

Management of Hypertension through Yoga

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Abstract

The aim of this study was to observe the effect of Yogic training towards Control of High blood pressure. 30 patients of hypertension from Srinagar, Garhwal having average age of 55-60 and Systolic blood pressure - 165-250 mmHg and Diastolic BP 90-150 mmHg participated as subjects. Other than this they were in normal healthy condition. The literature mentions that hypertension is controlled by a regular practice of Asana, Pranayama, Om recitation, Meditation and a diet regulation. This study also revealed that a regular Yogic practices like Asana, Pranayama, Om recitation, Meditation along with little diet regulation for 30 days significantly Controlled Hypertension (Systolic and Diastolic blood pressure) of 15 Hypertension people of the experimental group.

Key words: Yogic Training, Diet, Hypertension

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Conflict of interest: None declared

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Introduction:

Our body-mind complex is a marvel of creation both intricate and subtle in design. Man, who inhabits it, is finding out new and astounding facts about his inner workings, facts which are helping to open up his awareness, understanding and knowledge of himself. This knowledge is leading him out of the mire of disease and suffering to a state of better health and longevity.

Why is this apparent marvel of creation so prone to illnesses such as high blood pressure? What is the ultimate cause of disease? These are questions which modern science, despite its great technological advances, is still unable to answer. Yoga, however, can give an insight into these problems helping us to reach our conclusion through meditative experience of the higher reaches of awareness.

At least one month should be allowed for the initial period of training and treatment, so that the new attitudes and practices can be thoroughly integrated into the patient's lifestyle. However, with the proper medical collaboration this objective can be safely achieved. Yogic training was found controlling the Hypertension successfully.

Research work based on Yogic lines:

Datey, (1969) for the first time found the relaxative posture - shavasana as most effective for the management of hypertension. Later on Deshmukh, Dalvi, Vinekar(1969), Patel(1973) and Udupa (1980), not only confirmed these results but also further reported a reduction in catacholamine level after yogic therapy. Rajalaxmi also could treat 20 patients of hypertension effectively with Yoga. Gopal(1973) has reported a significant improvement in blood pressure and respiratory functions after practicing Yoga. Parkodi(1979) found that shavasana practiced for 5 month could reduce blood pressure and catacholamine metabolism and improved adreno-cortical function. Sharma (1981) treated 27 patients of hypertension with shavasana for 2.5 month successfully.

Hypothesis:

Yogic training of Asana, Pranayama, Om recitation, Meditation and Diet regulation would significantly Control Hypertension in people from Srinagar, Garhwal.

Objective:

To study the effect of Yogic training of Asana, Pranayama, Om recitation, Meditation, Diet on Hypertensive people in Srinagar, Garhwal in respect of their Hypertension.

Hypertension:

Hypertension can be defined as consistent high blood pressure over 140/90 mmHg in patients less 50 years of age. The normal B.P is 120/80 mmHg. There are two types of hypertension- primary and secondary. It is called silent killer also. Hypertension is not a disease by itself, but a sign that there are underlying problems in the management of internal environment and balance of the body at physical, emotional and mental levels. It is the result of the tension of the whole body-mind complex, resulting in imbalance of the nervous system. 90% cases are primary and 10% are secondary type.

Symptoms:

High blood pressure, heaviness in head and feeling of uneasiness, breathlessness, feeling of much tiredness, sleeplessness, increased palpitation, feeling of tightness in chest, redness of face or ears.

Causes:

Apart from stress, lack of physical exercise, overweight, faulty dietary habits, smoking lead to hardening of the arterial wall. This narrowing of peripheral blood vessels gives rise to increased peripheral vascular resistance thereby leading to an increase in systolic and diastolic blood pressure. Angina at different levels, renal function impairment, renal failure, peripheral vascular diseases from atherosclerotic change will lead to secondary hypertension.

One month Yoga program:

A general program of yogic practices for Hypertension patients was prepared as per the guidance from the book 'Yoga Therapy for Selected Diseases', by Dr. M.M. Gore et al, published by Kaivalyadham, a well reputed yoga institute. The practices were little modified to make them suitable to the patients according to their age and capacity. The yoga intervention included following yogic regime.

Asana:

Vrikshasana, Tadasana, Vajrasana, Gomukhasana, Ardha-Matsyendrasana, Vakrasana, Makarasana, Ardha-Shalabhasana, Sarvangasana, Padmasana and Siddhasana. Most important is shavasana to produce prolonged relaxative state of mind, as well as, relaxation of the blood vessels of all the extremities.

Pranayama:

Anuloma-Viloma, Ujjayi, Sitkari, Shitali, Bhramari (10 rounds of selected pranayama)

Om recitation:

10 to 20 times.

Meditation:

For 10 to 20 minutes.

Diet:

They were allowed to eat Apple, Pears, Sapota, Banana, Guava, Spinach soup/Ragi porridge, Beet root juice/barley water juice/plantain pith juice/grape juice. Rice/Ragi Ball roti made of whole wheat/Bajra/Ragi boiled vegetable curry with less oil and spices Green gram dhal, buttermilk and Herbal tea. At the same time, they were advised to avoid Potato, white floor(Maida), Hydrogenated oils, cold drinks, ice cream, sugar sweets, milk, coffee, smoking, alcohol, tobacco, salt, fried foods, fats, pulses, carbohydrates, mango, tea.

Medicines:

They were allowed to continue the medicines they used to take.

Methodology:

30 Hypertension people with the age range of 55-60 yrs, Systolic BP - 165-250 mmHg and Diastolic BP 90-150 mmHg were selected for the study. They were divided into two equal groups of 15 subjects each. One group was treated as an experimental group and another one as control group. The Yoga training was given to only the experimental group. The control group was not given any kind of yogic Training. The training program of 30 days was organized for 90 minutes daily at 6.00 to 7.30 a.m. Practice of Yoga consists of Asana, Pranayama, Om recitation and Meditation. The tests were conducted on two occasions 1.Before the training of Yogic training and 2. After 30 days of practice of Yogic training on experimental and also on the control groups. Blood pressure was measured, compared and the results were statistically analyzed.

Research Tool:

Sphygmomanometer machine

Results:

The statistical analysis was done by using 't' test for the following comparisons.

1. Intra group comparison
2. Inter groups Comparison

1. Intra group comparison: The object of intra group comparison was to examine pre and post scores of each group. On the basis of this comparison it would help to reach the conclusion aided with the following steps:

1.1 Control group

TABLE-1

Comparison between pre & post-test mean scores of control group for Systolic and Diastolic B.P level.

Variable	Conditions	Mean	SD	"T" value
B.P level (Systolic) mmHg	Pre-test	201.66	19.97	0.0007
	Post-test	206.66	18.76	
B.P level (Diastolic) mmHg	Pre-test	109.33	10.66	0.00014
	Post-test	114.66	12.31	

The table shows the significance of difference in mean score of the control group between pre and post test. The Hypertension people in this control group showed mild increase in B.P level. Mean values of the subjects for Systolic and

Diastolic BP were 201.66 mmHg and 206.66 mmHg; 109.33 mmHg and 114.66 mmHg in pre and post conditions, respectively. The “t” values of Systolic BP 0.0007 and “t” value of Diastolic BP 0.00014 are not significant.

1.2 Experimental group:

TABLE-2
Comparison between pre & post-test mean scores of Experimental group for Systolic and Diastolic B.P level

Variable	Conditions	Mean	SD	“T” value
B.P level (Systolic)	Pre-test	213	21.02	6.27
	Post-test	147.33	11.62	
B.P level (Diastolic)	Pre-test	122.33	14.49	3.39
	Post-test	86	4.30	

The results show the pre and post condition of experimental group. It may be noted that mean value of the subjects for Systolic BP and Diastolic BP were 213 mmHg and 147.33 mmHg, and 122.33 mmHg and 86 mmHg respectively for pre

and post tests. This indicates the decrease in the B.P level. The “t” value of Systolic BP: 6.27 and “t” value of Diastolic BP: 3.39 mmHg are significance at 5% level .This indicates that the Yogic training reduced the High blood pressure.

2. Inter group comparison

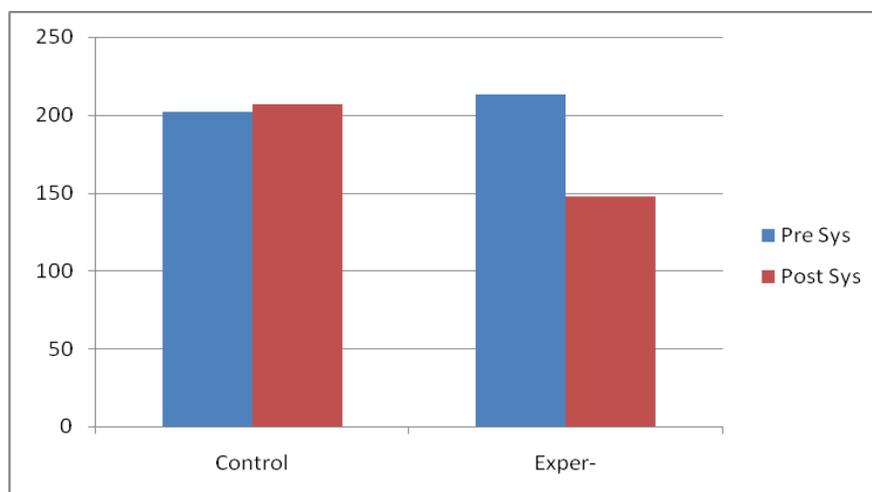
TABLE-3
Comparison between post-test mean scores of Control and Experimental group on Systolic and Diastolic B.P level

Variable	Conditions	Mean	SD	“T” value
B.P level (Systolic)	Control Post-test	206.66	18.76	6.72
	Exp Post-test	147.33	11.62	
B.P level (Diastolic)	Control Post-test	114.66	12.31	1.45
	Exp Post-test	86	4.30	

Table no.3 presents the significance of mean difference between control and experimental group on B.P level and the control group has recorded higher mean score (Systolic) i.e. M=206.66 mmHg as compared to experimental group that is (Systolic) 147.33 mmHg and Control group (Diastolic) 114.66 as compared to

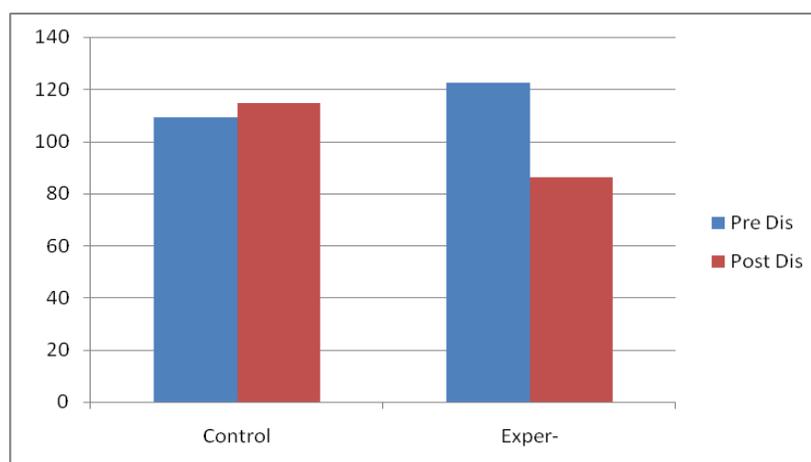
experimental group that is (Diastolic) 86 mmHg. Low score indicates improvement of experimental group regarding the control on B.P level. The “t” value of Systolic 6.72 and “t” value of Diastolic 1.45 is greater than calculated value at 10 Degree of freedom for 5% level of significance.

Graph I
Comparison of mean Systolic B.P level of control and Experimental group



Control group (Systolic) - **Pre: 201.66, Post: 206.66**
Experimental group (Systolic) - **Pre: 213, Post: 147.33**

Graph II
Comparison of mean Diastolic B.P level of control and Experimental group



Control group (Diastolic) - **Pre: 109.33, Post: 114.66**
Experimental group (Diastolic) - **Pre: 122.33, Post: 86**

Discussion:

Hypertension, particularly the essential hypertension, has been classified as stress disorder. The associated autonomic nervous system loses its control over the blood pressure

regulation due to chronic stress that gives rise to constant sympathetic predominance. It leads to vascular constriction and the result is the sharp rise in the blood pressure. The causative factors for this stress disorder include wrong lifestyle,

lack of exercise, bad dietary habits and inability to cope up stress producing incidents, inappropriate rest, sleep and relaxation. Yoga postures and special breathing techniques as well as Om recitation are known to produce relaxation in the overall nervous system and balance within the autonomic nervous system. Both the groups had elevated blood pressure in spite of the fact that they were consuming medicines. While the experimental group underwent yoga and good diet intervention the control group was kept away from it. As it was expected the experimental group showed that by controlling the above mentioned causative factors with the help of yoga and proper diet, the hypertension came under control significantly. Thus time and again it is proved that yoga definitely helps in controlling hypertension

Conclusion:

The present study establishes that one month regular Yogic intervention such as Asana, Pranayama, Om recitation, Meditation, along with a Dietary change helped Hypertension persons to control their blood pressure level successfully.

Recommendation:

Hypertension people having high B.P level should practice Asanas, Pranayama, Om recitation and Meditation regularly for 30 to 45 min daily in order to control their hypertension.

Scope for further study:

We intend to carry out further study by controlling the diet and with fixed intensity as well as regular follow ups to establish maintenance dose of Asana, Pranayama, Om recitation, Meditation and Diet to keep consistent control on Hypertension.

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