

Effect of Brahmyadi Churna (Brahmi, Shankhapushpi, Jatamansi, Jyotishmati, Vacha, Ashwagandha) and tablet Shilajatu in essential hypertension: An observational study

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ABSTRACT

Hypertension (HTN) is one among the fiery health problems of the present era. Since it does not cause symptoms usually for many years until a vital organ is damaged. The present study was carried out on 40 patients of essential HTN with Brahmyadi Churna and tablet Shilajatu for a period of 1 month with milk as Anupana. Observation was done before the treatment, 3 mid test assessments on 7th, 14th, and 21st day, posttest assessment was done on 30th day. Intervention revealed that 19 had marked improvement, 14 had moderate improvement, 5 had mild improvement, and no improvement was noticed in 2 individuals. Reduction in blood pressure was observed markedly with $P < 0.000$.

Key words: Brahmyadi Churna, essential hypertension, postural changes

INTRODUCTION

Hypertension (HTN) being a chronic illness constitutes an important public health challenge because of its prevalence and concomitant increase in the risk of cardiovascular diseases. In India, 14% of people suffer from HTN^[1] and majority of them have essential HTN. It is estimated that 1 billion people are affected worldwide.^[2] As most of the patients suffering from abnormally elevated blood pressure (BP) are asymptomatic, diagnosis is either missed or delayed. HTN remains one of the most frequent risk factors for cardiovascular/cerebrovascular morbidity and mortality.^[3]

Modern style of living might have given man all comforts that he has craved for, but in the meantime it has a darker

side too, and one of them is the increase in the incidence of lifestyle disorders, to mention few are obesity, diabetes, and HTN.^[4]

HTN is classified as either primary (essential) HTN or secondary HTN, about 90–95% of cases are categorized as “primary HTN” which means high BP (HBP) with no obvious underlying medical cause.^[5] The remaining 5–10% of cases (secondary HTN) are caused by other conditions that affect the other system such as kidneys, arteries, heart, or endocrine system.

Though direct references regarding HTN are not available in the classical literature of Ayurveda, attempts are made to explain HTN according to the Dosha and Dhātu involvement. The lifelong and palliative treatment of HTN in western medicine induces many side effects. Therefore, to attain and to maintain good health, hypertensive patients are looking toward Ayurveda. In this study, an

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attempt is made to probe the possibility of managing HTN with drugs which have lesser side effects, especially considering the chronicity and lifelong nature of the disease.

Aim and objective

To evaluate the combined effect of Brahmyadi Churna (Brahmi, Shankhapushpi, Jyotishmati, Jatamansi, Vacha, Ashwagandha 1 Part each) and tablet Shilajatu in the management of essential HTN.

MATERIAL AND METHODS

Drug

- Brahmyadi Churna (Brahmi, Shankhapushpi, Jatamansi, Jyotishmati, Vacha, Ashwagandha Churna 1 part each)
- Shilajatu Vati.

Brahmyadi Churna

The ingredients of Brahmyadi compound were procured from Abdul Ravoof and son's Pansari Shop, Mysore. It was made into powder, mixed well in a container and used.

Shilajatu Vati

Shilajatu Vati was procured from SDP Pharmacy, Puttur.

The identification of the individual raw drugs was done by experts in the field.

Source of data

Patients of either sex diagnosed to be suffering from essential HTN were selected from the OPD, IPD of Alvas Ayurveda Medical College, Moodbidri.

Sampling

Totally, 40 cases of essential HTN were selected incidentally. The patients were registered for the present study with the help of proforma prepared for the study.

Diagnostic criteria

Primary criteria

The 7th Report of the Joint National committee on prevention, detection, evaluation, and intervention of HBP were considered as the standard for the diagnosis of HTN.^[2]

Secondary criteria

Headache, palpitation, chest pain, insomnia, fatigue, and giddiness.

Inclusion criteria

- Patients of either sex between the age group of 30–70 years either treated or freshly detected cases of essential HTN were selected
- Patient with pre-HTN and HTN stage 1 with or without symptoms were included for the study.

Exclusion criteria

Patients suffering from any other systemic disorders which interfere with the course of the disease and intervention were excluded.

Statistical methods

Descriptive statistics, Chi-square test, contingency coefficient analysis, repeated measure ANOVA, paired samples *t*-test using SPSS program version 20.0 (Illinois, USA).

Investigations

Patients were subjected for routine investigations of blood, urine, etc., to exclude any other systemic disorders.

Intervention

- Brahmyadi Churna 6 g tid after food with milk (Dried Panchanga of Brahmi and Shankhapushpi, Roots of Jatamansi and Ashwagandha, seeds of Jyotishmati, stem of Vacha, 1 part each were taken and made into Churna [powder form] and mixed well in a container)
- Tablet Shilajatu 1 bid after food with milk
Duration: 30 days
Patients were advised for limiting the usage of salt, restricting the intake of fat rich food, quitting smoking and alcohol, and managing stress levels.

Assessment criteria

The assessment was done considering systolic BP (SBP), diastolic BP (DBP), and mean BP readings in all the three postures that is, supine, sitting, and standing at pretest that is, 0th day, 3 mid test assessments on 7th, 14th, 21st day, respectively and posttest on 30th day [Table A].

Overall assessment

The overall assessment of the intervention was interpreted as reduction in SBP and DBP in the range of:

- Marked improvement - SBP 30–40 mm of Hg and DBP up to ≤15 mm of Hg
- Moderate improvement - SBP 20–29 mm of Hg and DBP 11–14 mm of Hg
- Mild improvement - SBP 10–19 mm of Hg and DBP 5–10 mm of Hg
- No improvement - Reduction in SBP in the range of 0–9 mm of Hg and DBP in the range 0–4 mm of Hg.

The mean of both is taken and overall assessment is done.

Table A: Stages of hypertension

Hypertension stage	SBP	DBP
Normal	>120	>80
Prehypertension	120-139	Or 80-89
Stage 1 hypertension	140-159	Or 90-99
Stage 2 hypertension	≥160	Or ≥100

DBP: Diastolic blood pressure, SBP: Systolic blood pressure

OBSERVATION AND RESULTS

Pretest

Out of 40 patients, 19 fresh patients and 21 treated cases were noted. Fresh cases were observed with frequent measurement of BP and then intervention was started, in treated cases the earlier medication was withdrawn gradually and completely, after complete withdrawal of earlier treatment a flush out period of 7 days was allowed before the intervention was started. Out of 40 patients, 32 patients were symptomatic and majority of them that is, 19 patients (47.5%) had headache, followed by symptoms like insomnia in 17 patients (42.5%), fatigue 17 patients (42.5%). Fifteen patients (37.5%) with giddiness, palpitation was found in 9 patients (22.5%), and 2 patients (5%) had chest pain. Epistaxis was observed only in 2 patients (5%).

In the present study, familial predisposition was observed in 42% of the cases, excessive salt intake was observed in 50% of cases and the risk factors like smoking, obesity, alcohol was found only in 17% of cases.

Mid test

On 7th day

In the majority of patients, no much difference in BP was recorded in all the three postures. Though linear reduction in BP was observed in few cases, few cases showed a slight increase in BP when compared to previous reading.

14th day

Reduction in SBP to an average of 15 mm of Hg and DBP to an average of 10 mm of Hg was noted. Symptoms such as headache, giddiness reduced in few patients.

21st day

Reduction in SBP to an average of 20 mm of Hg and DBP to an average of 12 mm of Hg was observed. There was an improvement in the quality of sleep in individuals who complained of insomnia.

Posttest observation

After the intervention, there was a significant reduction in symptoms such as giddiness, headache, fatigue, insomnia though no much improvement in palpitation, and chest pain was observed.

Overall assessment of the intervention revealed that out of 40 patients, 19 (47.5%) had marked improvement, 14 (35%) had moderate improvement, 5 (12.5%) had mild improvement, and no improvement was noticed in 2 (5%) individuals. Overall, the study revealed that the selected drugs have a significant role to play in the management of Essential HTN. Reduction in BP was observed markedly with P value 0.000 [Tables 1-8 and Figures 1-9].

DISCUSSION ON RESULTS

The result of the study revealed that, a combination of Brahmyadi compound and Shilajatu Vati has a definite role in lowering BP, which also showed statistically highly significant results with $P < 0.001$.

Table 1: Descriptive statistics of SBP in supine posture

Descriptive statistics					
	Mean	SD	n		
SBP BT	156.9000	5.06268	40		
SBP 7 th day	146.6000	12.71543	40		
SBP 14 th day	142.2500	10.29999	40		
SBP 21 st day	137.6500	11.26727	40		
SBP AT	134.2000	11.15669	40		
Source	Type III sum of squares	df	Mean square	F	Significance
Change	12,457.720	4	3114.430	77.130	0.000
Error (change)	6299.080	156	40.379		

SBP: Systolic blood pressure, SD: Standard deviation, BT: Before treatment, AT: After treatment

Table 2: Descriptive statistics of DBP in supine posture

Descriptive statistics					
	Mean	SD	n		
DBP BT	97.8500	3.90627	40		
DBP 7 th day	90.9000	7.16043	40		
DBP 14 th day	87.5500	7.05273	40		
DBP 21 st day	85.6000	6.59759	40		
DBP AT	83.2500	6.00320	40		
Source	Type III sum of squares	df	Mean square	F	Significance
Change	5146.120	4	1286.530	92.732	0.000
Error (change)	2164.280	156	13.874		

DBP: Diastolic blood pressure, SD: Standard deviation, BT: Before treatment, AT: After treatment

Table 3: Descriptive statistics of SBP in sitting posture

Descriptive statistics					
	Mean	SD	n		
SBP BT	157.6000	5.53219	40		
SBP 7 th day	147.3000	13.70420	40		
SBP 14 th day	143.4500	11.42186	40		
SBP 21 st day	137.7500	10.73874	40		
SBP AT	133.5500	10.01012	40		
Source	Type III sum of squares	df	Mean square	F	Significance
Change	13,775.720	4	3443.930	92.193	0.000
Error (change)	5827.480	156	37.356		

SBP: Systolic blood pressure, SD: Standard deviation, BT: Before treatment, AT: After treatment

Table 4: Descriptive statistics of DBP in sitting posture

	Mean	SD	n		
DBP BT	98.3000	4.97275	40		
DBP 7 th day	90.9500	7.11787	40		
DBP 14 th day	88.2000	7.17260	40		
DBP 21 st day	86.2500	6.55059	40		
DBP AT	83.2500	5.52268	40		
Source	Type III sum of squares	df	Mean square	F	Significance
Change	5231.880	4	1307.970	83.130	0.000
Error (change)	2454.520	156	15.734		

DBP: Diastolic blood pressure, SD: Standard deviation, BT: Before treatment, AT: After treatment

Table 5: Descriptive statistics of SBP in standing posture

	Mean	SD	n		
SBP BT	157.8500	6.01515	40		
SBP 7 th day	146.4500	14.13842	40		
SBP 14 th day	142.9000	11.36752	40		
SBP 21 st day	137.2500	11.53534	40		
SBP AT	132.9000	9.90157	40		
Source	Type III sum of squares	df	Mean square	F	Significance
Change	14,656.120	4	3664.030	82.850	0.000
Error (change)	6899.080	156	44.225		

SBP: Systolic blood pressure, SD: Standard deviation, BT: Before treatment, AT: After treatment

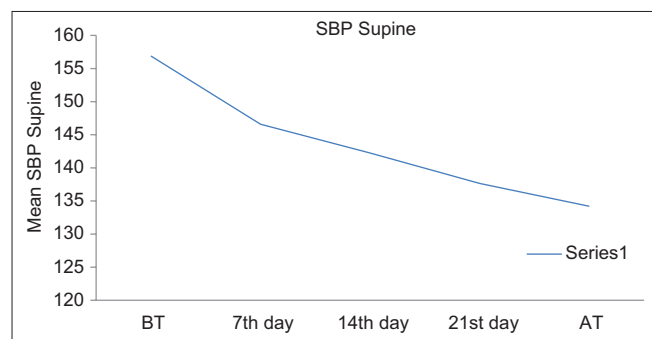


Figure 1: Descriptive statistics of systolic blood pressure in supine posture

The symptoms such as headache, insomnia, and giddiness were reduced after the intervention, while, other symptoms namely fatigue, chest pain, and palpitation showed no much response.

After observing the mean BP values, it is seen that SBP reduced up to 10 mm Hg while DBP reduced up to 6 mm Hg on 7th day. On 14th day, SBP reduced up to 14 mm Hg and DBP reduced upto 10 mm Hg. On 21st day, SBP reduced up to 19 mm Hg and DBP reduced up to 12 mm Hg. After

Table 6: Descriptive statistics of DBP in standing posture

	Mean	SD	n		
DBP BT	98.9000	4.93964	40		
DBP 7 th day	90.6000	7.98974	40		
DBP 14 th day	87.9500	7.23932	40		
DBP 21 st day	86.3000	7.18331	40		
DBP AT	83.9000	5.93901	40		
Source	Type III sum of squares	df	Mean square	F	Significance
Change	5342.720	4	1335.680	85.971	0.000
Error (change)	2423.680	156	15.536		

DBP: Diastolic blood pressure, SD: Standard deviation, BT: Before treatment, AT: After treatment

Table 7: General linear mode of mean SBP

	Mean	SD	n		
SBP BT	157.4500	6.01315	40		
SBP 7 th day	146.7800	14.15842	40		
SBP 14 th day	142.8600	11.36952	40		
SBP 21 st day	137.5300	11.54534	40		
SBP AT	133.5500	9.90657	40		
Source	Type III sum of squares	df	Mean square	F	Significance
Change	14,656.120	4	3664.030	82.850	0.000
Error (change)	6899.080	156	44.225		

SBP: Systolic blood pressure, SD: Standard deviation, BT: Before treatment, AT: After treatment

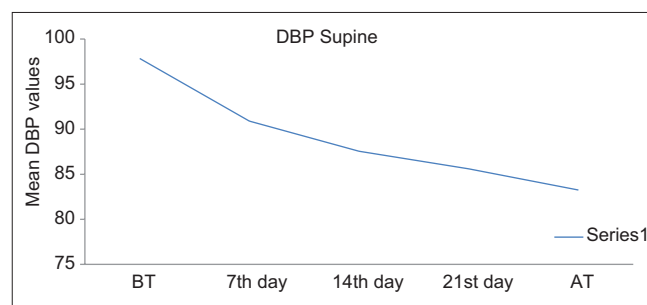


Figure 2: Descriptive statistics of diastolic blood pressure in supine posture

treatment, SBP reduced 22 mm Hg and DBP reduced 15 mm Hg.

Freshly detected and untreated cases responded well while treated cases of more than 2 years of history showed lesser improvement. The response was encouraging in majority of the patients where stress played an important role.

Sankhapuspi has been mentioned as a Rasayana in Charaka Samhita (Ca. Ci. 1/3), that it provides freedom from fatigue. Sankhapuspi is also a proven hypotensive drug (Chaturvedi *et al.*, 1966) and this study also proved that

Table 8: General linear mode of mean DBP

	Mean	SD	n
DBP BT	98.3500	4.94164	40
DBP 7 th day	90.8000	7.99274	40
DBP 14 th day	87.8800	7.24032	40
DBP 21 st day	86.0500	7.18831	40
DBP AT	83.4600	5.94101	40

Source	Type III sum of squares	df	Mean square	F	Significance
Change	5231.880	4	1306.970	83.250	0.000
Error (change)	2454.520	156	15.754		

DBP: Diastolic blood pressure, SD: Standard deviation, BT: Before treatment, AT: After treatment

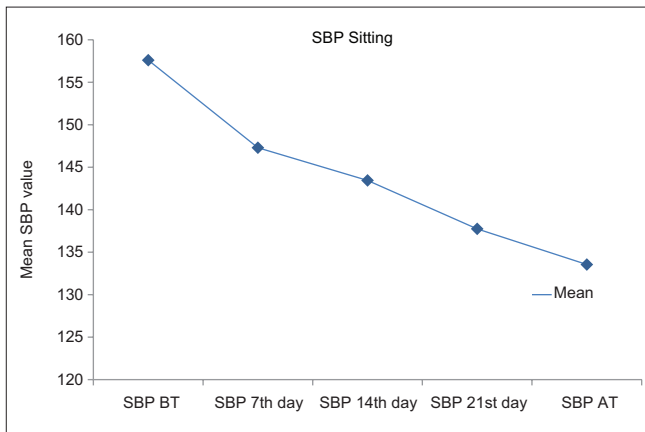


Figure 3: Statistics of systolic blood pressure in sitting posture

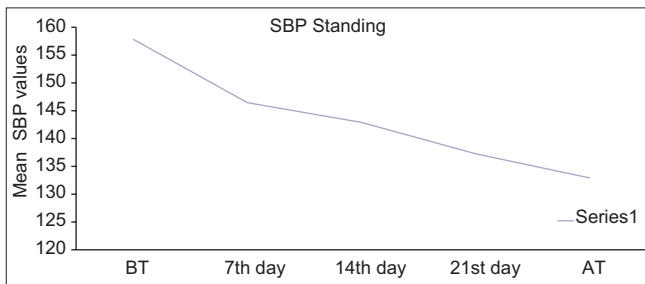


Figure 5: Descriptive statistics of systolic blood pressure in standing position

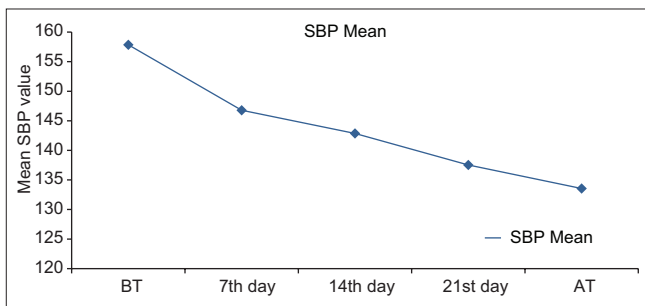


Figure 7: General linear mode of mean systolic blood pressure

Sankhapuspi also decreases BP and pulse rate due to its anti-stress effect.

Shankhapushpi (*Convolvulus puricaulis*) has been successfully used in the management of Chittodvega-Anxiety disorder.^[6]

Shankhapushpi and Brahmi are the Medhya Rasayanas mentioned in Charaka Chikitsa 1st chapter.^[7] Jyotishmati as Medha Prajna Buddhi Vivardhanam (improves cognitive and intellectual ability) is mentioned in Raja Nighantu.

Vacha has been described in Sushruta Shareera 10th chapter as Medha Bala Buddhi Vivardhanah (improves intellect ability and strength). Vacha and Jatamansi are

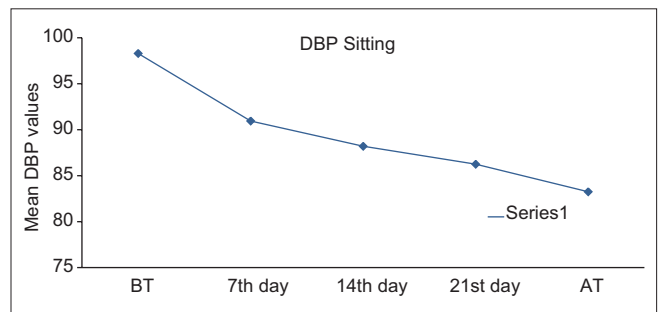


Figure 4: The descriptive of systolic blood pressure in sitting position

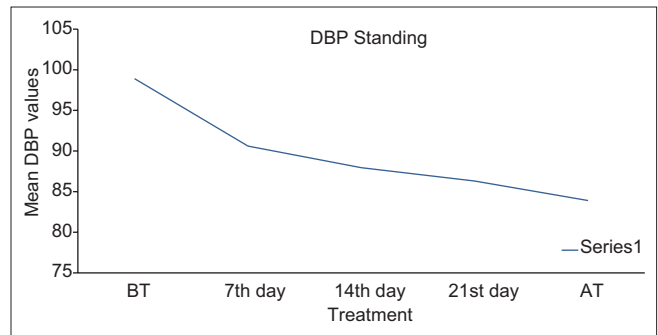


Figure 6: The descriptive analysis of diastolic blood pressure in standing position

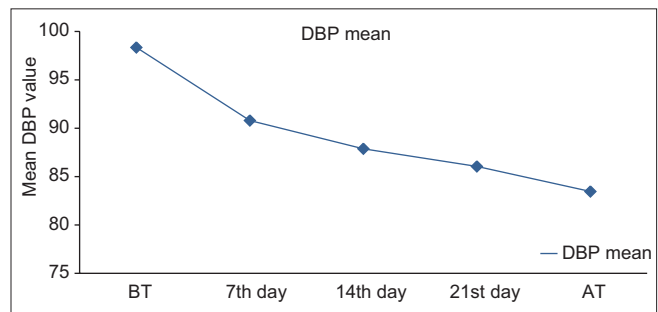


Figure 8: General linear mode of mean diastolic blood pressure

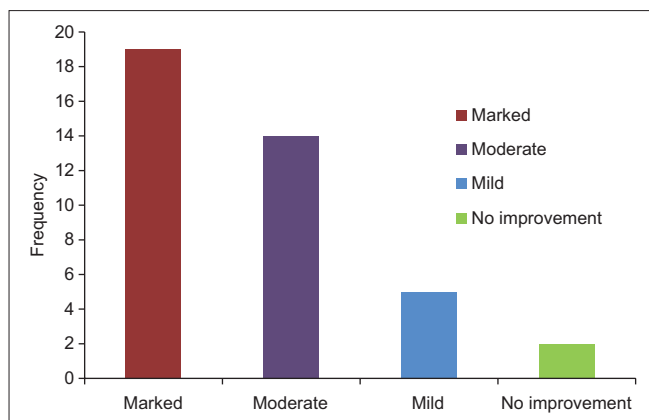


Figure 9: Overall assessment

mentioned as sanjnasthapaka (to establish consciousness).^[8] Considering the qualities of drugs, here an attempt is made to study the action of the drugs on HTN and is found effective.

CONCLUSION

In the present clinical trial, it was observed that there was a marked reduction in the levels of total BP. Symptoms such as headache, insomnia, and giddiness showed marked improvement while not much reduction was observed in other symptoms such as chest pain, fatigue, and palpitation.

Most of the patients in the study were symptomatic on the contrary to general notion that essential HTN is asymptomatic.

The most commonly observed symptoms in them were a headache, insomnia, fatigue, giddiness, respectively. Symptoms such as palpitation, chest pain were observed more in individuals who had chronic HTN and were already treated.

SBP reduced considerably than DBP. In the present trial with Brahmyadi Churna and Shilajatu Vati, reduction in BP was observed markedly with $P < 0.000$.

A small limitation of the study was that, the taste of the Churna was not palatable which was difficult for the patients to consume. Hence, extract of the same drug can be taken and made into capsule form or Churnas made into tablet form to make it more palatable and tried. Furthermore, controlled clinical trial with long-term follow-up is recommended.

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Conflicts of interest

There are no conflicts of interest.

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