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## To study the role of yoga in management of hypertension

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### Abstract

**Objectives:** The aim of our study was to determine the role of yoga in management of hypertension.

**Methods:** Of all the patients attending the medicine OPD of LLRM Medical College & S.V.B.P. Hospital, Meerut from July 2005 – September 2005, 50 patients of hypertension were selected randomly, including both male and female of age group 21-70 years. They were then divided into 2 groups, study group and control group. One group consisting of twenty five patients was given only Anti-hypertensive treatment (control group) and another group consisting of twenty five patients received yoga therapy daily for half an hour early in the morning under supervision for two months along with their Anti-hypertensive treatment (study group). All the fifty patients included in the study were on lifestyle modification also. Their Blood pressure levels were assessed weekly for a study period of two months and then the data from study and control group was evaluated and compared using unpaired 't' test.

**Results:** There was significant reduction in blood pressure levels in the study group compared to the control group.

**Conclusion:** The result supports the hypothesis and the research question that yoga therapy supplements with usual medical care for hypertension is more effective than the usual medical care alone. Therefore, it is recommended that yoga therapy is safe and may be considered in Hypertensive patients as a potential means to lower the blood pressure levels.

**Keywords:** Yoga therapy, Hypertension and Blood pressure.

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## 1. 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 or essential hypertension'. The other type is called secondary hypertension in which the causes may be renal, endocrine, neurological or mechanical [2]. Modern medicines can treat hypertension in long run but they have side effects [3-4]. So during the last few decades, yoga has got incorporated into modern medicine itself as a complementary therapeutic regimen in the management of hypertension [5].

## 2. Materials and methods

The study was conducted in the department of medicine of LLRM Medical College and S.V.B.P. Hospital, Meerut from July 2005 through September 2005. The study included patients of Hypertension of age 21 years to 70 years of both sexes attending the medicine outpatient department of LLRM Medical College & S.V.B.P. Hospital. The number of patients included in the study was fifty. Inclusion criteria for both group included those who gives informed consent and those who have uncomplicated hypertension. Exclusion criteria for both group included complicated hypertension and those with another associated disease like myocardial disease, stroke, spinal disease, respiratory disease or pregnancy. Informed consent was obtained from all the participants recruited in the study. These patients were randomised into two groups of twenty five each, study group (who received yoga

therapy in addition to conventional antihypertensive treatment) and control group (who received only Antihypertensive treatment). The patients of study group practised “Yogic exercises” i.e ‘ASANAS’ (PADMASANA, SHAVASANA and MAKARASANA), ‘PRANAYAM’ (SURYA BHEDANA, ANULOM VILOM, KAPALBHATI, UJJAYI, SHITALI, SHITKARI, BHASTRIKA and BHAMARI) for half an hour daily during early morning hours under supervision in addition to the

recommended Antihypertensive drugs for a period of two months. The patients of control group were on their usual Antihypertensive drugs. The patients’ Blood pressure was measured every weekly after the yoga session for a study period of two months and then after the study was over all the data from study and control group was evaluated and compared. Statistical analysis was carried out using unpaired ‘t’ test to determine the significance between the two groups.

### 3. Results

The results of the study are depicted in the tables.

**Table 1: Shows the Blood pressure parameters (Mean±2S.D.) on various day of Study group and control group**

Parameters	Groups	Day 1	1 month	2 months
SBP (mmHg)	Study	149±18.48	139±14.88	131±19.26
	Control	150±20.36	148±21.10	144±20.28
DBP (mmHg)	Study	91±13.08	84±14.60	79±11.02
	Control	91±11.76	89.5±18.92	87±10.22

**Table 2: Comparison between the Blood pressure parameters (Mean±2S.D.) of Study group and control group after two months**

Parameters	Study group	Control group	P value
SBP (mmHg)	131±19.26	144±20.28	<0.001**
DBP (mmHg)	79±11.02	87±10.22	<0.001**

\*\* Highly Significant, \* Significant

Comparison value between the study group and control group after two months is presented in table 2, which shows significantly lower mean values in Systolic and Diastolic Blood Pressure.

### 4. Discussion

Our study demonstrates that two months treatment with yoga therapy along with lifestyle modification and conventional antihypertensive treatment has an influence on Blood pressure and it showed a significant level of decrease in Systolic Blood pressure and Diastolic Blood pressure which is supported by Herrman *et al* [6], Datey *et al* [7], Sunder *et al*[8] and Sainani GS *et al*[9].

Underlying Mechanism is given by two sources. NCCAM United States 2002 [10], yoga may affect levels of brain or blood chemicals, including monoamines, melatonin, dopamine, stress hormones (cortisol) and GABA (gamma amino butyric acid). According to Sahelian *et al* [11], yoga works like other mind-body therapies to reduce stress, and yoga promotes the release of endorphins (natural painkillers and mood elevators) from the brain

From our study it may be summarised that yoga therapy in combination with conventional antihypertensive therapy was surely beneficial for the hypertensive patients and yoga should be added to the management of hypertensive in all the stages.

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