

## EFFECT OF SELECTED YOGIC PRACTICES ON THE MANAGEMENT OF HYPERTENSION

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**Abstract :** On the basis of medical officers diagnosis, thirty three (N = 33) hypertensives, aged 35-65 years, from Govt. General Hospital, Pondicherry, were examined with four variables viz, systolic and diastolic blood pressure, pulse rate and body weight. The subjects were randomly assigned into three groups. The exp. group-I underwent selected yoga practices, exp. group-II received medical treatment by the physician of the said hospital and the control group did not participate in any of the treatment stimuli. Yoga imparted in the morning and in the evening with 1 hr/session. day<sup>-1</sup> for a total period of 11-weeks. Medical treatment comprised drug intake every day for the whole experimental period. The result of pre-post test with ANCOVA revealed that both the treatment stimuli (i.e., yoga and drug) were effective in controlling the variables of hypertension.

**Key words :** Yoga

drug hypertension

### INTRODUCTION

Hypertension is a common disorder affecting 15% of adult population in India, yet much progress has been made to prevent and control this disorder (1). Hypertension is more prevalent in urban than in rural areas. The reason could be the difference in heredity, smoking, body fat and life style of city dwellers and villagers. In majority of

the cases, the actual cause of this disorder is unidentified which is the reason why it is called 'primary hypertension' or 'essential hypertension'. The other type is called secondary hypertension in which the causes may be renal, endocrine, neurological or mechanical. Modern medicines can treat hypertension but in the long run they have side-effects (2, 3, 4, 5, 6). Although there are many reports available in this direction,

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the present study provides further evidence about the usefulness of Yoga in treating hypertensives.

### METHODS

Thirty three (N = 33) hypertensives, age 35 to 65 years, who reported at the Government General Hospital, Pondicherry, have been included on the basis of the medical officer's diagnosis. The subject's body weight ranged from 53 to 81 kgs. The subjects were divided into three equal groups randomly. One group was kept as control group and other two acted as experimental groups viz., exp.-I and exp.-II. The group exp.-I was allowed to undergo selected Yogic practices along with their daily activities, whereas the group exp. II was given anti-hypertensive drugs as prescribed by physician in the Govt. General Hospital, Pondicherry. Although the subjects of the control group did not participate in any of the above treatments, they were kept under careful measures and were controlled with proper suggestion rendered by the said physicians. In the case of emergency as faced by the physicians or illness as felt by the participants an immediate medical care was arranged. Such patients were, in fact, discarded from the experiment. All the subject were pre- and post- tested with Systolic Blood Pressure (SBP), Diastolic Blood Pressure (DBP), Pules Rate (PR) and Body Weight (wt.). The duration of experiment was for 11 weeks. The practice session of yogic practices (*shava-*

*sana, viparitakarani, ardhamatsyasana makarasana, bhujangasana, ardha-shalabhasana, vakrasana, vajrasana, yoga mudra, chakrasana, tadasana, nadi-sodhana, Om recitation and meditation*) was given in the morning and evening 1 hr each day 6 days a week.

A standard sphygmomanometer of (Diamond, India) of ISI mark was used along with microtone stethoscope to asses blood pressure. A stop watch (made in Japan) calibrated to 1/100th of a second, was used for counting pules rate. A standard weighing machine (made in UK) was used for measuring body weight. Testers' reliability ranged from 0.86 to 0.94.

Analysis of Covariance (ANCOVA) was employed to compare the different treatment effects of Yoga and drugs in controlling intensity of hypertension. Scheffe's Post HOC test was also applied to test the significance of difference between pairs of adjusted means.

### RESULTS

Table I indicates that in systolic blood pressure (SBP), the initial scores fall short of significant at the 0.05 level ( $F_x = 0.856$ ). This result suggests that the initial means did not differ significantly among the hypertensives in systolic blood pressure. However, this difference was statistically significant ( $F_x = 26.0791, P < 0.01$ ) at the final test. Table 1 also indicates that the control group did not show any

significant improvement ( $F = 0.620, P > 0.05$ ), whereas the exp. gr. 1 which underwent Yoga training ( $F = 44.079, P < 0.01$ ) and the exp.gr. II treated with drugs ( $F = 40.824, P < 0.01$ ) showed a reduction in systolic blood pressure. Table II shows that Yoga intervention was more effective as compared to drugs therapy in controlling systolic blood pressure, pulse rate and body weight but not diastolic blood pressure.

DISCUSSION

The result revealed that both Yoga intervention and drugs treatment helped hypertensives but yoga intervention was more effective.

However, only mild and moderate cases of hypertension may be controlled easily without drugs. Severe case may need

TABLE I: Mean, SD and analysis of variance of the initial and final test scores of experimental group and control group in systolic blood pressure (SBP), diastolic blood pressure (DBP), pulse rate (PR) and body weight (wt).

Variables		Control Gr. M ( $\pm$ SD)	Exp. Gr.I (Yoga) M ( $\pm$ SD)	Exp. Gr.II (Drugs) M ( $\pm$ SD)	F-ratio
SBP (mm Hg)	Initial	155.45 (10.34)	156.45 (09.21)	158.63 (11.52)	00.856
	Final	151.26 (11.20)	123.09 (10.14)	134.87 (12.65)	26.079**
	F-value	0.620	44.079**	40.824**	
DBP (mm Hg)	Initial	109.09 (09.60)	108.63 (09.92)	106.45 (10.32)	03.150
	Final	107.10 (10.27)	082.36 (09.14)	096.54 (08.29)	19.350**
	F-value	0.054	68.253**	64.479**	
PR (per min)	Initial	090.53 (08.49)	092.61 (09.03)	098.12 (08.56)	06.267*
	Final	088.25 (09.86)	064.62 (09.54)	081.34 (08.07)	35.780**
Wt. (kg)	Initial	047.49 (10.56)	054.75 (10.23)	057.58 (12.20)	04.668*
	Final	049.25 (11.25)	047.32 (09.50)	053.29 (10.26)	03.860*

TABLE II: ANCOVA considering ordered adjusted means and Scheffe's post hoc test.

Variables		1=Control Gr.	2=Yoga Gr.	3=Drug Gr.
Systolic Blood Pressure		3 (Drug)	2 (Yoga)	1 (Control)
	3	.....	29.96**	19.52**
	2	.....	.....	31.13**
Diastolic Blood Pressure	3	.....	01.82	08.63*
	2	.....	.....	10.45*
Pules Rate	3	.....	16.66**	06.91*
	2	.....	.....	23.57**
Body Weight	3	.....	05.36*	08.92*
	2	.....	.....	03.59*

\* $P < 0.05$ , \*\* $P < 0.01$

pharmacological intervention. The available drugs include beta-blockers, sympatholytics calcium channel blockers, and ACE inhibitors (7). Several previous investigators have also observed that Yoga lowers systolic pressure (8, 9, 10). In the case of stress related hypertension, Yoga might modify the states of anxiety

(11), thus reducing hypertension.

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