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ROLE OF *PARSIKA YAVANI* WITH *GOKSHURADI KWATHA* IN *VYANAVAYU VAISHAMYA* {ESSENTIAL HYPERTENSION STAGE-I}

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ABSTRACT

21st century is a world of industrialization, fast and stressful life which has created various life style disorders like Heart disease, Stroke, Obesity, Type 2 Diabetes, Hypothyroidism etc. As per the report of W.H.O. overall prevalence for Hypertension in India was 29.8%. Hypertension is a major cause of premature death worldwide. ***Aims of Study-*** *The present study was carried out with an objective to compare the efficacy of Parsika yavani with Gokshuradi kwatha in Vyanavayu vaishamya {Essential Hypertension Stage-I}.* ***Materials and Methods-*** *The present study was randomised clinical study, Open Randomised Controlled Trial on 60 patients of either sex having symptoms of Vyanavayu vaishamya. In Group I- 30 patients were subjective with Parsika yavani with Gokshuradi kwatha 2 times in a day. In Group II- 30 patients were subjective with Amlodipine.* ***Result-*** *Overall response in Group I was Excellent Improvement in 73.33%, Marked Improvement in 26.66%, Mild Improvement in 0%, No Improvement 0%. Overall response in Group II was Excellent Improvement in 13.33%, Marked Improvement in 66.66%, Mild Improvement in 16.66%, No Improvement 3.33%.* ***Conclusion-*** *The Ayurvedic formulation Pariska yavani with Gokshuradi kwatha has a significant effect on both subjective and objective parameters. No adverse drugs effects were observed at the end of study.*

KEYWORDS: *Vyanavayu vaishamya, Essential Hypertension, Parsika yavani, Gokshuradi kwatha*

INTRODUCTION

Hypertension is the elevation of systolic BP, diastolic BP, or both above normal levels, is common in developed and developing countries and increases in pre-valence with age increase. India is referred to as the "Nation of Hypertension" due to the high prevalence of the condition there. Hypertension is also known as **"**Silent Killer**"** of mankind because most sufferers (85%) are asymptomatic and as per available reports, in more than 95% cases of Hypertension, under lying causes are not found. That's why this condition is known as "Essential Hypertension or Primary Hypertension". The patient was advised to modify their lifestyle by reducing their sodium intake, losing weight if they were overweight, exercising regularly, drinking alcohol in moderation, and consuming more potassium-rich foods.

In light of this understanding of Essential Hypertension, the vitiated Vata Dosha was believed to be the main cause. *Dhatugati (Rasagati or Vikshepa)* is performed by *Vayu* itself. The effects of vitiated *Vata* are complemented by *Pitta* and *Kapha*, which also promotes the spread of disease. *Rasa* and *Rakta* (whole blood) are the main vitiation-mediating factors. The idea follows that the illness is called *Tridoshaja.*

This illness has been linked in recent Ayurvedic literature to *Raktagata vata, Vyanabala Vaishamyata, Dhamani Prapurana, Pittavrita Vata*, etc. The phrases *Raktagata vata* and *Vyanabala Vaishamya* appear to be more suitable replacements for contemporary terminology in Ayurveda. Since *Vyana Vayu* is mainly responsible for fluid circulation in our body therefore we can correlate V*yana Vayu Vaishamya* with Essential Hypertension. Considering the psychosomatic aspect of hypertension it can be said that *Manasa dosha Raja* and *Tama* are also important factors in Essential Hypertension. In *Ayurvedic* system of medicine, *Medhya Rasayana* has been described as molecular nutrient for brain used to relieve anxiety, stress and mental fatigue, calms the mind and relaxes entire physiology.

AIMS AND OBJECTIVES

1) To study the etiopathogenesis of Essential Hypertension on the basis of *Ayurvedic* parameters.
2) To study the effect of *Ayurvedic* formulation in the management of Essential Hypertension.
3) To provide the reliable, cost effective *Ayurvedic* treatment for Essential Hypertension.

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MATERIAL AND METHODS

Study design- Open Randomized controlled trial

Source of data- 60 patients of Essential Hypertension of either sex will be selected for study from O.P.D & I.P.D unit of P.G department of Rishikul *Ayurvedic* Campus, Haridwar.

Period of study- 18 months (1½ yr.)

Duration of treatment – 60 days

Selection of drug- GROUP 1 – *Parsika Yavani* Capsule with *Gokshuradi Kwatha*
GROUP 2 - Amlodipine 5mg

Dose- In Group 1- 1 Capsule of *Parsika Yavani* (250mg) with *Gokshuradi Kwatha* (40ml) B.D. with equal amount of water.
In Group 2 – Amlodipine 5 mg OD with water.

Ingredients

Table 1: Showing the ingredients of *Parsika yavani* Capsule

Drug	Part	Part used
Parsika yavani	1	Seed

Table 2: Showing the ingredients of *Gokshuradi Kwatha*

Drug	Part	Part used
Gokshura	1	Root
Eranda moola	1	Root
Vacha	1/4	Root
Rasna	1	Leaves
Punarnava	1	Root

Diet Chart

भोजन	क्या खाएं	कितना खाएं
सुबह- सुबह **(6:30 a.m)**	.भूना हुआ अलसी का बीज .लहसुन .बिस्कुट .अंकुरित चना एवं मूंग (20 ग्राम) + पनीर (10 ग्राम)	. 1 चम्मच(5gm) .2 कली . 2 बिस्कुट . 30 gm
सुबह का नाश्ता **(9 a.m)**	.सब्जी वाला दलिया/oats/उपमा/पोहा/2 इडली/ 1 डोसा .रोटी .सब्जी **या** .अंडे के सफेद भाग का आमलेट .ब्राउन ब्रेड का स्लाइस	.1 कटोरी(75gm) .1रोटी(50gm) .1कटोरी(75gm) .2 अंडे .2 ब्रेड
सुबह के नाश्ते के बाद **(11 a.m)**	.सेब/अमरुद/संतरा/seasonal fruit .ग्रीन टी (बिना चीनी)	.1 प्लेट(150gm) .1 कप (50 ml)
दोपहर का भोजन **(1-2 p.m)**	.सब्जी वाला ब्राउन राइस पुलाव/ दलिया + .खीरा/गाजर/प्याज का रायता .सलाद **या** .रोटी .शिमलामिर्च/परवल/तोरी/लोकी/seasonal vegetable .दाल/ मुनगे का सांभर .सलाद	.1 कटोरी(75gm) .1 कटोरी(75 gm) .1 प्लेट (150gm) .2 रोटी (50 gm प्रत्येक) .1 कटोरी(75 gm) .1 कटोरी(75gm) .1 प्लेट(150 gm)

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शाम का नाश्ता (5 p.m)	.ग्रीन टी /चुकंदर का जूस .मुरमुरे (बिना नमक के)	.1 कप (50 ml)/ 1 गिलास जूस (100 ml) .1 कटोरी (75gm)
रात का भोजन (9 p.m)	.Whole wheat आटे की रोटी .mix vegetable/ मुनगा/पालक .दाल/ कढ़ी	.2 रोटी (50 gm प्रत्येक) .1 कटोरी(75 gm) .1 कटोरी(75gm)
सोने से पहले (10 p.m)	.गाय का दूध कम वसा वाला (बिना चीनी)	.1 गिलास(50ml)

नोट= **<u>अपथ्य=</u>** 1.नमक का इस्तेमाल कम करें |
2. अधिक तला- भूना भोजन/ अधिक वसा का प्रयोग ना करें|
3. अधिक तनाव न लें|

<u>पथ्य</u> = 1. सेंधा नमक प्रयोग में लायें |
2. दिन- रात का भोजन करने के बाद 100 कदम चलें|
3. साथ में 1 कप गर्म पानी पिएँ|
4. प्रतिदिन 30-45 min. पैदल चलें|
5. प्रतिदिन सुबह 20-25 min. प्राणायाम जैसे: **अनुलोमविलोम, भ्रामरी |**
आसन जैसे : **सुखासन, शवासन, अधोमुखासन,बध्दकोणासन|**

Route of Administration- Oral

Assessment criteria- The assessment was done 3 times at the interval of 20 days.

Follow up: The follow up of the patients will be done 15 days after completion of the trial.

Inclusion Criteria

Diagnosed patients without any complication will be included.

- Age between 25 to 65 years.
- Irregularly treated patients for hypertension.
- Blood pressure- up to Stage I (Moderate Hypertension)
  Systolic blood pressure- 140-159 mmHg
  Diastolic blood pressure- 90-99 mmHg

Exclusion Criteria

- Patients having hypertension due to other secondary disease.
  - Renal disease
  - Due to other drugs
  - Endocrinal diseases
  - Coarctation of aorta
  - Neurogenic causes
- Any other serious medical & surgically illness.
- Patients having complication of Hypertension.

Criteria For Withdrawal

1. Personal matter
2. Aggravation of complaints
3. Intercurrent illness
4. LAMA (patient leave against medical advice)

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Subjective Criteria

1. *Shiroruja* (Headache)	2. *Hriddrava* (Palpitations)
3. *Klama* (Fatigue)	4. *Bhrama* (Vertigo)
5. *Akshiraga* (Redness of eyes)	6. *Krodhaprachurya* (Irritability)
7. *Alpnidra/Anidra* (Insomnia)	

Objective Criteria

1. Systolic Blood Pressure	2. Diastolic Blood pressure
3. Pulse Rate	4. Pulse pressure
5. Mean Arterial Pressure	

Investigations

- Hb%, TLC, DLC, ESR
- Random Blood Sugar
- Lipid profile
- SGOT
- SGPT
- Serum creatinine
- Urine- routine & microscopy
- ECG
- X-ray chest PA View (as per examination)

OBSERVATION AND RESULT

Statistical analysis

- For comparison of subjective criteria **Wilcoxon's Test** will be applied before and after treatment and for objective criteria **Paired T- test** will be applied.
- For inter comparison of two groups subjective criteria **Mann Whitney Test** will be applied and for objective criteria **Unpaired T-test** will be applied.
- The test were carried at the level of 0.05, 0.01, 0.001 level of p.
- Overall percentage improvement of each patient will be calculated by the following formula:

$$\frac{Total\ BT - Total\ AT}{BT} \times 100$$

Overall assessment of therapy

The result thus obtained from individual patient was categorized according to the following Grades:
Excellent ≥ 75% relief
Marked Improvement ≥ 50% upto 74% relief
Mild Improvement ≥ 25% upto 49% relief
No Improvement ≤ 24% relief

Table 3: Signs & Symptoms Of 60 Patients Of Essential Hypertension

Signs & Symptoms	Group A	Group B	Total	Percentage
Shiroruja (Headache)	23	20	43	71.6%
Hriddrava (Palpitation)	20	10	30	50%
Klama (Fatigue)	9	7	16	26.6%
Bhrama (Giddiness)	16	23	39	65%
Akshiraga (redness of eyes)	6	7	13	21.6%
Krodhaprachuryta (Irritability)	10	10	20	33.3%
Alpanidra/Anidra (Reduced sleep)	18	18	36	60%

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Table 4: Shows the effect of *Parsika Yavani* Capsule with *Gokshuradi Kwatha* in subjective parameters

Subjective parameter	Mean		Median		Wilcoxon Signed Rank W	P- Value	% Effect	Result
	BT	AT	BT	AT				
Shiroruja (Headache)	2.3	0.4	2	0	-276	<0.001	83.01%	Highly Significant
Hridadrava (Palpitation)	2.3	0.6	2	1	-210	<0.001	72.34%	Highly Significant
Klama (Fatigue)	2.1	0.7	2	1	-28	<0.05	68.42%	Significant
Bhrama (Giddiness)	1.8	0.3	2	0	-120	<0.001	85.18%	Highly Significant
Akshiraga (Redness of eyes)	1.8	0.7	2	1	-15	>0.05	63.63%	Non Significant
Krodha Prachuryta (Irritability)	1.7	0.1	2	0	-55	<0.01	94.11%	Significant
Alpanidra/ Anidra (Reduced sleep)	2.2	0.3	2	0	-171	<0.001	87.5%	Highly Significant

Table 5: Shows the effect of *Parsika Yavani* Capsule with *Gokshuradi Kwatha* in objective parameters

Objective parameters		Mean	N	SD	SE	t- value	p- value	Result
SBP	BT	148.33	30	7.47	1.36	11.0	<0.001	Highly Significant
	AT	133.66	30	7.65	1.39			
DBP	BT	95.0	30	6.82	1.25	7.37	<0.001	Highly Significant
	AT	85.33	30	5.71	1.04			
Pulse Rate	BT	80.07	30	4.7	0.87	5.11	<0.001	Highly Significant
	AT	76.70	30	3.34	0.61			
Pulse pressure	BT	53.0	30	7.02	1.28	3.50	<0.01	Significant
	AT	48.33	30	7.91	1.44			
MAP	BT	112.63	30	6.08	1.11	9.97	<0.001	Highly Significant
	AT	100.85	30	4.78	0.87			

Table 6: Shows the effect of Amlodipine (Group – II) in subjective parameters

Subjective parameter	Mean		Median		Wilcoxon Signed Rank W	p- Value	% Effect	Result
	BT	AT	BT	AT				
Shiroruja (Headache)	2.4	0.8	2	1	210.0	<0.001	67.35%	Highly Significant
Hridadrava (Palpitation)	2.2	0.8	2	1	36	<0.01	60%	Significant
Klama (Fatigue)	2.2	1	2	1	21	<0.05	55.55%	Significant
Bhrama (Giddiness)	2	0.8	2	1	231	<0.001	57.14%	Highly Significant
Akshiraga (Redness of eyes)	2	0.7	2	1	36	<0.01	62.5%	Significant
Krodha Prachuryta (Irritability)	1.7	0.7	2	1	36	<0.01	58.82%	Significant
Alpanidra/ Anidra (Reduced sleep)	2.2	1	2	1	136	<0.001	55%	Highly Significant

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Table 7: Shows the effect of Amlodipine (Group – II) in objective parameters

Objective parameters		Mean	N	SD	SE	t- value	p- value	Result
SBP	BT	151.7	30	8.339	1.523	20.332	<0.001	Highly Significant
	AT	132.3	30	8.976	1.639			
DBP	BT	95.7	30	5.040	0.920	9.866	<0.001	Highly Significant
	AT	84	30	7.240	1.322			
Pulse Rate	BT	79.7	30	6.222	1.136	3.944	<0.001	Highly Significant
	AT	76.40	30	3.793	0.692			
Pulse pressure	BT	56.0	30	8.550	1.561	6.707	<0.001	Highly Significant
	AT	48.33	30	8.743	1.596			
MAP	BT	114.31	30	4.899	0.894	14.658	<0.001	Highly Significant
	AT	100.07	30	6.693	1.22			

Table 8: Shows the Intergroup Comparison Of Subjective Parameters

Subjective parameters	Group	N	Mean	Sum of Ranks	Mann Whitney U	P value	Result
Shiroruja (Headache)	Group A	23	1.913	277.57	386.500	>0.05	Non Significant
	Group B	20	1.65	214.25			
Hridadrava (Palpitation)	Group A	20	1.7	177	111.500	>0.05	Non significant
	Group B	9	1.33	73			
Klama (Fatigue)	Group A	9	1.44	74.5	68.000	>0.05	Non significant
	Group B	8	1.25	57.5			
Bhrama (Giddiness)	Group A	15	1.53	354	354.000	>0.05	Non significant
	Group B	24	1.16	426			
Akshiraga (redness of eyes)	Group A	6	1.16	29	44.000	>0.05	Non significant
	Group B	8	1.25	46			
Krodha Prachuryta (Irritability)	Group A	10	1.6	129	129.000	>0.05	Non-Significant
	Group B	10	1	84			
Alpanidra / Anidra (Reduced sleep)	Group A	18	1.94	455.46	423	>0.05	Non-Significant
	Group B	18	1.22	512			

Table 9: Shows the Intergroup Comparison Of Objective Parameter

Parameters	Group	N	Mean	SD	SE	t value	p value	Result
Systolic blood pressure	Group A	30	14.67	7.30	1.33	-2.850	<0.01	Significant
	Group B	30	19.33	5.20	0.95			
Diastolic blood pressure	Group A	30	9.67	7.18	1.31	-1.132	>0.05	Non significant
	Group B	30	11.67	6.47	1.18			
Pulse rate	Group A	30	3.37	3.60	0.66	0.095	>0.05	Non significant
	Group B	30	3.2	4.48	0.82			
Pulse pressure	Group A	30	4.67	7.30	1.33	-1.708	>0.05	Non significant
	Group B	30	7.67	6.26	1.14			
Mean arterial pressure	Group A	30	11.78	6.48	1.18	-1.601	>0.05	Non significant
	Group B	30	14.24	5.32	0.97			

DISCUSSION

It was found that majority of patients 37% were in the age group of 56-65 years. This data indicates higher incidence of Essential Hypertension among old aged persons. It implies that the risk of hypertension grows along with age. The present study showed that males (51%) and females (49%) are equally affected. According to World Health Organization (2015), the overall gender prevalence of hypertension in India was 24.2% in men and 22.7% in women. In our study 94% were married. Weight wise distribution showed that maximum number of patients (50%) were between 61-70 Kg. This data is parallel with a study published in NCBI that overweight and obese people are more susceptible to have high Blood Pressure. While studying the status of *Agni*, it was found that maximum number of patients were having *Vishama Agni* (55%). *Vishama Agni* aggrevates *Vata* which further increases *Vishama Agni*. This shows predominant role of *vata* in the pathogenesis of disease.

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Addiction wise distribution showed maximum addiction towards tea more than 3-4 times daily (33%) .Tea contains alkaloid caffeine which is known to have cardiac stimulant and acute vasopressor effects. Sleep pattern wise distribution revealed that maximum number of patients (58%) was having disturbed sleep. Sleep helps manage stress hormones like cortisol. If you don't sleep enough, your body can't properly regulate these hormones, which lead to high blood pressure.*Prakriti* wise (*Sharirika*) distribution showed that maximum number of patients (57%) were of *Vata-Pitta Prakriti.* This data possibly reveals the predominant role of *Vata Dosha* in genesis of Essential Hypertension.

Discussion on effect of therapy (Group I)

- In subjective assessment, the result was statistically highly significant in *Shiroruja, Hridadrava, Bhrama and Alpnidra/Anidra* with p value <0.001 in each.
- Statistically significant result was found in *Klama* and *Krodhaprachuryta* with p value <0.05 and <0.01 and Non Significant result was found in *Akshiraga* with p value >0.05.
- In objective assessment the mean score of SBP was found 148.33 mmHg before treatment which got reduced to 133.66 mmHg after treatment, Mean score of DBP was 95 mmHg which reduced to 85.33 mmHg which statistically showed highly significant result (p<0.001).

(Group II)

- In subjective assessment, the result was statistically highly significant in *Shiroruja Bhrama* and *Alpnidra/Anidra* with p value <0.001.
- Statistically significant result was found in *Hridadrava*, *Klama* and *Krodha Prachuryta* and *Akshiraga* with p value <0.01 and <0.05.
- In objective assessment, the mean score of SBP was found 151.7 mmHg before treatment which got reduced to 132.3 mmHg after treatment, Mean score of DBP was 95.7 mmHg which reduced to 84 mmHg which is highly significant (p<0.001).

Assessment of Overall response

Overall response in **Group I** was **Excellent Improvement** in 73.33%, **Marked Improvement** in 26.66%, Mild Improvement in 0%, No Improvement 0%. Overall response in **Group II** was **Excellent Improvement** in 13.33%, **Marked Improvement** in 66.66%, Mild Improvement in 16.66%, No Improvement 3.33%.

CONCLUSION

Essential hypertension can be correlated as *Vata Pradhana Tridoshaja Vyadhi.* The condition is accelerated by a high salt and tea intake, a sedentary lifestyle, and little exercise.The main element generating essential hypertension is stress.Since Essential Hypertension is a multi factorial disease, treatment modalities should be based upon vitiated *Vata Dosha* along with *Pitta* and *Kapha.* Overall effect of *Ayurvedic* formulation can be summarized as *Tridosha Shamaka* (mainly *Vata*), *Nidrajanana*, *Hridya*, *Medhya and Mutrala.* Due to wider range of action, the *Ayurvedic* formulation *Pariska yavani* with *Gokshuradi kwatha* thus prepared has shown better results in relieving the symptoms of Hypertension. High Blood Pressure can be treated using medications, but can also be lowered with the right diet plan. In lowering the Blood Pressure, satisfactory result was obtained from the self formulated preparation. Remission of treatment lead to increase in Blood pressure, which leads to fact that Essential Hypertension, is a *Yapya* disease. Moreover no side effects were observed in patients during and after the treatment so, it can be concluded that the patients of Hypertension can be managed effectively by *Ayurveda* without fear of side effects as seen in Anti-hypertensive drugs.

RECOMMENDATION

Ayurvedic formulation reveals admirable results when given to the patients of Mild to Moderate stages of Essential Hypertension but further evaluation is to be done as:

1. Study should be repeated by taking sample with longer duration to see whether the recurrence of disease in follow ups has decreased or not.

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