

Effect of Varma Therapy and Yoga Therapy on Selected Physiological Variables of Type 2 Diabetic Patients

P.Ponnappan, Ph.D Scholar, Dept.of Yoga, and

R. Elangovan, Professor & Head, Department of Yoga, Tamil Nadu Physical Education and Sports University, Chennai

Abstract

The purpose of the study was to find out the effect of effect of varma Therapy and yoga therapy on selected physiological variables of Type 2 diabetic patients.. To achieve the purpose of the study, 90male diabetic patients were selected from Chennai city India, at random and their age ranges from 40 to 55 years . The selected Subject s were divided Into two experimental groups and a control group with thirty subjects in (n=30) each . Physiological Variables such as resting pulse rate and blood pressure were tested from each subject before and after the training. The collected data were statistically analyzed by using analysis of covariance (ANCOVA). It was found that was significant improvement on selected physiological variables when compared to the control group.

Key words: Yoga, Varma, Resting pulse rate, Systolic and Diastolic blood pressure.

Introduction

Yoga can be done for relaxation, but it improves flexibility as well, And almost all exercises have some effect on the shape of the body. Prolonged Yoga asana practices can decrease pulse rate decrease balance, respiratory rate and blood pressure, it can contribute to stabilizing the nervous system equilibrium, to normalizing gastrointestinal functions and endocrine function, to increasing the joint range of motions, endurance level, energy level ,immunity to diseases and cardiovascular efficiency, to improving eye-hand coordination, reaction time, dexterity skills, depth perception, sleep, etc. As for the biochemical benefits one can enumerate substantial decreases of glucose, sodium, cholesterol, total white blood cell and remarkable increase of Vitamin C, total serum protein, hemoglobin etc. (Fonda's 1984).

Varma Therapy one of the oldest system of Health Promotion has many benefits, a few are as follows: All systems in the body kept intact; Eliminates excess free radicals, stabilizes the nerves; body temperature becomes normal; balance bio-rythbym; gives perfection with enjoyment, varma therapy acts as a complementary treatment process, too.

Purpose of the Study

Purpose of the study was to find out the effect of Varma therapy and Yoga therapy on selected Physiological variable Type 2 of diabetic patients.

Hypothesis

From the review of literatures, discussions with the experts and on my personal opinion it is predicted that varma therapy and yoga therapy would influence physiological chances of Type 2 diabetes patients.

Review of Literature

Varma kalai is a martial art and esoteric healing art originating from ancient Tamil Nadu in south India. The name literally translates as "The art of vital points". It is an element of the Tamil martial art kuttu varisai (Stevens, 2009). Varmalogy is a systematic study of vital points (varmams) on human body and also on animals bodies. The vital points (varmams) are located on nerves, nerve joints, bones, muscles, ligaments and internal organs. Right or wrong vibration of the vital point (varmams) will either promote or impair health. Varmams are rhythmically tuned by varma experts for curing various diseases like nerve disorders, arthritis, back pain, diabetes, spinal problems and etc. Siddha medicine is the one of the oldest medical system originated from India. Varmam is one the main streams within Siddha medicine. For example, if a patient is suffering from pain in some part of the body, Siddha medicine will externally apply herb medicines, which after absorbed by the body, produce the cure. But based on varmam, certain pressure points are tuned to regulate the blood flow, which gives immediate relief to the pain. Siddha doctors in south India (notably in kanyakumari District of TamilNadu) use this technique of combined medication to give faster and better relief to the patients. Ayurveda is one another oldest forms of medical systems from India. Among Ayurvedic text, there is no separate text for varmam. But in the text 'Astangahridayam', written by Vakpatar, the author speaks about 107 varmam points in human body. Some other ayurvedic texts also contain sparse information about varmam points (Aug 2012, <http://www.Varmmam.org/>).

As per the statistical data available, the total world population of diabetics is 17 crore and out of that 6.10 crore, more than 1/3 of the total diabetics, belong to India. The WHO predicts that in 2010 there will be a diabetic epidemic in India. Diabetes was affecting the people of India at a very rapid rate. The Administrator cited the sedentary lifestyle of the residents as a major cause for increasing number of diabetes cases. The invading Western life style from cities to towns and bigger villages, less physical activity and consumption of high-energy foods, alcohol and smoking were contributing to the increase in the number of diabetics. Giving a call to accelerate research to make the treatment of diabetes and other hormonal disorders less costly, Justice Varma said to provide treatment to the rural population it was necessary to make it more economic.

Diabetes mellitus is a major and growing public health problem throughout the world, with an expected to 220 million people by 2010 (Melander, et al., 1989). Approximately 10% of patients have type 1 diabetes mellitus (DM), and the others have type 2 DM (Attele, et al., 2002), Recent estimates project that the number of patients diagnosed with Type 2 diabetes would be doubled to 300 million before 2025. Once found in primarily in middle-aged adults hence the terminology-adult onset diabetes, the disease is now being observed with increasing frequency in young children and adolescents. This group of patients has been reported to suffer from an increased risk of cardiovascular disease, similar to that observed in adults.

Yoga Therapy is the adaptation of Yoga practices for people with health problems. Specific regimes combining gentle physical movement, conscious breathing exercises, relaxation and meditation are tailored to suit individual needs. Personal health problems are fully taken into consideration. Yoga as a therapy for disease takes a holistic approach working on many levels-physical, emotional, mental and spiritual. Illness disturbs the body's natural balance. Yoga therapy enables the body to restore this balance and helps re-establish a deep sense of personal well being (Jim Cheek, 2006).

The understanding of the various training methodology among the physical education professionals may not be sufficient enough to use the principles in the actual training process. After studying the above therapeutical concepts the scholar has concluded that modifications in the trainings will help for enhancing physiological parameters. Hence, the scholar made an attempt to find out the effect of varma and yoga therapy on selected physiological variables of diabetic patients. Thousands of people on bettering their health and lead a healthy life with yoga by stretching the main muscle or muscle groups.

Methodology

The purpose of the study was to find out the effect of varma therapy and yoga therapy on selected physiological variables of Type 2 diabetic patients. To achieve the purpose of the study, 90 male diabetic patients were selected from Chennai city, India, at random and their age ranges from 40 to 55 years. The selected subjects were divided into two experimental groups and a control group with thirty subjects in (n=30) each. Experimental Group-I underwent varma therapy programme (VTG), Group-II underwent yoga therapy programme (YTG) and Group III served as control group (CG) for the training period of 12 weeks, Six days per week in the morning . The following variables such as resting pulse rate and blood pressure were measured by radial pulse method and sphygmomanometer respectively. The pre test data were collected two days before

the training programme and the post test data were collected two days after the training programme, in order to have the better bio-rhythm of the subjects.

Results and Discussion

The data collected from the experimental group prior and after experimentation on selected variables were statistically examined by using analysis of covariance (ANCOVA). Whenever the 'F' ratio was found to be significant the Scheffe's test was used as post-hoc test to determine which of the paired means different significantly. In all the cases to test the significance.0.05 level of confidence was used.

Table-I
Analysis of Convariance on Criterion Variables of
Experimental and Control Groups

Variables	Tests/ Groups		VTG	YTG	CG	S O V	SS	Df	MS	"F" Ratio
Resting Pulse Rate	Pre Test	X-	77.5	74.7 3	77.4	B	147.76	2	73.88	8.7*
		σ	2.71	3.26	2.74	W	738.57	87	8.49	
	Post Test	X-	74.53	71.1 3	76.73	B	477.6	2	238.8	26.21 *
		σ	3.06	3.39	2.55	W	792.8	87	9.11	
	Adjusted Post Test	X-	73.63 5	72.8 35	75.93	B	142.89	2	71.44	43.83 *
						W	140.18	86	1.629	
Systolic Blood Pressure	Pre Test	X-	126.7	125. 9	127.0 3	B	20.36	2	10.18	0.69
		σ	3.71	4.34	3.41	W	1285.9 67	87	14.78 1	
	Post Test	X-	123.2 7	121. 37	126.0 7	B	335.4	2	167.7	20.02 *
		σ	2.79	2.57	3.28	W	728.7	87	8.38	
	Adjusted Post Test	X-	123.1 88	121. 69	125.8 21	B	258.94	2	129.4 7	27.51 *
						W	404.75	86	4.71	
Diastolic Blood Pressure	Pre Test	X-	84.1	83.2 3	84.4	B	22.02	2	11.01	0.82
		σ	4.66	2.59	3.43	W	1165.2 7	87	13.39	
	Post Test	X-	81.93	79.6	83.6	B	242.22	2	121.1 1	18.94 *
		σ	3.03	1.99	2.46	W	556.27	87	6.39	
	Adjusted Post Test	X-	81.84	79.9 33	83.35 9	B	173.73	2	86.86	27.19 *
						W	274.70	86	3.19	

*Significant at .05 level of confidence

(Resting Pulse Rate in beats/ minute and Blood Pressure in mm. Hg)
(The table value required for 0.05 level of significance with df, 2.87 and 2.86 are 3.10)

Table- II**Scheffe's Test on Criterion Variables of Experimental and Control Groups**

Variables	VTG vs YTG	VTG vs CG	YTG vs CG	CI
Resting Pulse Rate	0.8*	2.295*	3.095*	0.8
Systolic Blood pressure	1.498*	2.633*	4.131*	1.394
Diastolic Blood pressure	1.907*	1.519*	3.426*	1.148

*Significant at 0.05 level

The results of the study indicate that significant difference exist among the pre test, post test and adjusted post test means of experimental and control groups on the resting pulse rate and blood pressure. The present study indicates that the varma and yoga therapy reduce the resting pulse rate among the diabetic patients. The present study is very well supported by the renowned experts Ebnezar, et al., (2012), Telles, et al., (2011) and Pramanik, et al., (2009).

The findings of the study on diastolic blood pressure reveal that the experimental group namely VTG and YTG had significantly improved after the training. Besides, the results of the indicated that that there was a significant difference between the VTG and YTG. YTG training showed better results in diastolic blood pressure than the VTG. Innes, and Vincent (2007), stated that regular yoga-based programs can stabilized the blood pressure in adults with Type 2 Blood pressure has stabilized for all the experimental groups when compared with the control group. The results of this study also in line with the findings of Hegde, et al., (2011), and Ebnezar, et al.m(2012), who were also reported that there was a significant improvement in blood pressure after the yogic practices. The findings of Yang, et al, (2009), also shown that there was a significant improvement in blood pressure after the yogic practices. The present research findings also suggested that varma and yogic therapy stabilize the blood pressure.

Conclusions

From the analysis of the data, the following conclusions were drawn.

1. 12 weeks of varma therapy and yogic therapy programmes decrease the resting pulse rate of type 2 diabetic patients.

2. 12 weeks of regular varma and yoga therapy methods normalize the systolic and diastolic blood pressure of type 2 diabetic patients.

References

- Attele AS, et al., (2002), "Antidiabetic effects of Panax ginseng berry extract and the identification of an effective component", *Diabetes*, 51, p.1851.
- Ebnazar, J. et al., (2012), "Effect of integrated yoga therapy on pain, morning stiffness and anxiety in osteoarthritis of the knee joint: A randomized control study", *International Journal of yoga*, 5(1), pp.28-36.
- Fonda, S. J., (1984), *Health and Fitness Diary*, England: Penguin Books Ltd., p.98.
- Hegde SV. Et al., (2011), "Effect of 3-Month Yoga on Oxidative Stress in Type 2 Diabetes With or Without Complications A controlled clinical trial", *Diabetes care*, 34(10), pp. 2208-2210.
- Innes KE, and Vincent HK, (2007), "The Influence of Yogabased Programs on Risk Profiles in Adults with Type 2 Diabetes Mellitus : A Systematic Review", *Evid Based Complement Alternat Med.*, 4(4), pp. 469-86.
- Jim, Cheek (2006), "Yoga Therapy", south sea yoga therapy, www.blogspot.com, February 12. (Aug, 2012, [http//www.varmam.org/](http://www.varmam.org/)).
- Melander A, et al., (1989), "Sulphonylurea Antidiabetic Drugs, an Update on Their Clinical Pharmacology And Rational Therapeutic Use. *Drugs*", 37, p.58.
- Pramanik T. et al., (2009), "Immediate Effect of slow Pace Bhastrika Pranayama on Blood Pressure and Heart Rate", *J Altern Complement MED.*, 15(3), PP.293-5.
- Telles S, et al., (2011), "Heart Rate Variability Changes During High Frequency Yoga Breathing And Breath Awareness", *Biopsychosoc Med.*, 13(5), p.4.
- Yang K, et al., (2009), "Utilization of 3month Yoga Program for Adults at high Risk for Type 2 Diabetes : A Pilot Study", *Evid Based Complement Alternat Med.*, 18.

---ooOoo---