

EFFECT OF YOGA INTERVENTION ON HYPERTENSIVE PATIENTS WITH TYPE 2 DIABETES MELLITUS

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Introduction:

Diabetes mellitus and hypertension are interrelated diseases that strongly predispose an individual to atherosclerotic cardiovascular disease. An estimated 3 million Americans have both diabetes and hypertension. Hypertension is about twice as frequent in individuals with diabetes as in those without. Lifestyle and genetic factors are important factors contributing to both hypertension and diabetes mellitus. The prevalence of coexisting hypertension and diabetes appears to be increasing in industrialized nations because population and both hypertension and NIDDM incidence increases with age. Data obtained from death certificates show that hypertensive disease has been implicated in 4.4% of deaths coded to diabetes, and diabetes was involved in 10% of deaths coded to hypertensive disease. Indeed, an estimated 35% to 75% of diabetic cardiovascular and renal complications can be attributed to hypertension. Hypertension also contributes to diabetic retinopathy, which is the leading cause of newly diagnosed blindness in the United States. For all these reasons, hypertension and diabetes should be recognized and treated early and aggressively.

Essential hypertension accounts for the majority of hypertension in individuals with diabetes, particularly those with NIDDM (type II diabetes), who constitute more than 90% of people with a dual diagnosis of diabetes and hypertension. Hypertension often likely contribute to the development of nephropathy in

many diabetic individuals. Diabetic nephropathy, which occurs after 15 years of diabetes in one third of people with IDDM (type I diabetes) and 20% of those with NIDDM, is an important contributing factor to the development of hypertension in the diabetic individual. The high BP associated with diabetic nephropathy is usually characterized by sodium and fluid retention and increased peripheral vascular resistance. Isolated systolic hypertension is considerably more common in diabetics, and supine hypertension with orthostatic hypotension is not uncommon in diabetic individuals with autonomic neuropathy. (<http://hyper.ahajournals.org/>).

Yoga is an ancient life style method to control and mastery the mind, through different yogic practices like Asanas, Pranayama and Meditation at physical, mental, emotional, intellectual and spiritual level. Few studies have proved the effect of yoga as an adjuvant in treatment of hypertension in diabetics, Yoga effectively switches off the response and brings down the adrenaline level down, thus reducing blood pressure among diabetic patients. (Sujit Chandra Treye 2002).

Statement of the problem

A study to assess the effectiveness of yogasanas in reducing blood pressure among hypertensive patients with type -2 diabetes mellitus in a selected hospital at Chidambaram.

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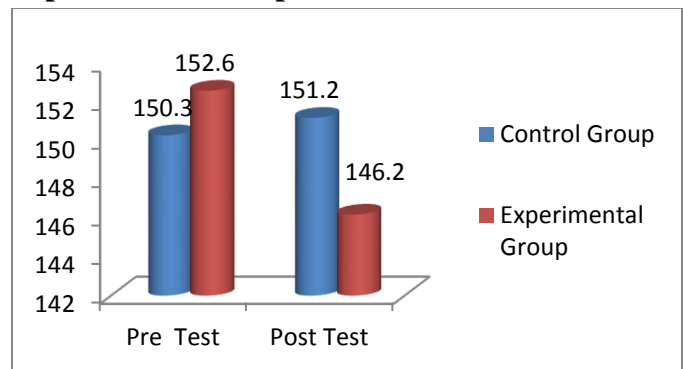
Objectives of the study

- To assess the level of blood pressure before and after yoga training programme for hypertensive patients with type-2 diabetes mellitus
- To assess the effectiveness of yoga on blood pressure level among hypertensive patients with type-2 diabetes mellitus in experimental and control group
- To find out the association between posttest blood pressure level among hypertensive patients with type-2 diabetes mellitus with selected demographic variables such as age, sex, occupation, education, duration of illness and treatment in experimental group.

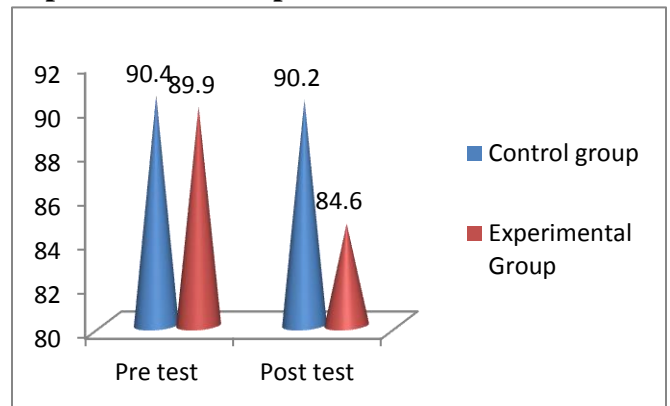
Methodology:

True experimental design was adopted for this study. Systematic random sampling technique was used to select 50 subjects on type-2 diabetes mellitus with hypertension. 25 subjects assigned to control group and 25 subjects were assigned to experimental group at diabetic outpatient department in Raja Muthiah Medical College and Hospital, Chidambaram. The pretest was conducted for both the groups to assess the demographic data and blood pressure (systolic and diastolic) was checked. After the pretest yoga training such as Suryanamaskar, Halasana, Padmasana, Parvatasana, Vajrasana, Bhujangasana, Salabhasana, Makrasana, Uttanapadasana, Shavasana, Pranayama and Meditation were given for 45 minutes per day, for five days in a week to the experimental group, no yoga training but counseling was given to control group. The posttest systolic and diastolic blood pressure, level was checked on 3rd month.

Comparison of the Mean Systolic Blood Pressure between Control Group and Experimental Group



Comparison of the Mean Diastolic Blood Pressure between Control Group and Experimental Group



Results and findings:

Demographic profile of the samples:

- Regarding age, majority of the subjects (36%) were belongs to 45-50 years in both the experimental and control group. 59.1% were male and 40.9% were female in the experimental group, 60.6% were male and 39.4 were female in the control group
- In the experimental group 45% had high school level education and in the control group 48% had graduate level education.
- As for the duration of illness 69.6% of the subjects were between 1-5 yrs in the experimental group and 63.4% were in the

control group. Regarding clinical problem 48.9% had giddiness, 21.1% had sweating, 30% had headache in the experimental group.

- Regarding treatment 54.6% were taking treatment in the experimental group and 49.9% were in the control group. With regard to the history of hypertension with diabetes mellitus among family members 80.2% and 78.6% had positive history of hypertension with diabetes mellitus in the experimental group and control group respectively..
- The mean pretest measures of systolic blood pressure were 150.3 and 152.6 in control and experimental group. The 't' test for the mean difference of systolic blood pressure was 2.369 at df (28) which was not significant.
- The mean pretest diastolic blood pressure of control group was 90.4 and 89.9 mm of Hg in experimental group. The 't' test for the mean difference of diastolic blood pressure was 1.744 at df (28) which was not significant.
- The mean posttest systolic blood pressure was 150.2mm of Hg and 146.2 mm of Hg in control and experimental group respectively. The 't' test for the mean difference between systolic blood pressure of control and experimental group was 19.48 at df (28) which was significant at 0.001 level
- The mean posttest diastolic blood pressure in control and experimental group was 90.2 and 84.6 mm of Hg respectively. The 't' test value for the mean difference between the diastolic blood pressure of control and experimental was 14.42 at df (28) which was significant at 0.001 level.

- Paired 't' test shows that there was no significant difference in pretest and posttest blood pressure level in control group. But in the experimental group there is a significant difference in the pretest and posttest level of blood pressure.
- There was no significant association found in posttest measures of blood pressure level and selected demographic variables.

Conclusion:

Hypertension is a dangerous condition that does not have a cure, but it can be kept in check by taking medication regularly and by eating healthy meals and regular practice of yoga and meditation. Yoga training programme is effective and feasible, simple and economical therapeutic modality any one can do without exertion. The study findings provide the statistical evidence which clearly indicates that yoga training programme is one of the best alternatives and complementary therapies which may be used to lower blood pressure level among diabetic patients.

References:

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