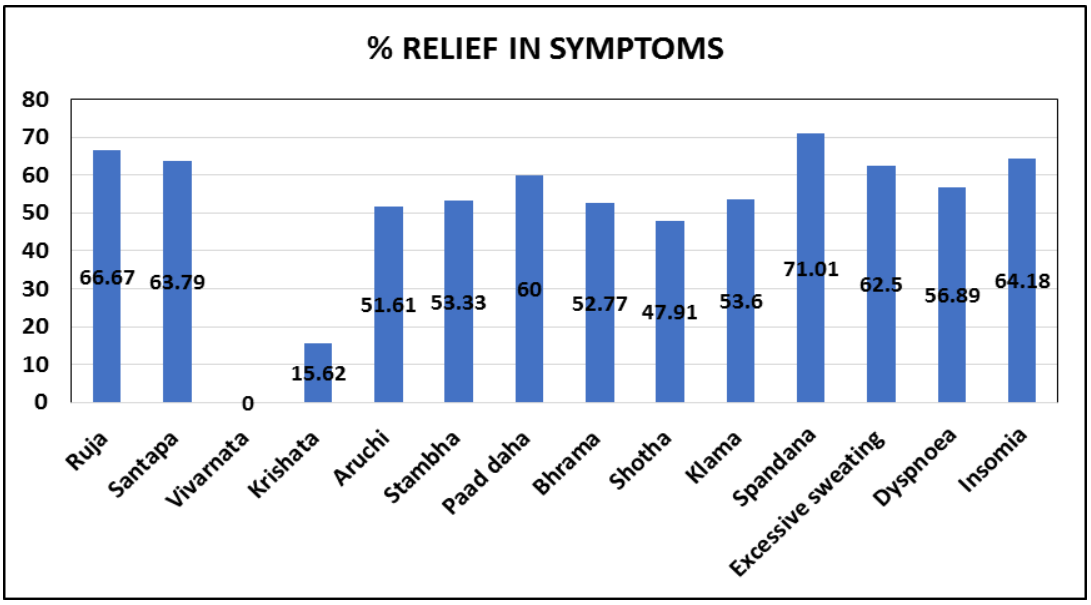


RESULT

Table 61: Showing Effect of Therapy in Subjective Parameters.

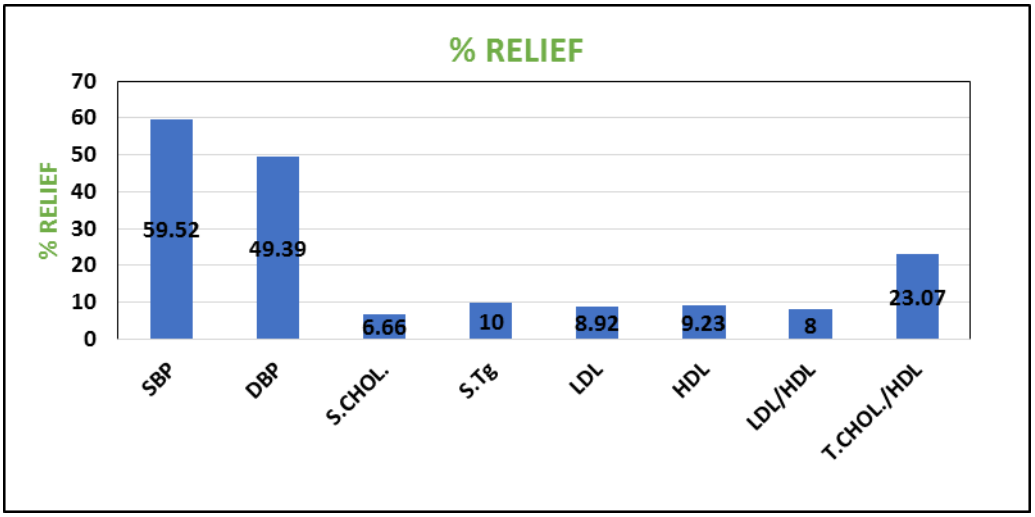
Variable	Mean		Mean Diff.	% Relief	S.D.±	S.E.±	P	S
	BT	AT						
Ruja	1.050	0.35	0.7	66.67	0.7658	0.0989	<0.0001	HS
Santapa	0.58	0.22	0.37	63.79	0.5197	0.0670	<0.0001	HS
Vivarnata	DATA INSUFFIIENT							
Krishata	0.32	0.27	0.05	15.62	0.2198	0.0283	0.1250	NS
Aruchi	0.62	0.30	0.32	51.61	0.4691	0.0605	<0.0001	HS
Stambha	0.15	0.07	0.08	53.33	0.2787	0.0359	0.0313	S
Paad daha	0.75	0.30	0.45	60.00	0.5652	0.0729	<0.0001	HS
Bhrama	1.08	0.52	0.57	52.77	0.6731	0.0869	<0.0001	HS
Shotha	0.48	0.25	0.23	47.91	0.4265	0.0550	<0.0010	HS

Klama	0.97	0.45	0.52	53.60	0.5365	0.0692	<0.0001	HS
Spandana	1.38	0.40	0.98	71.01	0.7247	0.0935	<0.0001	HS
Excessive sweating	0.32	0.12	0.20	62.50	0.4034	0.0520	0.0002	HS
Dyspnoea	0.58	0.25	0.33	56.89	0.5420	0.0699	<0.0001	HS
Insomia	1.48	0.53	0.95	64.18	0.7231	0.0933	<0.0001	HS



Effect of Therapy in Objective Parameters

Variables	Mean		M.D.	% Change	SD±	SE±	t value	P value	S
	BT	AT							
SBP	1.68	0.68	1.0	59.52	0.7811	0.1008	9.916	<0.0001	HS
DBP	0.83	0.42	0.41	49.39	0.5612	0.0724	5.751	<0.0001	HS
S.Chol.	1.2	1.1	0.08	6.66	0.3814	0.0492	1.692	0.0959	NS
S.Tg	0.10	0.08	0.01	10	0.1291	0.0166	1.000	0.1607	NS
LDL	1.68	1.53	0.15	8.92	0.5771	0.0745	2.013	0.0487	S
HDL	0.65	0.58	0.06	9.23	0.4825	0.0622	3.841	1.070	NS
LDL / HDL	1.25	1.15	0.10	8.00	0.3992	0.0515	1.941	0.0571	NS
T. Chol / HDL	0.26	0.20	0.06	23.07	0.3117	0.0402	1.657	0.1029	NS



Overall effect of therapy

The effect of treatment on Symptoms (subjective criteria) was 58.91% which is marked improvement.

The effect of treatment on Blood pressure was 56.17 % which is a marked improvement.

The effect of treatment on Lipid Profile was 8.36% which shown no effect of drug on lipid profile.

Overall effect of therapy was 43.76% which is mild improvement.

DISCUSSION

- **Age**

In this study maximum number of patients i.e., 51.7% were from the age group 45-60 years followed by 28.3% of patients were recorded from 18-44 years age group. It was found that 20% of patients were from >60-year age group. As Ayurvedic text 30-60 years are Yuva Avastha in which the Pitta Dosha is dominant. In present study all randomly selected patients are in this age group. This is the period when aging process starts & retraction in the tissue formation takes place. Vata is dominant in old age. Degenerative condition is characteristic of Vata and to some extent Pitta precipitation. Yuva avastha of pitta dominancy is very sensitive to hormonal imbalance or changes and the over strength of the higher cortex due to Vata Prakopa initiate the disease. As stated earlier that, Hypertension is Tridoshaja vyadhi in which Vata may be more responsible for giving a condition of hypertension in this age group.

- **Sex, Religion, Marital status**

In this study approximately equal percentage of both sexes was found. No conclusion was found in occurrence of this disease. 51.7% were male patients and 48.3% patients were female, 90% patients were Hindu and only 10% were Muslim community. No conclusion can be made on the basis of this short time study, but it can be say that at present day the ladies of middle class family are living in more depression and stress full environment. So, it may be cause of Hypertension.

Chinta was the most common factor observed in married persons. Difference of opinion between the partners, the worry for their children and family or sedentary life style after marriage could be the factors which are responsible for their high blood pressure.

- **Occupation**

The maximum number of patients was housewives (35%). 31.7% patients was in service both in government and private sector. 18.3% of patients was businessman, while 8.3% patients were under retired and labor class. The incidence among housewives may be due to the day-to-day tension and over mental stress, which play a significant role Hypertension is a psychosomatic disorder. Mental stress and to some extent loneliness in housewives, tension and stressful life style in service and businessman, problem of finance for retired and labor class plays a significant role in change of psychological set-up.

- **Economic status**

Around 86.2% patients hailed from middle class, 5% of patients hailed from upper-middle class, 8.3% from lower class. High incidence in middle class may be due to mental and physical stress.

- **Habitat**

60% of patients were found in urban areas while 40% of pateints were found rural area. Increase incidence of Essential Hypertension may be attributed to the fast-changing life style, environmental factors, and dietary habit.

- **Family History**

The study reveals that there is strong relationship between family history and hypertension. 20% patients were in positive family history, while 28.3% had negative family history while 51.7% pateints were not know about it.

- **Treatment received**

70% of patients had undergone allopathic medicine, while 30% patients were without having any previous treatment.

- **Chronicity of disease**

The majority of the patients, who came for the treatment i.e., 55%, were having the illness with the duration 1-5 years. Chronicity of 6 - 10 years was found in 23.3% patients, and also 15% patients found with <1 Year duration. 6.7% patient were having the illness >10 years.

- **Dietary habit & Pattern**

65% of patients were notified to be non-vegetarian (mix diet) and remaining 35% of patients consuming vegetarian diet. Mansa sevan is considered as one of the main Nidana responsible for Shonitaja Vikara, indicating the role of Rakta as a main Dushya in this disease.

- **Abhyavarana Shakti**

48.3% and 40% of patients were both with Madhyama Abhyavarana as well as JaranaShakti. 18.3% and 10% of patients were found as Pravara Abhyavarana Shakti and Pravara Jarana Shakti respectively, while 38.3% of patients were Avara Abhyavarana Shakti and 50% of patients were Avara Jarana Shakti.

- **Agni and Koshtha**

While studing the patients in respect to Agni 33.3% of patients had Vishama Agni,5% of patients had Tikshna Agni and 46.7% of patients had Manda Agni, while studing Kostha, 25% had Kroora Kostha, 20% had Mrudu Kostha and 55% had Madhayama Kostha. Agni in Ayurveda is reflected in the concept of pitta. Agni is responsible for aahar pachana in the Kostha, it corresponds to gastrointestinal digestion. Functioning of agni is normal when Samana vayu is functioning normally its own. Agni dushti is always followed by Sroto dushti, hence Agni dushti is the factor responsible for the disease. Agnidushti leads to Ama or Vidagdha Ama causing atherosclerotic inflammatory types and srotorodha causes deprivation of nutrient to the Rasa dhatu and results degenerative changes. It indicates Vata

as well as Pitta also responsible for occurrence of the disease. Maximum having Kroora Kostha may be due to improper dietary pattern and it indicates the Vata Dosha in the occurrence of this disease.

- **Rasa Dominance**

In dominance of Rasa in diet: both Lavan, Amla, 90%, Katu 80%, Tikta 50% Madhura 40%, only 5% Kashaya. More use of lavana, Amla, Katu, Rasa are the Pitta prakopaka Rasa and causative factor for Shonita Dushti also nidana for. The pattern of use of rasa is also responsible for Tridosha Prakopa, may be considered as cause of Essential Hypertension. Excessive Madhura (sweet) Rasa intake leads to diseases related to Medasa, Shleshma, obesity, loss of appetite, coma and diabetes etc., heaviness and weakness Excessive Amla (sour) Rasa intake leads to Kapha, Pitta and Asra Prakopa, Shaithilya (loss of function), Vertigo, Raktadushti due to excessive Lavana (saline) Rasa intake and also leads to Pitta Prakopa, aggravation of Rakta and Vata-Rakta. Excessive Katu (pungent) Rasa intake leads to fainting (Murchha), vertigo (Bhrama), thirst, tremor, and contraction of blood vessels. Excessive Kashaya (astringent) Rasa intake leads to obstruction of channels and Pakshavadha (by its Khara, Ruksha and Vishada properties) These Rasas on excessive ingestion can manifest the disease HTN.

- **Prakruti**

Studying the role of temperament in the genesis of Hypertension, it was found that Vata-Kapha prakruti (38.3%) and Raja – Tama (45%) prakruti was dominated. This shows that probably population with aforesaid temperament is more susceptible to develop the disease. But a large sample is required for any conclusion.

- **Addiction**

This study, demonstrated that the patients were addicted to mainly tea (90%). The addiction of tobacco chewing found in 25% cases, while addiction of smoking (20%) and 20% were in alcohol addiction. These are considered as provoking factor for disease. Vidhahi annapan snighada, ushna drava annapana, ati drava aahar causes the Rakta dushti. so the higher incidence of hypertension may be because of vidahi anapana like Alcohol, coffee, Salt intake, Non-vege [mansa] has mentioned among the causes of Shonitaja Roga. Some of the symptoms of Shonitaj Roga are similar to HTN.

- **Satva, Sara, Satmya, Samhanan**

Maximum patients were reported as Avara Satva (46.7%), Madhyama Sara (66.7%) and Madhyama Samhanan (73.3%), Avara Satmya (35%). Avara satva reflects the disturbed and unstable state of mind and reduced threshold for even slightest mental stress, together with an exaggerated or prolonged response. Essential Hypertension is coming under psychosomatic disease which is more associated with Avara satva than other people. Madhyam sara and Madhyam Samhanan indicates average strength of body. Avara satmya indicates weak Physical constitution. These finding suggest health status of the patients in this series.

- **Bowel habit**

In the present study maximum 43.3% were having sticky stool, 40% were having hard stool while 16.7% had usual normal bowel habit. Suppression of the manifested natural urges. Because of the aforesaid factors Vayu gets aggravated. Being obstructed in its course by vitiated blood the excessively aggravated Vayu vitiates the entire blood. {Ch.Chi.29/5-11} The vitiated Vata may be responsible for the factors producing EHT.

- **Nidana**

Among 60 patients, 60% had Sama bhojana sevan, 45% had Sheeta bhojana sevan, 40% had Laghu bhojana sevan, 36.7% had Alpa bhojana sevan, 35% had Ruksha sevan.

Among 60 patients, 90% had yana apatasana hetu, 85% had vyavaya, 80% had diwaswapna, 70% had vichesta, 53.3% had vegsandharana, 50% had atiprajagarana & excessive exercise and walking, 45% had langhana, 20% had vishamaupchara, 18.3% had abhighata, 3.3% had dosha & asrika sravana, Among 60 patients, 90% had chinta, 35% had krodha & shoka, 18.3% had bhaya.

Among 60 patients, 51.7% had Dhatu Kshaya, 15% had krishta due to disease and 3.3% had Marmaghata.

- **Dodsha Dushti & Sroto Dushti**

In the present study maximum No. of patients i.e., 43.3% has shown Vata pradhana and 16.7% Pitta pradhana Dushti, where as 23.3%of patients have with Kapha pradhana Dushti. 90% patients had Pranavaha sroto dushti and Raktavaha sroto dushti, 85% patients had Rasavaha srato dushti, 75% patient had as Manovaha dushti. These are the common complains observed in the patients of HTN also. The data also reveals the fact that all the Tridosha were involved in the pathology of HTN in Taratamabhava. All the visible and invisible (macroscopic and microscopic) channels which serve as the resorts of Sarira dhatu are Srotasa. The mool of pranavaha and Rasavaha srotas are Hridaya and Dhamini. Rasa dhatu entering into Hridaya is transported from there through the dasa mahamool dhamini. Blood is considered as Rasa-Rakta complex containing nutrients or dhatwahara. The primary dysfunction of srotamsi described as Khavaigunya is related to Agni dushti, in the cells that compose the structure of srotamsi. This gives a condition of autointoxication ama or ama visha at the level of dhatus. Hence, involvement of Pranavaha, Rasavaha, Raktavaha srotamsi in the pathology of hypertension may be considered. As the hypertension is psychosomatic disorder Manovaha srotamsi also involved in pathology of this disease.

- **Symptomology**

The collective data reveals that maximum number of patients presented with Insomnia was found in 91.7%,

Spandana 88.3%, Bhrama 75%, Klama 73.3% of the patients, Ruja (headache) were found in 70%, Aruchi in 50%, Paad daha reported in 58.3. While Shwasa krichhata (dyspnoea) in 45% patients. Santapa, Shotha, krishta, Atisweda, Stambha were reported in 50%, 36.7%, 31.7%, 28.3%, 13.3% respectively., Aruchi, Daurbalya, Klama, Shiroruka, Santapa are the symptoms arises due to Shonita dushti. Any type of shool is due to Vata. In Bhrama Raja, pitta and vata are important Dosha. Vatic hridroga symptoms are come across in hypertension. Svasa, are due to Kapha-vata dushti. Dominancy of Vata dushti lakshana as Malavarodha, Alpanidra are present. These are the common complain found in patient of hypertension. These observations suggest that it is a Vata Pitta Pradhana Tridoshaja Vyadhi occurring with involvement of Rakta Dushti. Raja and Tama is also contributory factor for this disease.

- **Blood Pressure**

38.3% patients had their SBP in the range of 141- 150 and 151-160 mmHg while DBP of 48.3% patients was 91 – 100mmHg.

It shows that maximum no. of pts was suffering from stage – 1 HTN.

- **Lipid Profile**

The most common form of dyslipidaemia in this study was increase T. Chol., normal S. Tg., increase LDL and Dicrease HDL fallowed by increase T. Chol., normal S. Tg., normal HDL and increase LDL.

Discussion on the result or effect of therapy

- **On Symptoms**

The maximum relief in the symptom Spandana i.e.,71.01% fallowed by Ruja, Insomnia, Santapa, excessive sweating, paad daha got 66.67%, 64.18%, 63.79%, 62.50%, 60% relief respectively with P value <0.0001 which is highly significant except the excessive sweating, its P value was 0.0002.

Relief in symptoms Dyspnoea, Klama, bhrama, aruchi and shotha were 56.89%, 53.60%, 52.77%, 51.61%, 47.91% respectively with P value <0.0001 which is highly significant.

The relief in stambhana was 53.33% with P value 0.0313 which is significant, while patients suffered from krishata got 15.62% relief with P value 0.1250 which is nonsignificant.

The effect of treatment on Symptoms (subjective criteria) was 58.91% which is marked improvement.

- **On Blood pressure**

Percentage changes in Systolic and Diastolic Blood Pressure level were 59.52% & 49.39% respectively with P value <0.0001 which is highly significant.

The effect of treatment on Blood pressure was 56.17 % which is a marked improvement. The actual result may differ from it because many patients had received modern antihypertensive drugs simultaneously.

- **On Lipid Profile**

There are non- significant changes in lipid profile i.e., 10%, 9.23%, 8.92%, 6.66% in S. Tg, HDL, LDL and T. Chol. level with P value >0.05.

The effect of treatment on Lipid Profile was 8.36% which shown no effect of drug on lipid profile. There was not any drug used in combination which has medohara property, so there is no effect of treatment on lipid profile.

CONCLUSION

From this clinical study it can be concluded that faulty lifestyle selection and stress a major role in causation of this disease on the basis of following observations.

- The maximum pts. i.e., 51.7% were of 45 – 60 years age group, 51.7% were male, 90% were Hindu, 35% female patients were house wife, 95% patients were married, 76.7% were educated, 86.7% was belong to middle class, 60% pts from urban area.
- Out of 60 patients, the maximum patients had i.e., 38.3% vata – kapha deha prakriti, 45% raja & tama manas prakriti, 65% were eat mixed diet, 90% were tea & coffee addicted, 80% were suffered from irregular sleep pattern, 85% were suffered from anxiety.
- The max no. of patients i.e., 46.7% had manda agni, 43.3% suffered from sticky stool, 55% had madhyama koshtha, 66.7% madhyama sara, 73.3% madhyama samahanana, 85% had madhyama pramana, 55% had madhyama satamya, 46.7% had madhyama satva, 48.3% had madhyama abhyavaharana shakti, 40% had madhyama jarana shakti, 68.3% had madhyama vyayama shakti.
- Maximum patients were eating ama bhojana fallowed by sheeta bhojana i.e., 60% and 45% respectively.
- The factor was found in max. patients as viharaja nidana was travelling on vehicle i.e., 90% fallowed by vyavaya i.e., 85%, and as a manasik nidana was chinta i.e., 90% fallowed by shoka i.e., 46.7 % and as a other factor, Dhatu kshya were found max.
- Vata pradhana dosha dushti was found in max.no. of patients i.e., 43.3%.
- The maximum no. of patients i.e., 51.7% was not known about family history of this illness while 20% had 20% positive family history

On the basis of the study following conclusions were drawn for the sign-systems & biochemical profile.

- Insomnia was the most presented symptoms i.e. 91.7% patients complaint it.

- Maximum patients had their systolic blood pressure in the range of 141 – 150 & 151 – 160 mmHg i.e. 38.3%.
- Maximum patients i.e. 48.3% had their diastolic blood pressure in the range of 91 – 100 mmHg.
- Maximum no. of patients i.e., 38.3% had their S. cholesterol level between 200 – 250 mg/dl. 91.7% patients had S.Tg level <260 mg/dl, 36.7% patients had S.LDL level between 131 – 160 mg/dl and 46.7% patients had S. HDL level > 60mg /dl.

Conclusions drawn regarding the complaints are as follows.

- The maximum relief i.e., 66.7% was seen in complaint of Shirashoola (Headache), which means marked improvement.
- In the case of SBP, 59.52% relief was seen which was also marked improvement
- In DBP 49.39 % relief was seen which was mild improvement.
- The effect of drug on lipid profile is not significant.

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