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Reversing Hypertension through Yogic Intervention

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Abstract:
Hypertension is an important and a common risqué factor for considerable morbidity and mortality not only in the industrialized world nut also in the developing countries. Thus, the problem of hypertension can be truly considered as pandemic. The present study aims at finding out the effect of yoga practice on hypertensive patients. Elevated blood pressure causes the heart to work harder than normal. This means both the heart and the arteries are more prone to injury. High blood pressure increases the risk of heart attacks, paralysis, and kidney failure, damage to the eyes, heart failure and atherosclerosis.

The study conducted at Center of Complementary and Alternative Medicine, Dev Sanskriti Vishwavidyalaya, Haridwar. Thirty patients suffering with mild hypertension were taken for the study and further devided into experimental and control group. Practice time was 45 minutes and the duration was 45 days.The result shows a significant change as yoga positively decreases the blood pressure (both systolic and diastolic) in the practice group.

Keywords: Asana, Meditation and Hypertension

Introduction:

Hypertension is one of the most common lifestyle diseases today, with every third person we meet, having suffered from it. And experts say that even kids can be victims of highblood pressure.

Hypertension is one of the most common lifestyle diseases today, with every third person we meet, having suffered from it. And experts say that even kids can be victims of high blood pressure. In an analysis of worldwide data for the global burden of HTN, 20.6% of Indian men and 20.9% of Indian women were suffering from HTN in 2005.

The fact is that in 90% patients there is no known cause for hypertension and this makes it even more important to be alert. Most are not even aware that they have hypertension, which makes the scenario rather grim.

In modern world mind related diseases like hypertension, stress, schherezophenia etc. are quite common. Tension is the central theme of all mind related diseases. This tension is

due to the strain of life that an individual carries. It is well established that the brain with its known centers for sensory intellectual and emotional tensions play the main role in maintaining by liberating required amount of neurohumors and hormones. Any disorder of this homeostatic by any factor would ultimately lead to the development of tension related therapies have been unable to answer the question of prevention and cure of hypertension.

Now comes the practice of Yoga to combat this most prevalent disease. Although there are many relaxation and meditation techniques available to the common people, yet something was lacking to deal with hypertension properly.

Practice of Yoga, meditation as well as relaxation helps in controlling the mind. In the Raja Yoga of ***Maharshi Patanjali*** there is a state called *Pratyahara* where the mind and mental awareness are dissociated from the sensory channels. *Yoga nidra* is one aspect of *Pratyahara.*

Various studies have been done to know the effect of *Yoga* in the field of yogic research. P Carrington, H Benson, G Collins et al have concluded in their work, which has been published in Medical magazine 1980 that *Yoga nidra* has its widespread application as a preventive measure, to be practiced by healthy active people as a means of relieving accumulated tensions, increasing stress resistance and overall of psychosomatic disease.

An American pilot, with a six year history of high blood pressure, underwent various treatments without results, following a six weeks program of yoga and relaxation, his blood pressure was normalized, and he regained full flight status. And as the researchers pointed out, relaxation also has an advantage over medicine in that it had no side effects, something which can be hazardous for a fighter pilot.

Another controlled study, which was conducted at the Langley Porter Neuropsychiatry Institute in California, found that there is a reduction in blood pressure and anxiety levels in hypertensive patients continues for 12 months after *Yoga nidra* training. The study has been done by Lekh Raj Bali and published in Med.41 (8) Dec.1997. Kumar, Kamakhya (2005) observed in another study that Yoga nidra affects positively on blood pressure and other psychological co-relates in hypertensive patients.

Dobos, G. According to a 2005 poll from the German Institute of Demoscopy, the majority of Germans are in favour of integrative medicine, combining mainstream, complementary and mind/body medicine. The popularity of healing methods increases patient compliance, but the question is: What is the evidence and can patients with cardiovascular disease profit from integrative care? A large part of the damage to the cardiovascular system results from an increased allostatic load (McEwen), which causes increased oxidative stress, heightened inflammatory activity and platelet reactivity.

There is increasing evidence that stress and lifestyle factors play an important role in the pathogenesis of cardiovascular disease through their effect on oxidative stress, cytokine activity and platelet reactivity.

Pandic, S. Ekman, I. Nord, L. Kjellgren, K.I. (2008) Device - guided breathing exercises having a significant effect in the treatment of hypertension. Sivasankaran, S. Pollard-Quintner, S. Sachdeva, R. Pugeda, J. Hoq, S. M. Zarich, S. W. (2009) observed the Effect of a Six-Week Program of Yoga and Meditation on Brachial Artery Reactivity and find a positive result as well.

Marshall, D. A. Vernalis, M. N. Remaley, A. T. Walizer, E. M. Scally, J. P. Taylor, A. J. (2006) there is a positive response of exercise in modulating the impact of an ultralow-fat diet on serum lipids and apolipoproteins in patients with or at risk for coronary artery disease. Ernst, E. (2005) in his study Complementary/alternative medicine for hypertension: a mini-review, find several results which shows a significant effect of Yoga and complementary therapies to deal with the cardiac diseases.

Kumar K, (2007) observed in his study a significant improvement in hemoglobin level in the Yoga nidra practitioners in comparison to the non-practitioners. Mourya, M. Singh, N. P. Jain, A. K. (2009) there is a significant effect of Slow- and Fast-Breathing Exercises on Autonomic Functions in Patients with Essential Hypertension

Material and methods:

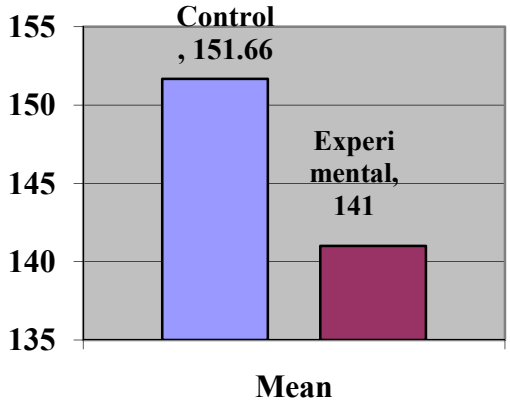
Sixty patients suffering with essential hypertension of ranged 45-60 years from same occupation have been selected for the study through random sampling technique. All the males were businessmen and the females were housewives. The study was based on control group designing. The study has been conducted at Center of Complementary and Alternative Medicine, Dev Sanskriti Vishwavidyalaya, Haridwar. Duration of the study was 45 days and the practice time was 45 minutes.

Procedure:

s.n.	Practices	Round	Duration
1	Preparation with Gayatri mantra	01	02 min
2	Joint loosening practice part-1	01	12 min
3	Tadasan, tiryak tadasan, katichakrasan	02	08 min
4	Bhramari, Sheetli pranayam	05	06 min
5	Relaxation & shavasan	01	05 min
6	Meditation	01	10 min
7	Ending with Shanti mantra		02 min
	Total		**45 min**

Result Table & Graph for systolic blood pressure:

	M	N	SD	SED	t-value	Level of significance
Control	151.66	30	1.34	2.07	5.149	0.01
Experimental	141	30	1.58			



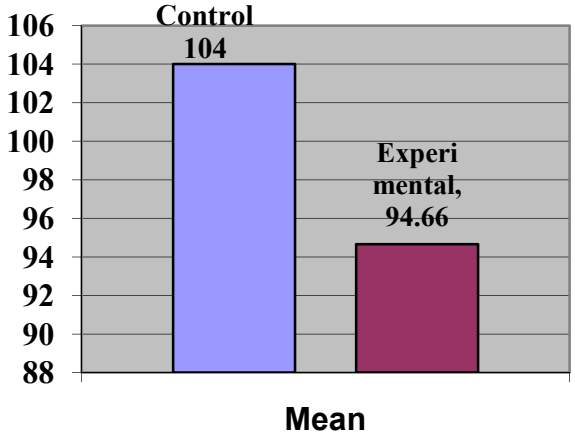
There is no significat defference in the systolic blood pressure between the subjects include in the experimental and contorl group after the 45 days duration of the study.

Statistical analysis:-

Out of two groups experimental group showed an increasing trend in the pre mean values of the systolic blood pressure. Experimental group showed a statistically significant improvement with the confidence level 0.01 level. This shows that practice of nadayoga is effective in the improvement of systolic blood pressure.

Result Table & Graph for diastolic blood pressure

	M	N	SD	SED	t-value	Level of significance
Control	104	30	1.08	1.93	4.81	0.01
Experimental	94.66	30	1.61			



There is no significant defference in the diastolic blood pressure between the subjects included in the experimental and conrol group after the one month duration of the study.

Statistical analysis:

Out of two groups experimental group showed an increasing trend in the pre mean values of the diastolic blood pressure.

Experimental group showed a statistically significant improvement with the confidence level 0.01 level. This shows that practice of nadayoga is effective in the improvement of diastolic blood pressure.

Conclusion:-

Hypertension is not a single disease, but a syndrome with multiple causes. In most of the cases the causes remain silent. However Yoga can be consider as a highly effective practice for reducing blood pressure of hypertensive patients on the basis of the present study as *yoga* reduces the pulse rate respiration rate and also releases the stress, fear and anger of the hypertensive people. Through the body mind relationship, relaxation of body relaxes the entire nervous system. Through the relaxation of central nervous system in Yoga relaxation in autonomic nervous system takes place, as it reduces the whole physical and mental activities. Reduction in the muscular and neural activities slows down the metabolic rate of the body. During the practice of Yoga due to the relaxed body and mind muscles becomes relaxed, arteries of the body become dilated as vasodilation occurs. Hence the cardiac out put as well as cardiac work load reduces; the systolic and diastolic blood pressure with pulse rate becomes down which has been seen during the present study. During the practice of Yoga, the relaxed body requires less oxygen accordingly less metabolic activities. Need of the oxygen in the body becomes less; due to that reduction in the respiration rate has been observed. As the previous studies also supports our study, the practice of *yoga* can be considered as an effective practice to be introduced as a preventive measure of the silent killer Hypertension.

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