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Effect of yogic practices with Swiss ball training on selected physical and physiological variables among sedentary female students

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Abstract

The purpose of the study was to find out the effect of yogic practices with Swiss ball training on selected physical and physiological variables among sedentary female students. To achieve the purpose of the study, fifty sedentary female students were selected randomly from Bharathiar University, Coimbatore. The subjects aged from 20 to 25 years. The selected subjects were divided into two equal groups namely experimental and control groups of 25 subjects each. The training period was limited to six weeks and for six days per week. The yogic practices with Swiss ball training was selected as independent variables and breath holding time, resting pulse rate, flexibility and balance were selected as dependent variable and it was measured by nose clip, cardio radial pulse, sit and reach, and stroke stand. All the subjects were tested two days before and immediately after the experimental period on the selected dependent variables. The obtained data from the experimental group and control group before and after the experimental period were statistically analyzed with dependent 't'-test to find out significant improvements. The level of significance was fixed at 0.05 level confidence for all the cases. Significant improvement was found on breath holding time, resting pulse rate, flexibility and balance of experimental group due to the effect of yogic practices with Swiss ball training when compared to the control group.

Keywords: Breath holding time, resting pulse rate, flexibility and balance

Introduction

Yoga today is a subject of worldwide curiosity. This is definitely, a entirely new and remarkable phenomenon in the long history of Yoga. In the past, Yoga used to have a very limited entreaty. Those who recognize it were very few and fewer still practiced it. It was a finding reserved for the preferred ones. They were usually women of not this world. Their main attentiveness was in the world hereafter. In order to study yoga one had to renounce the world of accomplishment, aspiration and pleasure.

Yoga is no more observed as a discipline to be followed only by those who have set emancipation's the highest goal of their life. All cultivated and uncultivated people find yoga to be useful. Refutation is no longer a pre-complaint to the study of yoga. Yoga has come out of its secret 'beating place'. It has crossed the restrictions of its land of origin, and has spread practically to the nook and turning of the world. The acceptance of yoga has not been stalled by the diversity of religious beliefs, languages or terrestrial conditions.

The asanas aim at a consistently integrated system of neuro-muscular is always consciously followed by their relaxation. At every step, a mental association is established with the physical actions, so that the unsounded reserves and power of the mind one harnessed for achieving a perfect physical culture of the body. (Dhirendra Brahmachari, 1966).

Swiss Ball Training

Swiss ball training is an marvelous manner to physique 'core body strength' and have selected fun at the equal time. Training on the ball forces you to use muscles that alleviate and regulator the body's location (then you slip up in edible the ball). Exercises crusade from humble to multifaceted by placing the body in a more 'unstable' position.

This services the musculature to stimulate and become stable the joints and body. This type of training deals a high level of nervous system activation and hence can be strenuous. It also inspires a transfer of power and strength through the 'kinetic chain' (i.e the connected scheme of joint actions).

Methodology

For the purpose of this study, altogether fifty sedentary female students were chosen on random basis from Bharathiar University, Coimbatore. Their age group ranges from 20 to 25 years. They were divided into two groups of 25. The Experimental group I would undergo yogic practices with Swiss ball training. The second group Control group II. Pre – test and post –test would be conducted. Treatment would be given for six weeks. It would be find out finally the effect of yogic practices with Swiss ball training on the sedentary female students in scientific methods.

The selected tests were measured by following units for testing:

Criterion Variables	Test Items	Unit Measurements
Breath holding time	Nose Clip	Seconds
Pulse Rate	Cardio Radial Pulse	Seconds
Flexibility	Sit and Reach	Centi-Meters
Balance	Stroke Stand	Seconds

Training programme

The following schedule of training was given for the yogic practices with swiss ball group.

Group	Design of the Training
Experimental Group I	Yogic practices with Swiss ball training
Control Group II	Did not do any Specific Training
Training Duration	90 Minutes
Training Session	6 Days a week
Total Length of Training	Six weeks

Experimental design

The experimental group was given yogic practices with swissball exercises after taking an initial test. After the initial test selected yogic training with swiss ball training exercises were given for six weeks in all days except Sunday. The time of practice was from 7.00A.M to 8.30A.M. The control group were not participating in any of the special training programme. However they were allowed to participate in their regular education classes in the college as per their curriculum.

Statistical technique

The achieved data since the experimental group and control group previously and subsequently the experimental dated were statistically evaluated with dependent t-test to discovery obtainable significant development. The level of significance was secure at 0.05 level of confidence for all the cases.

Results and discussions

The effect of independent variables on each criterion variables was considered by dependent 't' – test on the data achieved for breath holding time, resting pulse rate, flexibility and balance. The pretest and post test means of experimental group and control group have been analyzed and existing in Table I.

Table 1: Mean and dependent 't' – test for the pre and post tests on breath holding time, resting pulse rate, flexibility and balance of experimental and control groups

S. No	Variable	Group/Test	Mean	SD	SEM	DF	't' ratio
1.	Breath Holding Time (Scores in seconds)	Experimental Pre - test	19.57	27.42	5.48	24	4.42*
		Experimental Post - test	45.96	7.89	1.58		
		Control Pre - test	45.46	8.06	1.65	23	2.7
		Control Post - test	31.33	26.16	5.34		
2.	Pulse Rate (Scores in seconds)	Experimental Pre - test	71.12	4.93	.99	24	11.27*
		Experimental Post - test	75.76	5.82	1.16		
		Control Pre - test	77.83	6.95	1.42	23	4.03
		Control Post - test	67.46	11.27	2.3		
3.	Flexibility (Scores in numbers)	Experimental Pre - test	3.68	1.75	.35	24	8.68*
		Experimental Post - test	4.65	1.84	.37		
		Control Pre - test	3.64	1.29	.26	23	1.06
		Control Post - test	3.41	1.37	.28		
4.	Balance (Scores in seconds)	Experimental Pre - test	13.15	1.69	.34	24	7.58*
		Experimental Post - test	15.70	1.49	.30		
		Control Pre - test	13.17	1.73	.35	23	2.08
		Control Post - test	11.48	3.70	.75		

*Significance at 0.05 level of confidence

The table I, shows that, the obtained 't'–ratio between the pre and post test means of experimental group were 4.42, 11.27, 8.68, 7.58 and control group were 2.7, 4.03, 1.06, 2.08 respectively. The table values required for significant difference with df 24 at 0.05 level of confidence. Since the obtained 't' – ratio value of experimental and control group on resting pulse rate, breath holding time, flexibility and

balance were greater than the table value 2.063, it was concluded that the yogic training followed by swiss ball training had significantly improved resting pulse rate, breath holding time, flexibility and balance of experimental group. The pre and post test mean value of experimental and control group on breath holding time, resting pulse rate, flexibility and balance were graphically represented in the figure 1.

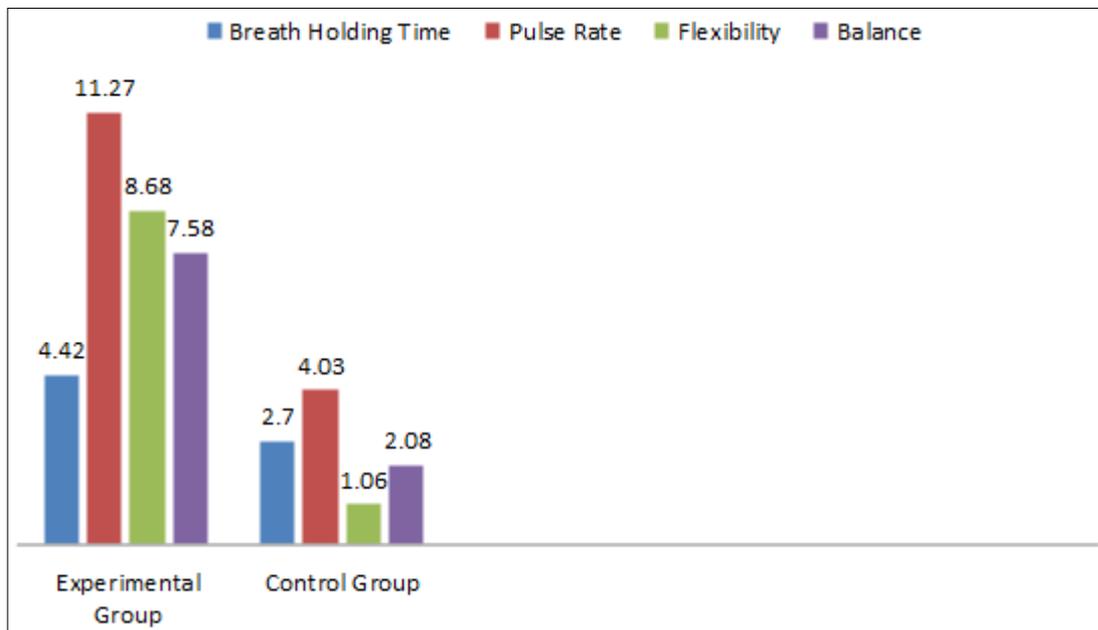


Fig 1: Shows in experimental group and control group

Discussion on findings

The finding of the study reveals that the yogic practices followed by swiss ball training group cause significant improvement in their physical and physiological variables. In the view of control group there was no significant improvement in their physical and physiological variables. The findings of the study corroborate with Marshall and Murphy (2005) ^[2], Lehman and MacMillan (2006) ^[1], SekendizB, Cug M (2010) ^[4] in their study, they stated that yoga and swiss ball training exercise developed physical and physiological variables.

Conclusions

Improvement of on Breath Holding Time, Resting Pulse Rate, Flexibility and Balance was found significantly on experimental group due to the effect of yogic practices followed by swiss ball training when compared to the control group.

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