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EFFECT OF YOGIC PRACTICES WITH VARMA THERAPY ON SELECTED PHYSIOLOGICAL VARIABLES AMONG HYPERTENSIVE MIDDLE AGED MEN

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ABSTRACT

The present random group experimental study was designed to find out the effect of yogic practices with varma therapy on selected physiological variables among hypertensive middle aged men. It was hypothesized that there would be significant difference in yogic practices with varma therapy than the control group on physiological variables among hypertensive middle aged men. To achieve the purpose of the study, thirty (30) hypertensive middle aged men residing in Chennai age between 40 to 50 years were selected randomly two groups, namely experimental group and control group of fifteen (15) subjects each. Training period of this study was twelve weeks. Experimental group underwent yogic practices with varma therapy for twelve (12) weeks, five days a week for a maximum of one hour in the morning. The control group was kept in active rest. The pre test and post test were conducted before and after the training for all two groups. To analyses the data (ANCOVA) test was used to find out the significant difference between experimental group and the control group. The test of significance was fixed as 0.05 level of confidence. It was concluded that there was significant improvement in yogic practices with varma therapy than the control group on Systolic blood pressure and Diastolic blood pressure among hypertensive middle aged men.

KEYWORDS :

INTRODUCTION

Hypertension is a state in which Systolic blood pressure is above 140 mm Hg and diastolic blood pressure above 90 mm Hg. It is in the main arteries which carries oxygenated blood from the heart to the body causes the heart to work too hard and is known as Hypertension (Swami Karmananda (2010). Under and over activity of the genes FGf23, APOC3, TRS1, 9p21 are other cause of HBP. Improper biological clock and insufficient electrical activity are the main causes (American Heart Association's Council on Hypertension-2017). Over secretion of vasopressin hormone in the brain causes HBP. It is the leading disease in the world. Every year, 17 May is dedicated to World Hypertension Day (WHD) (www.who.com). Sitting and standing for long periods of time leads to high blood pressure. Metabolically healthy obese persons are also at higher risk of high blood pressure. More than 18 percentages of the Indian men between fifteen years and forty nine years are suffering from hypertension. Salt intake is double and dangerous of Hypertension risk in India (Delhi – 14.13gm/day, Kolkata – 9.81 gm/day, Mumbai – 10.21 mm/day, Bangalore and Chennai 9.38 gm/day) (Times of India – Dec-17-2016 Sat). Yogic practices and varma therapy dilate the blood vessels thus reducing pressure, remove excess water and salt from the body, set right sympathetic nervous system to overcome stress, give massaging effect on the arteries, restore elasticity of the nerves, restore bio-rhythm of the body, balance endocrine systems, yogic practices reduce the risk of HBP by 70%. More than four among 10 middle aged people have HBP. It is responsible for 60% of strokes and 40% of heart attacks. Yogic practices and varma therapy helps to promote a balanced development of physical, mental and spiritual wellbeing (www.yoga point.com).

STATEMENT OF THE PROBLEM

The purpose of the study was to find out the effect of yogic practices with varma therapy on selected physiological variables among hypertensive middle aged men.

HYPOTHESIS

It was hypothesized that there would be significant difference in yogic practices with varma therapy than the control group on physiological variables among hypertensive middle aged men.

REVIEW OF RELATED LITERATURE

Wolff M et.al., (2016) studied to evaluate yoga's impact on blood pressure (BP) and quality of life (QOL) and on stress, depression and anxiety in patients with hypertension in a primary care setting and conducted a multi-centre randomized controlled trial with follow-up after 12-week intervention completion. Adult primary care patients diagnosed with hypertension were randomly allocated to yoga. The intervention group performed a short home-based Kundalini yoga programmed 15 min twice-daily during the 12-week intervention period. Data obtained from 191 patients (mean age 64.7 years, s.d. 8.4) allocated to yoga intervention (n=96) and control group (n=95), with a total proportion of 52% women, showed a significant reduction in systolic and diastolic BP for both groups (-3.8/-1.7mmHg for yoga and -4.5/-3.0mmHg for control groups, respectively). However, the BP reduction for the yoga group was not significantly different from control. There were small but significant improvements for the yoga group in some of the QOL and depression measures ($P<0.05$, Hospital Anxiety and Depression scale, HADS-D) compared with control. The findings of our study, which is the largest study from an OECD country (Organization for Economic Co-operation and Development) to date, do not support the suggestion from previous smaller studies that yoga lowers the BP.

Prithviraj Karak, et.al., (2014), conducted study on holistic approach of yoga on blood pressure management. Yoga is an ancient Indian system of exercise and therapy is an art of righteous living or an integrated system for the benefit of the body, mind and inner spirit. Regular practice of yoga can help to decrease stress and anxiety. Forward bends such as the Paschimottana Asana help to increase blood flow to the brain, reduce stress, have a calming effect on the nervous system, and greatly help in reducing hypertension. The aim of yoga is the attainment of the physical, mental and spiritual health and to control the blood pressure. The present study was conducted to determine the effect of yoga training on confirmed coronary artery disease (CAD+) and without coronary artery disease (CAD-) patients. We examined the effects of yoga on hemodynamic and laboratory parameters in a 1-year pilot study. A course of yoga was given to all the subjects for 1.5 Hours six days in week. Systolic and diastolic blood pressures, heart rate, body mass index (BMI) were all studied at before and after starting of yoga practice. This prospective cohort study included 200 subjects (mean age 52 ± 2 years), both with (50%) and without (50%) established coronary artery disease (CAD). Yoga training produces decrease in systolic blood pressure (SBP) (average 20%), mean arterial pressure (MAP) (11%), heart rate (HR) (average12.5%) and BMI (8%). SBP, HR and BMI value shows statistically highly significant ($p<0.05$). It was concluded that there is a significant reduction in blood pressure, heart rate, and BMI in the total cohort with yoga.

METHODOLOGY

For the purpose of this random group experimental study, thirty (30) hypertensive middle aged men in Chennai were selected at random as subjects based on their Systolic blood pressure and Diastolic blood pressure and their age was ranged from 40 to 50 years. Yogic practices with varma therapy were given five days (Monday to Friday) per week for twelve weeks. All the subjects were randomly assigned to experimental group and control group each consisted of 15 subjects.

Experimental group was involved in yogic practices with varma therapy for twelve weeks, and the control group kept in active rest. The Yogic practices with varma therapy includes opening prayer, loosening exercises, suryanamaskar, Shavasana, Vrkshasana, Padahastasana, Adhomukha Svanasana, Ardha Halasana, Vipareeta Karani, Shashangasana, Vakrasana, Janu Sirsasana, Paschimottanasana, Ananda Madirasana, Makarasana, Pranayama: Nadhisodhana in siddhasan, Bhramari in vajrasan, Ujjayi in Padmasana, Mudra; Prana and shanti mudra, Relaxation; Ajapa Japa (Yam), Yoga Nidra; End prayer; Varma points; Pitari varmam, Tilarta varmam, murtti kalam, Patchi varmam, Sundi varmam, Kannadi Varmam, Viththu varmam, Aamai varmam, Manibandha varmam, Thuthikai Varmam, Naithalai varmam and kaikotti varmam Techniques. Initially pre-test was taken and after the experimental period of twelve weeks, post-test was taken from all the two groups. The differences between initial and final Systolic blood pressure and Diastolic blood pressure variables were considered as the effect of yogic practices with varma therapy on selected subjects. Analysis of Covariance (ANCOVA) test was used to find out the difference among the experimental group and control groups. The test of significance was fixed as 0.05 level of confidence.

RESULTS AND DISCUSSION

The data pertaining to the variables collected from the two groups before and after the training period were statistically analyzed by using Analysis of Covariance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance.

RESULTS ON SYSTOLIC BLOOD PRESSURE

The Analysis of Covariance (ANCOVA) on systolic blood pressure yogic practices with varma therapy and control group was analyzed and are presented in table-I.

RESULTS ON SYSTOLIC BLOOD PRESSURE

Table -I COMPUTATION OF ANALYSIS OF COVARIANCE OF TRAINING GROUP AND CONTROL GROUP ON SYSTOLIC BLOOD PRESSURE (in mmHg)

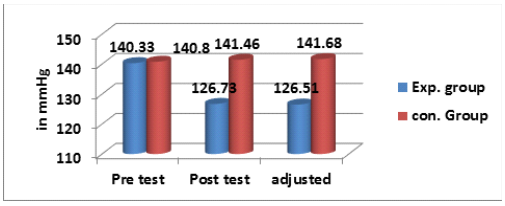
Test	YPVT GROUP	CON GROUP	SV	SS	Df	MS	F
Pre Test	140.33	140.8	Between	1.63	2	1.63	0.71
			Within	63.73	28	2.27	
Post Test	126.73	141.46	Between	1628.03	2	814.01	62.50*
			Within	364.66	28	13.02	
Adjusted Test	126.51	141.68	Between	1682.23	2	841.11	73.36*
			Within	309.55	27	11.46	

*Significant at 0.05 level of confidence (Table F-ratio at 0.05 level of confidence for 2 and 28 (df) =3.31, 2 and 27 (df) =3.32).

The obtained F-ratio value for the systolic blood pressure were greater than the table value, it indicates that there was a significant difference among post test and adjusted post-test means of the yogic practices with varma therapy group than the control group.

The pre-test, post-test and adjusted post-test mean values of yogic practices with varma therapy and the control group on systolic blood pressure were graphically presented in Figure 1.

Figure 1



RESULTS ON DIASTOLIC BLOOD PRESSURE

The Analysis of Covariance (ANCOVA) on Diastolic blood pressure yogic practices with varma therapy and control group was analyzed and presented in table-II.

TABLE-II
COMPUTATION OF ANALYSIS OF COVARIANCE OF TRAINING GROUP AND CONTROL GROUPS ON DIASTOLIC BLOOD PRESSURE (in mmHg)

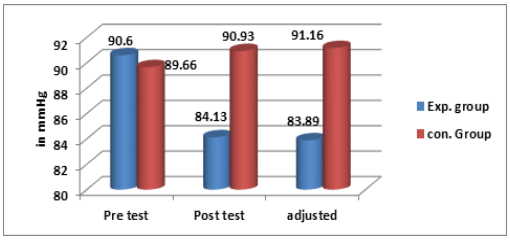
Test	YPVT GROUP	CON GROUP	SV	SS	Df	MS	F
Pre Test	91.66	91.53	Between	0.13	2	0.13	0.07
			Within	53.06	28	1.89	
Post Test	81.8	95.2	Between	1346.7	2	673.35	49.51*
			Within	380.8	28	13.6	
Adjusted Test	81.73	95.26	Between	1370.36	2	685.18	56.56*
			Within	327.06	27	12.11	

*Significant at 0.05 level of confidence (Table F-ratio at 0.05 level of confidence for 2 and 28 (df) =3.31, 2 and 27 (df) =3.32).

The obtained F-ratio value for the Diastolic blood pressure were greater than the table value, it indicates that there was a significant difference among post test and adjusted post-test means of the yogic practices with varma therapy group than the control group.

The pre-test, post-test and adjusted post-test mean values of yogic practices with varma therapy and the control group on Diastolic blood pressure were graphically presented in Figure 2.

Figure 2
BAR DIAGRAM SHOWING THE ADJUSTED POST TEST MEANS OF EXPERIMENTAL AND CONTROL GROUPS ON DIASTOLIC BLOOD PRESSURE (in mmHg)



CONCULSIONS

It was concluded that there was significant decreased in yogic practices with varma therapy than the control group on Systolic blood pressure and Diastolic blood pressure among hypertensive middle aged men.

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