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Effect of Yoga, Pranayama with natural diet on systolic blood pressure and diastolic blood pressure among patients of coronary artery disease

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Abstract

The present investigation research was to find out the effect of yoga, pranayama with natural diet on systolic blood pressure and diastolic blood pressure among patients of coronary artery disease. To accomplish the intention of the research 80 male patients of coronary artery disease were selected from Kerala. The subjects were randomly assigned to four equated groups. Experimental group –I (N=25), underwent asana practices with natural diet (APWNT), experimental group –II (N=25) underwent Pranayama practices with natural diet (PPWNT), experimental group –III (N=25) underwent combination of Asana, Pranayama practices with natural diet (CAPPWNT) and control group (N=25) did not undergo any specific training. The experimental groups participated in yoga training schedule three alternative days in a week for the period of 12 weeks. The study variables including systolic blood pressure and diastolic blood pressure, the consequences showed with the intention of all the physiological variables decreased the performance due to yogic practices variations of yoga, pranayama with natural diet on systolic blood pressure and diastolic blood pressure among patients of coronary artery disease and the control group were not showed any significant improvement.

Keywords: Asana Practices with Natural Diet (APWND), Pranayama Practices with Natural Diet (PPWND), Combination of Asana, Pranayama Practices with Natural Diet (CAPPWND), (SBP) - systolic blood pressure and (DBP) diastolic blood pressure.

Introduction

Yoga is divided into many areas. The first book on the classic path to Yoga is in the 8 steps according to the father of Yoga, Maharishi Patanjali. (These 8 limbs, as he called them, are often compared to the *Noble Eightfold Path* of Buddha.) Patanjali lived about 200 years before Christ. There is some question about the timing of the work, but somewhere between 1,700 and 2,200 years ago. He was also inspired by manuscripts that existed long before that in unwritten format, and even written. Everyone agrees that Patanjali systematically wrote the teachings of the ancient Yogis in his famous book, *Yoga Sutras* (196 short *aphorisms*). According to *The Yoga Sutras*, ashtanga (= 8 limbs) is the system of Raja Yoga. The first two *limbs* (see below) come together to form your behavior. One must be ethical and moral to have a true Yoga lifestyle. These are loose translations of the Sanskrit words used. I am sure that there are no precise words for some of these in English. Yoga is divided into many areas. The first book on the classic path to Yoga is in the 8 steps according to the father of Yoga, Maharishi Patanjali. (These 8 limbs, as he called them, are often compared to the *Noble Eightfold Path* of Buddha.)

Hypotheses

1. It was hypothesized that Asana with natural diet significantly improve on selected physiological variables of systolic blood pressure and diastolic blood pressure among patients of coronary artery disease.
2. It was hypothesized that Pranayama with natural diet significantly improve on selected physiological variables of systolic blood pressure and diastolic blood pressure among patients of coronary artery disease.
3. It was hypothesized that Combinations of Asana, Pranayama with natural diet significantly improve on selected physiological variables of systolic blood pressure and

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- diastolic blood pressure among patients of coronary artery disease.
4. It was hypothesized that Combinations of Asana, Pranayama with natural diet significantly improve on selected physiological variables of systolic blood pressure and diastolic blood pressure better than Asana with natural diet, Pranayama with natural diet and control group among patients of coronary artery disease.
 5. It was hypothesized that Pranayama with natural diet significantly improve on selected physiological variables of systolic blood pressure and diastolic blood pressure better than Asana with natural diet and control group among patients of coronary artery disease.
- It was hypothesized that Asana with natural diet significantly improve on selected physiological variables of systolic blood pressure and diastolic blood pressure better than control group among patients of coronary artery disease.

Methodology

The present investigation research was to find out the effect of yoga, pranayama with natural diet on systolic blood pressure and diastolic blood pressure among patients of coronary artery disease. To accomplish the intention of the research 100 male patients of coronary artery disease were selected from kerala. The subjects were randomly assigned to four equated groups. Experimental group –I (N=25), underwent asana practices with natural diet (APWND), experimental group –II (N=25) underwent Pranayama practices with natural diet (PPWND), experimental group – III (N=25) underwent combination of Asana, Pranayama practices with natural diet (CAPPWND) and control group (N=25) did not undergo any specific training. The experimental groups participated in yoga training schedule three alternative days in a week for the period of 12 weeks. The study variables including systolic blood pressure and diastolic blood pressure measured by (sphygmomanometer), the data were analysed by using ‘t’ ratio, analysis of variance, Scheffee’s post hoc test.

Analysis of Data and Interpretation

Table 1: Significance of Mean Gain/ Losses between Pre –Post test of Suryanamaskar with Asana practices with Natural Diet physiological variables of among patients of coronary artery disease.

Variables	Mean	S.D	M.D	S.E.M	‘t’ Ratio
SBP Pre-Test	132.9600	5.51876	2.15	0.137	15.69*
SBP Post Test	130.8000	5.45436			
DBP Pre-Test	90.8400	2.70308	1.96	0.1077	18.19*
DBP Post Test	88.8800	2.75862			

Table value (2.06)0.05 level of Significance

Table 2: Significance of Mean Gain/ Losses between Pre –Post test of Pranayama practices with Natural Diet on physiological variables of among patients of coronary artery disease.

Variables	Mean	S.D	M.D	S.E.M	‘t’ Ratio
SBP Pre-Test	132.8800	4.11623	3.08000	.17243	17.86*
SBP Post Test	129.8000	3.97911			
DBP Pre-Test	90.3600	3.75144	3.08000	.17243	11.38*
DBP Post Test	86.7600	3.90811			

Table value (2.06)0.05 level of Significance

Table 3: Significance of Mean Gain/ Losses between Pre –Post test of Combination of Asana Pranayama practices with Natural Diet on physiological variables of among patients of coronary artery disease.

Variables	Mean	S.D	M.D	S.E.M	‘t’ Ratio
SBP Pre-Test	132.8400	4.02782	4.72000	.48484	9.73*
SBP Post Test	128.1200	4.07554			
DBP Pre-Test	90.0800	4.34856	4.72000	.48484	7.24*
DBP Post Test	84.0400	3.18172			

Table value (2.06)0.05 level of Significance

Table 4: Significance of Mean Gain/ Losses between Pre –Post test of control group on physiological variables of coronary artery disease patient.

Variables	Mean	S.D	M.D	S.E.M	‘t’ Ratio
SBP Pre-Test	132.7600	3.62031	.08000	.05538	1.445
SBP Post Test	132.6800	3.63685			
DBP Pre-Test	90.9200	3.35311	.08000	.05538	1.445
DBP Post Test	90.8000	3.43996			

Table value (2.06) 0.05 level of Significance

Table 5: Analysis on Pre Test among APWND, PPWND, CAPPWND and CG on Physiological variables of coronary artery disease patient.

Variables		Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Systolic Blood Pressure	Pre –Test	Between Groups	.520	3	.173	.009	.999
		Within Groups	1841.520	96	19.183		
Between Groups		11.950	3	3.983	.309	.819	
Within Groups		1236.800	96	12.883			
Diastolic Blood Pressure	Post - Test	Between Groups	272.670	3	90.890	4.820	.004
		Within Groups	1810.080	96	18.855		
Between Groups		631.400	3	210.467	18.775	.000	
Within Groups		1076.160	96	11.210			

Table 6: Analysis on Pre Test among APWND, PPWND, CAPPWND and CG on Physiological variables of coronary artery disease patient.

Variables	Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Systolic Blood Pressure	Between Groups	280.417	3	93.472	53.346	.000
	Within Groups	166.457	95	1.752		
Diastolic Blood Pressure	Between Groups	508.227	3	169.409	40.045	.000
	Within Groups	401.892	95	4.230		

Table 7: The Scheffe’s Post Hoc Test for The Differences between Adjusted Post Test Means of Apwnd, Ppwnd, Cappwnd and Cg on Systolic Blood Pressure

APWND	PPWND	CAPPWND	CG	Mean Differences	Confidence Interval Value
130.71	129.78	---	---	0.93	1.05
130.71	---	128.34	---	2.37*	1.05
130.71	---	---	132.77	2.068	1.05
---	129.78	128.34	---	2.87*	1.05
---	129.78	---	132.77	2.99*	1.05
---	---	128.34	132.77	4.43*	1.05

*0.05 level of significance

From these results CAPPWND showed better than the other three groups namely APWND, PPWND and CG. PPWND showed better than the other groups namely APWND and CG. APWND showed better than the CG.

Table 7: The Scheffe’s Post Hoc Test for The Differences between Adjusted Post Test Means of Apwnd, Ppwnd, Cappwnd and Cg on Disastolic Blood Pressure

APWND	PPWND	CAPPWND	CG	Mean Differences	Confidence Interval Value
88.66	86.90	---	---	1.76	0.98
88.66	---	84.38	---	4.28*	0.98
88.66	---	---	90.53	1.87	0.98
---	86.90	84.38	---	2.52*	0.98
---	86.90	---	90.53	3.63*	0.98
---	---	84.38	90.53	6.15*	0.98

*0.05 level of significance

From these results CAPPWND showed better than the other three groups namely APWND, PPWND and CG. PPWND showed better than the other groups namely APWND and CG. APWND showed better than the CG.

Result of the Study

1. It was resulted that Asana with natural diet significantly improved on selected physiological variables of systolic

blood pressure and diastolic blood pressure among patients of coronary artery disease.

2. It was resulted that Pranayama with natural diet significantly improve on selected physiological variables of systolic blood pressure and diastolic blood pressure among patients of coronary artery disease.
3. It was resulted that Combinations of Asana, Pranayama with natural diet significantly improve on selected physiological variables of systolic blood pressure and diastolic blood pressure among patients of coronary artery disease.
4. It was resulted that that Combinations of Asana, Pranayama with natural diet significantly improve on selected physiological variables of systolic blood pressure and diastolic blood pressure better than Asana with natural diet, Pranayama with natural diet and control group among patients of coronary artery disease.

Conclusion

1. It was concluded that Asana with natural diet significantly improved on selected physiological variables of systolic blood pressure and diastolic blood pressure among patients of coronary artery disease.
2. It was concluded that Pranayama with natural diet significantly improve on selected physiological variables of systolic blood pressure and diastolic blood pressure among patients of coronary artery disease.
3. It was concluded that Combinations of Asana, Pranayama with natural diet significantly improve on selected physiological variables of systolic blood pressure and diastolic blood pressure among patients of coronary artery disease.
4. It was concluded that that Pranayama with natural diet significantly improve on selected physiological variables of systolic blood pressure and diastolic blood pressure better than Asana with natural diet and control group among patients of coronary artery disease.
5. It was concluded that that Asana with natural diet significantly improve on selected physiological variables of systolic blood pressure and diastolic blood pressure better than Asana with natural diet and control group among patients of coronary artery disease.

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