Yogic Intervention and its effect on Hypertensive Patients

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ABSTRACT

Hypertension, a "psychological classical silent killer" is the hallmark of various cardiovascular disorders. Hypertension wil become a greater global burden in the next 15 - 20 years. Hypertension is an important and growing public health challenge worldwide. If one believes that 'old is gold', then yoga is quite effective and widely believed to reduce blood pressure. The present society modified lifestyle and food pattern create various types of disorders such as Obesity, Diabetes and Hypertension. Hypertension is a one of the psycho-somatic disease. is highly beneficial in the case of hypertension patients. The aim of the present research is to study the Yogic intervention and its effect on hypertensive patients.Total numbers of 20 Hypertension patients in the age group of (30 to 60 yrs.) were randomly selected from Polyclinic, Dev Sanskriti Vishwavidyalaya, Gayatrikunj, Haridwar through the method of accidental sampling. In this study "Experimental Control group design" was used and t-test has been used for statistical analysis. The result showed a significant changes ($p<0.01$). The finding reveals that significantly reduced the level of systolic and diastolic blood pressure of the hypertensive. Therefore this Research Paper was undertaken to find a safe and effective treatment for Hypertension that is free from any adverse effects and would maintain Blood Pressure. Yogic intervention significantly reduced the level of systolic and diastolic blood pressure of the hypertensive. Therefore this Research Paper was undertaken to find a safe and effective treatment for Hypertension that is free from any adverse effects and would maintain Blood Pressure.

Keywords: Essential or Primary Hypertension, Prayer, Meditation,Yognidra

INTRODUCTION

Hypertension is an important public health issue worldwide because of its high prevalence and concomitant increase in risk of disease (Slama et al., 2002; Calhoun et al., 2002). Essential hypertension (EH) is a predisposing risk factor for stroke, myocardial infarction, congestive heart and the leading cause of chronic renal failure (Hackam et al., 2010; Pierdomenico et al., 2009). Approximately 90% to 95% of hypertension, affecting>1 billion adults worldwide, is the essential hypertension subtype (Lloyd-Jones et al., 2009). Secondary hypertension, about 5 to 10% in hypertension, is relative to the case of primary hypertension, is refers to the secondary to renal, endocrine and nervous system disease. When found the cause and effective to remove or control the causes, secondary symptoms of high blood pressure can be cure or alleviate obviously. The prevention and management of hypertension is major public health challenges. In recent decades, different classes of antihypertensive agents were developed and tested in a variety of settings and among different patients. The studies independently and collectively contributed to a universal finding: lowering arterial pressure can remarkably reduce cardiovascular morbidity and mortality rates as well as slow the progression of renal disease, retinopathy, and all-cause deaths (Lenfant et al., 2003). However, the long-term use of western medicine will produce some side effects, even produce resistance and affect therapeutic efficacy (Cleophas et al., 2002). Therefore, seeking for a new effective decompression method is an important subject of hypertension treatment.

High blood pressure is the most common chronic illness in the United States (Sheps, 2002).It is a condition that is common among people over the age of 35. According to Dr. Suresh Ramasubban, a pulmonary physician at Rush Hospital in Chicago, blood pressure is largely the result of two main forces. The first force, called the stroke volume, is the force created as the blood is pumped into the arteries. The second force is created as the arteries resist the blood flow. Hypertension is a type of cardiovascular disease characterized by elevation of blood pressure above the level considered normal for people of similar racial and environmental backgrounds. Because it affects the entire circulatory system, hypertension can be detrimental to all the major organs, including the heart, brain, and kidneys. Hypertension is defined as "an abnormal condition in which the blood pressure exceeds the accepted normal reading of 140/90" (Fortmann & Breitrose, 1996). The first number refers to the systolic pressure, which occurs when the blood pressure is at its highest when the left ventricle of the heart contracts. The second number, the diastolic pressure, is the lowest blood pressure when the heart is at rest (Rowan, 1986).

There are two types of high blood pressure: essential and secondary. Essential high blood pressure is the more

common, affecting over ninety percent of high blood pressure patients. However, it is different from secondary hypertension because it does not have an obvious cause (Sheps, 2002), making it more difficult to diagnose hypertension, since high blood pressure is usually symptom-free (Fortmann & Breitrose, 1996).

Yoga, a practice of controlling the mind and body, is an ancient art that began in India over thousands of years ago. Because it involves Yognidra , Meditation, and Prayer, it is supposed to increase the vitality of the human body, help with concentration, calm the mind, and improve common physical ailments (Lamb, 2004).

OBJECTIVES OF THE STUDY

Essential Hypertension leads to permanent harmful changes in blood flow to many organs and also places a burden on the Left Ventricle. Usually, these patients are treated with drugs.

The effect of Yogic intervention (Prayer, Meditation and Yognidra) on blood pressure has been studied to explore the possibility of reducing the drug dosage and thus eliminating harmful side effects.

Independent Variable - Yogic Intervention (Prayer, Meditation & Yognidra)

Dependent Variable - Essential or Primary Hypertension

Null Hypothesis: There is no significant effect ofYognidra on hypertensive patients.

RESEARCH METHDOLOGY:

Study Procedure: A total of 20 patients of essential hypertension of age group 30-60 were randomly selected from the out-patient department (OPD) of the Polyclinic, Dev Sanskriti Vishwavidyalaya, Shantikunj, Haridwar through the method of accidental sampling. The reading of SBP and DBP were taken before and after administering of Yogic Intervention.The Blood Pressure was measured in selected subjects using mercury sphygmomanometer in supine, sitting positions before starting Yogic Intervention.

Practice procedure of Yogic intervention

Prayer------5 min.

Meditation ----15 min.

Yognidra-------30 min.

Practic of Yognidra in this study is the simplest method of relaxation which is being practiced in the flat lying position of shavasana and follows the spoken instruction of Yoga instructor. The practice includes the resolve, body part awareness, breath awareness and visualization.

RESEARCH DESIGN: "Experimental Control group design" was adopted in this study.

Follow-upstudy: Patients were followed for one month.

Tools required - Sphygmomanometer (Instrument of mercury blood pressure meter)

Statistical Analysis – t-test was used to measure the significant difference between the means of Experimental Control group.

RESULT

Null Hypothesis: There is no significant effect of Yogic Interventionon on Systolic blood pressure.

Table -1:Systolic blood pressure (SBP)

Group	Number of group	Mean	SD	t-value	Df	Level of significant
Ex	20	131.8	12.71	3.68	19	0.01
Con	20	124.5	6.04			

Null Hypothesis:2 There is no significant effect of Yogic Intervention on Diastolic blood pressure .

Table-2 : Diastolic blood pressure (DBP)

Group	Number of group	Mean	SD	t-value	Df	Level of significant
Ex	20	85.5	5.10	3.94	19	0.01
Con	20	81	3.07			

Table 1 gives the mean pre and post SBP values as well as the statistical analysis of data for the hypertension patients. The obtained t-value is 3.68, which is significant at 0.01 levels. This shows that the Yogic Intervention lead to significant decrease in the SBP values of the hypertension patients.Table 2 gives the mean pre and post DBP values as well as the statistical analysis of data for the hypertension patients. The obtained t-value is 3.94, which is significant at 0.01 levels. This shows that theYogic Intervention lead to significant decrease in the DBP values of the hypertension patients.On the above table (1 & 2) shows the significance decreases in both SBP and DBP values. So, the null hypothesis is rejected. Yogic Intervention decreases the level of hypertension. .

DISCUSSION

Non-pharmacological methods like yoga, meditation, diet, weight reduction and life style modification should been couraged to control the modifiable risk factors. The cardiovascular parameters alter with age, but these alterationsare slower in persons ageing with regular yoga practice.It can thus be concluded that these results and their explanations would justify the incorporation of yoga as part ofour life style in prevention of age related cardiovascular disorders.

The mechanisms by which yoga may influence BP are not well understood. Yoga may reduce feelings of stress and increase a sense of well-being, reducing activation of the sympathetic nervous system and positively altering neuroendocrine status and inflammatory responses. The physical practices of yoga may directly stimulate the vagus nerve increasing parasympathetic output. When prayer uplifts or calms, it inhibits cortisol, epinephrine, and norepinephrine - hormones that flow out of the adrenal glands in response to stress. These fight-or-flight chemicals, released over time can compromise the immune system, upping the odds of developing any number of illnesses, including heart disease, stroke, peptic ulcers, and inflammatory bowel disorder (IBS)." Many experts feel that the immune system is strengthened and nourished by a sense of peace, which can be transferred from one individual to another or used inwardly. Of course, the ancient stories of the Bible and seminal works of Eastern religions link healing with faith. So, it is reasonable to assume that something such as prayer that provides comfort and peace would influence the propensity for you to get disease or how you recover from a disease. Reduction in heart rate and blood pressure indicate a shift in the balancing components of autonomic nervous system towards the para sympathetic activity which was reported by Santha Joseph et al.,1981 and Anand BK et al, 1991. This modulation of autonomic nervous system activity might have been brought, mediated through the limbic system and higher areas of central system was reported by Selvamurthy et al.,1983. Regular practice of yoga increases the baro reflex sensitivity and decreases the sympathetic tone, there by restoring blood pressure to normal level in patients of essential hypertension was reported by Vijaya Lakshmi et al., 2004. Meditation by modifying the state of anxiety reduces stress – induced sympathetic over activity there by decreasing arterial tone and peripheral resistance, and resulting in decreased diastolic blood pressure and heart rate. This ensures better peripheral circulation was reported by Bhargava et al., 1988 and blood flow to the tissues reported by Gopal et al., 1973. The present study also revealed the significant response in subjects with BMI of >25. This may suggest that yoga is more effective in the basal heart rate and blood pressure in morbid conditions like obesity. The study also revealed a highly significant reduction in weight after 6 months of yoga. Similar findings were reported by Udupa et al., 1972.

Yoganidra relaxes the physical as well as mental stresses, it relaxes the whole nervous system, Stress-related

disorders evolve gradually through four stages. In the first stage, psychological symptoms like anxiety and irritability arise due to over activation of the sympathetic nervous system. (Saraswati, Swami S., 1998)
The researchers concluded that this therapy opens a new avenue in the management of hypertension.

CONCLUSION

Supplementary treatments have been researched extensively in recent years. Lifestyle modifications, also termed as non-pharmacologic therapy, have an important and expanding role that complements drug therapy (Appel, 1999). Also, non-pharmacologic therapies can serve as initial therapy in Stage 1 hypertensive patients, facilitate medication step down or withdrawal in patients with well-controlled hypertension, and prevent hypertension in high-risk populations (Appel, 1999). Current research illustrates that yoga reduces stress (Stein, 2003; Iyengar, 2001; Bonnadona, 2003) and that by reducing stress, hypertension can be reduced (Whitaker, 2000, Landsbergis, et al., 2003). This paper proposes that yoga has a moderating effect on hypertension. This moderating effect can be used as a supplementary treatment to hypertension. Yoga practice unites the mind and body activities and offers stress management techniques essential in managing hypertension. However, it is impossible to conclude that there is a causal relationship. The only way to demonstrate that a continuous practice of yoga actually lowers hypertension would be to conduct a controlled study that directly tests yoga and its effect on hypertension. There is one such study being conducted at the Duke University Medical Center. Known as the "Calm Down" study, it looks at whether practicing meditation and relaxation techniques can lower hypertension by reducing the effects of stress.

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