

EFFICACY OF *SHAVASANA* & MEDITATION IN PREVENTION & CONTROL OF PRIMARY HYPERTENSION

¹*Agiwal Sachin*

¹ Associate Professor & HOD, Department of Swasthavritta Ayurved Mahavidyalaya, Mozri

Abstract

In the modern 'Stress Age', human life is full of various mental stress and strains. Struggle for existence is increasing day by day giving rise to increased mental tension. Sympathetic nervous system is usually stimulated in mental stressful condition resulting in rise of blood pressure. Both Ayurveda and Yoga accepts existence of mind in producing psychosomatic disorders. Meditation is supposed to be the one of the remedy for many psychosomatic diseases. *Shavasana* is an effective system of meditation. In the present study it is concluded that *Shavasana* and Meditation are having significant effect in prevention and control of primary hypertension as well as labile hypertension which provides a good non pharmacological treatment to the patients.

Key words: Hypertension, *Shavasana*, Meditation, Yoga, mind

Introduction

In the modern 'Stress-Age', human life is full of various mental stress and strain. Struggle for existence is increasing day by day giving rise to increased mental tension. Mental tension is one of the important factors, which increases the cardiac output by 50 to 100%. Hence there is increase in number of patients of hypertension. Modern system of medicine has considered that there is no specific treatment of primary hypertension because medical science has found no specific cause for this disorder. The aim of therapy is to lower the blood pressure using rest, diet, avoidance of stress and drugs.

Once you start a drug therapy you must have to take these drugs for the rest of your life. There are many antihypertensive therapies present. But they show many side effects, limitations and their cost is

also not affordable for layman. Therefore, there is need of simple and effective therapy for prevention and control of hypertension. The type of hypertension with which we are concerned here is called primary or essential hypertension, acclaiming for approximately 80% of cases. The other 20% is caused by either medically or surgically identifiable causes which are excluded from study. Primary hypertension is reversible, but not by medical means alone. It is only through the combination and balance of medicine and Yoga that the battle of high blood pressure can be won.

Ayurveda & Yoga accepts the prime role of mind in producing a disease. Cardiovascular diseases are the leading cause of death in world and atherosclerosis appears to be an important cause for it.

हृदयं चेतना स्थानमुक्तं सुश्रुत देहिनाम् ॥ सु शा
४

Heart (*hridaya*) and Mind (*manas*) are very inter-reality. Heart is abode of the mind. Ayurveda denotes three types of *hetus* (causes) i.e.

इत्यसात्म्येन्द्रियार्थसंयोगः, प्रज्ञापराधः,
परिणामश्चेति त्रयस्त्रिविधविकल्पा हेतवो
विकाराणां; समयोगयुक्तास्तु प्रकृतिहेतवो
भवन्ति ॥४३॥ च सू ११-४३

When *pradyaparadha* occurs then following sign and symptoms are seen in patients. Intellect, memory restraint and confusion are known as Intellectual error. It vitiates all the three doshas i.e. *Vata*, *Pitta* and *kapha*. *Pradnyaparadha* *hetu* is very important factor in this 'stress-age' world as lifestyle changes rapidly and speed of life increases tremendously. Every person becoming stressful and this persistent stress allow increasing blood pressure.

Wrong understanding by the intellect and wrong actions according should be known as intellectual error i.e. *pradnyaparadha* which is committed by mind.

Manas (mind) have two *doshas* viz. *Rajas* and *Tamas*. They cause many diseases like passion, anger, greed, confusion, envy, conceit, narcosis (*mada*), anxiety, excitement, fear, exhilaration etc.

There is constant association of *rajas* and *tamas* together because *tamas* cannot move on without the help of *rajas*. All above *hetus* are going to form hypertension due to predisposing cause of mental stress.

Emotional factors as like above *Atikrodha*, *bhaya* etc. are main predisposing factors of hypertension (*Uccha rakta Chap*). It may be associated with *Adi Bala pravritta* (hereditary). It may be due to *sthaulya*, lack of regular exercise and *madyapana*, irregular dietary patterns like *viruddha ahar*, *Adhysana* etc. and high intake of salt. There are other factors by which *mandagni* takes place and then *ama* is produced due to constant phase of *mandagni* and then due to *kha vaigunya* and *strotorodha* it results into *vyadhi utpatti* i.e. hypertension.

As per *Charaks Samhita* quotes that

अतिप्रवृत्तिः सङ्गो वा सिराणां ग्रन्थयोऽपि
वा।

विमार्गगमनं चापि स्रोतसां

दुष्टिलक्षणम्॥२४॥ च वि ५-२४

These are the factors causing *strotas dushti*, *atipravrutti* and *sanga* which leads to *samprapti* (pathology) of hypertension.

गुरुशीतमतिस्निग्धमतिमात्रं समश्नताम्।

रसवाहीनि दुष्यन्ति चिन्त्यानां

चातिचिन्तनात्॥१३॥ च वि ५-१३

As per this quote, *rasavaha strotas* is also involved as *chinta* is main factor in hypertension. Though the disease is asymptomatic even then some symptoms which are commonly found in patients are headache, giddiness, lack of concentration, weakness, palpitation, forgetfulness, irritability, tinnitus, Epistaxis. Summering all above *hetu*, *purvarupa*, *rupa* and *samprapti* we can describe symptoms of hypertension. It is clear that this *vyadhi* is

mainly *Vata pradhan tridoshaj vyadhi* and *rasa dhatu, rasavaha strotas, rakta dhatu, raktavaha strotas, medovaha strotas* and *manovaha strotas* are involved. The *Adhistan* of *vyadhi* are *dhamanis* and *raktavahinis*.

धीर्धैर्यात्मादिविज्ञानं मनोदोषोषधं परम्॥२६॥ अ ह
सू १-२६

Pradnyaparadha is the main predisposing cause as well as main factor of *samprapti* of hypertension. *Atmadi vidnyana* is described under heading of Yoga. Happiness and misery arise due to contact of *atma, indriya, mana* and the sense objects.

आत्मेन्द्रियमनोर्थानां सन्निकर्षात् प्रवर्तते।
सुखदुःखमनारम्भादात्मस्थे मनसि स्थिरे॥१३८॥

निवर्तते तदुभयं वशित्वं चोपजायते। सशरीरस्य
योगज्ञास्तं योगमृषयो विदुः॥१३९॥ च शा १-
१३८,१३९

There are many references which indicate that Yoga is mainly useful for *mano daihic vyadhi*. Ayurveda principles of diet, *vihar* and *achar* (Good conduct) are helpful to prevent and control of hypertension. *Adhistan* of *vyadhi* is mind; therefore, “*satvavajayachikitsa*” is prime treatment. It decreases stress on mind and thus, blood pressure decreases. Yoga is a process of education of total personality i.e. physical and mental health. But Yoga therapy explains the different ways to control mind in detail.

In the management of disease Yoga remains non specific in its approach. At the psychic level, it helps in generating greater *satva*, bringing *pradnya* (consciousness) as opposed to

pradnyaparadha (error of intellect) with right approach and a balanced state of mind; it is easier to set up healthier routines and right habits. This helps in reducing *tamasika* and *rajasika* excesses in one's personality make up. Yoga therapy tries to reestablish the inner balance by various means, working from the gross to the subtle. On the physical level it uses *yama, niyama, asana, pranayama* and *pratyahara* out of the eightfold path of Yoga i.e. *Astangayoga*. The second line of treatment is the work on the mind. It includes *Dharana, Dhyana & Samadhi*. These are called ‘*Antarangas of Yoga*’.

Meditation i.e. *Dhyana* is now a day's supposed to be the only remedy for many psychosomatic diseases. *Shavasana* is an effective system of meditation. Therefore combination therapy of *Shavasana* and meditation in primary and labile hypertension will give satisfactory results. Meditation is useful mean of relaxing the mind and body. After withdrawing sense organ from their natural outward functioning and shutting the mind resolutely against all impressions from outside, sitting in an easy posture, one can fix the mind inwardly on an object or an idea.

Shavasana is a systematic method of inducing complete physical, mental and emotional relaxation. It is state of relaxed awareness on the border between sleep and wakefulness allowing contact with the subconscious and unconscious mind. It has also been accepted as a sure remedy for a number of psycho somatic disorders. Considering the role of mind in various psychosomatic disorders like hypertension can be prevented and controlled by steadying the mind and avoiding stress and

strain. So efforts will be oriented towards steadying of mind with daily performance of *shavasana* and meditation and thus removal of basic cause of hypertension which is genuine problem of today's life.

Objectives of the study:

- 1) To study the efficacy of *shavasana* and meditation in prevention and labile hypertension
- 2) To study the efficacy of *shavasana* and meditation in control of primary hypertension.

Materials and Methods

60 persons were randomly selected in the age group of 40 years to 60 years irrespective of sex, religion. Patients below the age of 40 years and above age of 60 years were excluded. All the patients were carefully examined on the parameters of Ayurveda as well as modern science and were investigated accordingly such as lipid profile, blood urea, serum creatinine, urine, blood sugar fasting and post prandial, x ray chest PA view and ECG.

The selected patients were randomly divided in three groups of 20 patients each. The standard Proforma was prepared for follow up of the patients.

Groups were divided as follows:

- a) First group of patients having labile hypertension i.e. blood pressure rises occasionally particularly after mental tension and stress and comes normal after relieving stress and strain by *shavasana* and meditation.

- b) Second group of primary hypertension taking antihypertensive therapy will be kept on *shavasana* and meditation.
- c) Third group of patients having primary hypertension taking antihypertensive therapy only as control group

All patients were kept on following diet restriction:

- a) Salt restriction – The patient should not take excess salt in diet not more than 2 gram per day.
- b) Patient should not eat oily foods in excess.
- c) Patient should not eat spicy foods regularly.
- d) Patient should not be habitual of irregular dietary pattern.
- e) Patient should not eat *viruddha ahar* not follow *adhyashan*, *anashana* and *vishamaashana*.
- f) Restriction of any habits like tobacco/smoking/alcohol.

During three months of follow up of *shavasana* and meditation changes in all signs and symptoms were recorded on standard Proforma. Patients were accessed weekly for a month, then fortnightly for two months.

Exclusion criteria:

- a) Patients of secondary hypertension.
- b) Patients having any systemic diseases like diabetes mellitus, CHD etc. requiring to continue with medicines.

Criteria applied for assessment:

1. Headache 2. Giddiness 3. Lack of concentration 4. Weakness 5. Palpitation 6. Forgetfulness 7. Irritability 8. Tinnitus 9.

Epistaxis 10. Blood pressure is variably elevated more than or equal to 140/90 mm of Hg.

All these criteria were assessed with 4 point scale (0-3) scale for each parameter

Method of Meditation:

It was practiced for 30 minutes every day with peaceful frame of mind. Early morning is the best time because at that time mind is free from needs and anxiety. For the purpose of meditation there are five types of *asanas* suggested by Yogic sciences. They are *padamasana*, *siddhasana*, *sukhasana*, *swastikasana* and *vajrasana*. *Siddhasana* and *vajrasana* are very easy to perform in the old age.

Person has to sit on one of these five *asana*, keep the head, neck and trunk in one straight line. Do not bend the back. Close your eyes and gently concentrate on *Ishta devata* or *bhrumadhya* or tip of the nose or *anahat chakra* are the places for concentration. Mind is like a wheel which resolves endlessly with tremendous velocity.

It generates new thought with every revolution. Mind wonders in all directions. It is very difficult to fix the mind on a single thought in the beginning. First diminish the number of thoughts. Try to have thoughts on one subject only.

Method of Shavasana:

Spread a soft blanket and lie supine (on the back). Keep the hands on the ground by the sides. Lets the legs be straight, keep heels together and the toes separated. This is 21 part, step by step method to consciously localize different parts of the body and relax them in a

rational sequence thus focusing and concentrating in those parts.

The different parts are

- | | | | | | |
|-----------------|---------------|-----------------------|------------------|------------------|--------------|
| 1. Feet | 2. Shin | 3. Knee caps | 4. Thighs | 5. Buttock | 6. Abdomen |
| 7. Solar plexus | 8. Lower back | 9. Upper chest | 10. Upper back | 11. Hands | 12. Fore arm |
| 13. Uper arm | 14. Shoulders | 15. Throat | 16. Back of neck | 17. Back of head | 18. Jaws |
| 19. Face | 20. Fore head | 21. <i>Bhrumadhya</i> | | | |

This type of relaxation should be by auto suggestions. Relaxation of each muscle of body should be done, which happens in the 21 part, step by step method. Breathe slowly and with rhythm, keep your eyes closed. Relax all the muscles, then nerves and then organs. Do not sleep. Say yourself, firmly "I will not sleep". Start watching breathe, feel breathe movement in both nostrils. Let your awareness settle in the nostril. Feel the cool inspired air flowing into the nostrils and warm expired air flowing out of the nostrils. Let your awareness settle at the tip of nose. Step by step, giving autosuggestions reverse the all process as it done. The minimum duration of shavasana is normally 5 to 10 minutes; however, it may continue for 20 to 40 minutes or until the whole body and the mind is relaxed.

Observations

Out of 60 patients, in the study 54 were males and 6 were females. 43 patients were suffering from the disease since one year before treatment, 13 patients were having duration upto 3 years and 4 patients were having duration more than 3 years. Out of 60 patients, maximum i.e. 45 patients were having 4 to 6 numbers of symptoms, 13 patients were having 7 to 9 symptoms. Assessment of symptoms was made by scoring from 0 to 3 in four stages depending on severity of symptoms i.e. No, mild, moderate and severe are four category of each symptom. Most of the patients had symptoms score up to 2 i.e. moderate, only one patient had scored three in forgetfulness. Group I shows 84.12% of recovery of symptoms while group II shows 82.70% of recovery symptoms as well as group III shows 76.34% recovery symptoms, as quantitative data shows of % of improvement. Group I has total initial reading score was 107 and final reading total was 17 in group II it was 104 & 18 and in group III it was 114 & 27.

(See Table 1 Qualitative data of Symptoms)

Paired test is applied using SPSS 8.0 version. For analysis reason before & after treatment readings of systolic blood pressure and diastolic blood pressure of three groups are considered.

(See Table 2 Systolic and Diastolic Blood Pressure data)

In above all groups have $t_{cal} > t_{tab}$ (19.5%).

So we can say that treatments under considerations are highly effective. Though, treatments are effective, in group II & III.

1. The mean systolic blood pressure after treatment of group II & III are paired as (132.10, 134.60) it is found that mean systolic blood pressure in group II is less than group III.
2. The mean diastolic blood pressure after treatment of group II & III are paired as (80.30, 84.00) it is found that mean diastolic blood pressure in group II is less than group III.

(See Table 3 Symptom wise Qualitative data)

Without loss of generality, we can say that readings in group II are superior to readings in group III. So it can be concluded that group II is recovered than group III. All tabled or critical values are taken at 19 D.F. at 5% level of significance (LS).

Discussion

Prevention is better than cure is the motto of Ayurveda. The aim of therapy is to lower the blood pressure using rest, diet, avoidance of stress and drugs with the help of *shavasana* and meditation. It was observed from our study that *shavasana* and meditation in labile hypertension of group I and primary hypertension of group II is effective in headache. The above study also shows encouraging results on lack of concentration, forgetfulness and irritability in both group I & II. Epistaxis is not seen in any patient of any group.

In our study, it is also found that group II having significant effect on systolic and diastolic blood pressure than group III. As

well as group I also having significant effect on systolic and diastolic blood pressure (i.e. on labile hypertension)

Significance of difference between the means of all three groups was studied. And it is observed that there is significant difference between before and after treatment in group I and between group II & III.

Above study emphasized that *shavasana* & meditation is having encouraging results on labile hypertension as well as primary hypertension.

That means techniques of Yoga have definite place in treatment of hypertension. They are used to fill the gaps left by the modern science. Medicine reduces blood pressure in acute situations and Yoga removes it in the long term, preventing further sequel of prolonged hypertension. It provides non pharmacological treatment to the patients, which not only reduces blood pressure but also reduces stress and strain. However, *shavasana* and meditation cannot be used in acute hypertensive condition and in secondary

hypertension which is already excluded from our study. But can be effectively used in primary hypertension along with antihypertensive therapy.

Further study should be done on whether the dose of antihypertensive tablet can be reduced or not by doing *shavasana* and meditation for long duration.

Summary and Conclusion

From above study it can be concluded that there is significant effect of *shavasana* and meditation on labile hypertension and should be practiced for prevention of labile hypertension routinely.

In case of primary hypertension, *shavasana* and meditation is also effective in prevention and control of primary hypertension and can be given along with antihypertensive therapy.

Finally it is emphasized that *shavasana* and meditation is having significant effect on labile hypertension as well as primary hypertension which provides a good non pharmacological treatment to the patients.

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Table 1**Qualitative Data**

Group	Total Initial Reading	Total Final Reading	% of improvement
I	107	17	84.12%
II	104	18	82.70%
III	114	27	76.34%

Table 2 Systolic and Diastolic blood pressure Data

Gro up	Type of B.P.	Pai r	Me an	SD	SE	Me an Diff	SD diff.	SE diff.	T cal	T tab	Resu lt
I	Systol ic Blood Pressu re	B. T.	155 .7	13.69 25	3.06 17	17. 5	7.83 72	1.75 24	9.98 6	2.0 9	Acce pt H1
		A. T.	138 01	11.66 01	2.60 73						
	Diasto lic Blood Pressu re	B. T.	104 .2	9.356 1	2.09 21	17. 80	7.42 40	1.66 01	10.7 23	2.0 9	Acce pt H1
		A. T.	86. 4	5.490 7	1.22 77						
II	Systol ic Blood Pressu re	B. T.	141 .3	9.251 5	2.08 87	9.2	5.28 75	1.18 25	7.78 1	2.0 9	Acce pt H1
		A. T.	132 .1	5.812 0	1.30 16						
	Diasto lic Blood Pressu re	B. T.	90. 20	7.367 1	1.64 73	9.9 0	5.92 85	1.32 57	7.46 8	2.0 9	Acce pt H1
		A. T.	80. 30	4.168 8	0.93 22						
III	Systol ic Blood Pressu re	B. T.	137 .3	7.794 1	1.74 28	2.7	3.90 82	0.87 39	3.09 0	2.0 9	Acce pt H1
		A. T.	134 .6	6.991 7	1.56 34						
	Diasto lic	B. T.	86. 50	4.978 9	1.11 33	2.5 24	2.32 83	0.52 06	4.82 9	2.0 9	Acce pt

	Blood Pressure	A. T.	84.0	3.6707	0.8208						H1
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Table 3
Symptom wise Qualitative Data

Note: Abbreviation

1. B.T. = Before treatment
2. A. T. = After treatment

Accept H1 = Treatment is effective

Group	Pair	Mean	SD	SE	Mean Diff.	SD diff.	SE diff.	T cal	T tab	Result
I	B.T.	5.35	1.2680	0.2835	4.5	1.3572	0.3035	14.828	2.09	Accept H1
	A.T.	0.85	0.8127	0.1817						
II	B.T.	5.20	0.3992	0.3129	4.3	1.1743	0.2626	16.376	2.09	Accept H1
	A.T.	0.90	0.7881	0.1762						
III	B.T.	5.70	1.5594	0.3487	4.35	1.3870	0.3103	14.026	2.09	Accept H1
	A.T.	1.35	1.7452	0.1666						