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Comparative Effects of Yogic Practices and Physiotherapy Exercises on Breath Holding Time among Low Back Pain for Middle Age Men

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Abstract

The present study was designed to find out the comparative effects of yogic practices and physiotherapy exercises on Breath Holding Time among low back pain for middle age men. It was hypothesized that there would be significant differences in forced vital capacity among low back pain for middle age men due to the influences of comparative effects of yogic practices and physiotherapy exercises . To achieve the purpose of the study, 45 low back pain for middle age men from Chennai city aged between 30 to 40 years. The Experimental group I, II and III underwent comparative effects of yogic practices and physiotherapy exercises for the period of 6 weeks of an hour in the morning. The control group was not exposed to any specific training but they participated in the regular activities. The pre-test and post-test were conduct before and after the training for four groups. The data pertaining to the variables collected from the three 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.

Keywords: Yogic Practices, Physiotherapy Exercises, Breath Holding Time.

Introduction

Yoga means the experience of oneness or unity with inner being. This unity comes after dissolving the duality of mind and matter into supreme reality. It is a science by which the individual approaches truth. The aim of all yoga practice is to achieve truth where the individual soul identifies itself with the supreme soul or God. Yoga has the surest remedies for man's physical as well as psychological ailments. It makes the organs of the body active in their functioning and has good effect on internal functioning of the human body. Yoga is a re-education of one's mental process, along with the physical.

Yoga has been practiced in India for over two millennia. Stories and legands from ancient times testify to the existence of yoga, and to the practitioners and divinities associated with it. India literature is a storehouse of knowledge about yoga covering every convering conceivable level. Roughly in chronological order are the vocals (books of scriptural knowledge), the Upanishada (Philosophical cosmologies), and their commentaries; then the Puranas (ancient cosmologies), and the two epics, the Ramayana and the Mahabharatha. The Mahabharatha contains within itself that master piece of Indian scripture the Bagawad Gita. Towards the end of Vedic period comes the aphoristic literature, with the "yoga Aphorisms" of Patanjali of special interest to yoga students. Besides, whole bodies of works both ancient (Pre-Christian) and more modern with various aspects of yoga and yoga philosophy, testifying to the continued relevance of yoga as a discipline (Mira Mehta, 1998).

Lumbosacral pain has been a recognized human affliction for a long time. Hippocrates also talks about lumbosacral pain. In western medicine, we find the very first reports on naked eye descriptions of the normal and degenerate spine in the writings of Vesalius in 1555. Virchow first described what is now known as a lumbar disc prolapse in 1875. Middleton and Teacher first described lumbar disc herniation.

Backache is remarkably common. At any one time some 30-40 percent of the population have backache and between 80 and 90 percent experiences it at some time in their lives. It affects both sexes and all ages, from children to the elderly, but is most prevalent in the middle years. The major reason for this increase in the incidence seems to be related to the sedentary stressful modern life style of hurry and speed. In USA, national health statistics in 1995-96 reported that 14.3% of out patients (new visits) are due to low back pain and 1, 29, 00,000 visits/ year are made for chronic low back pain. In addition 1, 00,000 patients visit Chiropractors. 52, 59,000 office visits are made for physiotherapy/ year.2.8% of severe hospitalizations are for back pain. The total cost is calculated as being nearly 6,000,000,000

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Pound per year in UK and 16-50 billion dollars in USA, for the medical treatment provided, the benefits received, and loss of production-a phenomenal sum.

Statement of the Problem

The present study was designed to find out the comparative effects of yogic practices and physiotherapy exercises on Breath Holding Time among low back pain for middle age men.

Hypothesis

1. It was hypothesized that there would be significant differences on Breath Holding Time among Low back pain for middle age men due to comparative effects of yogic practices and physiotherapy exercises groups than the control group.

Review of Related Literature

Williams KA and Petronis J (2005) conducted the study on Effect of Iyengar yoga therapy for chronic low back pain at Department of Community Medicine, West Virgina University, school of Medicine, USA. They select the 60 subjects of chronic low back pain and apply 16 weeks of Iyengar yoga therapy. As a results reductions in pain intensity (64%), functional disability (77%).

Galantino M L and Bzdewka T M (2001) conducted the study on the impact of modified Hatha yoga on chronic low back pain at program in Physical therapy, Richard Stockton college of New Jersy, USA. They select 22 subjects of chronic low back pain and divided into 2 groups, one group for practice of Hatha yoga and one group of controlled group for one hour per day for twice a week for 6 weeks. After 6 week of program, the pain, disability all are assessed by Oswestry Disability Index (ODI) and take forward reach (FR) and Sit and reach (SR) tests. As a result, improved physical functions and reduce pain.

Methodology

For the purpose of the study, 60 Low back pain for middle age men from Chennai aged between 30 to 40 years were selected.. They were equally divided into four groups: experimental group I (yogic practices), Experimental group II (physiotherapy), Experimental group III (yogic practices & physiotherapy) and control group (no intervention). This study employed the experimental random group design, comparative effects of yogic practices and physiotherapy exercises as the independent variable and Breath Holding Time as the dependent variable. The training scheduling comprises of six days per week for the maximum of one hour for six weeks. The data were collected before training as pre-test from four groups. After six weeks of comparative effects of yogic practices and physiotherapy exercises, data were again collected from all the three experimental groups and control group. The equipment used to measure the level of Breath Holding Time through standard equipment. Analysis of covariance (ANCOVA) was used to find out the significant differences among the groups. The level of significance was fixed at 0.05%.

Result and Discussion

Breath Holding Time was measured through standardized equipment. The pre and post test means of the experimental groups and control group statistically analyzed.

Table 1. Computation of analysis of covariance of breath holding time *(total scores in seconds)*

	Yogic Practices	**Physiotherapy**	**Combined**	**Control**	**Source of Variance**	**Sum of Squares**	**df**	**Mean Squares**	**Obtained F**
Pre Test Mean	47.20	49.27	47.67	51.1	Between	142.58	3	47.53	1.38
					Within	1926.40	56	34.40	
Post Test Mean	49.13	51.67	51.67	51.5	Between	68.85	3	22.95	0.69
					Within	1876.13	56	33.50	
Adjusted Post Test Mean	50.66	51.24	52.76	49.3	Between	90.40	3	30.13	11.16
					Within	148.46	55	2.70	
Mean Diff	1.93	2.40	4.00	0.33					

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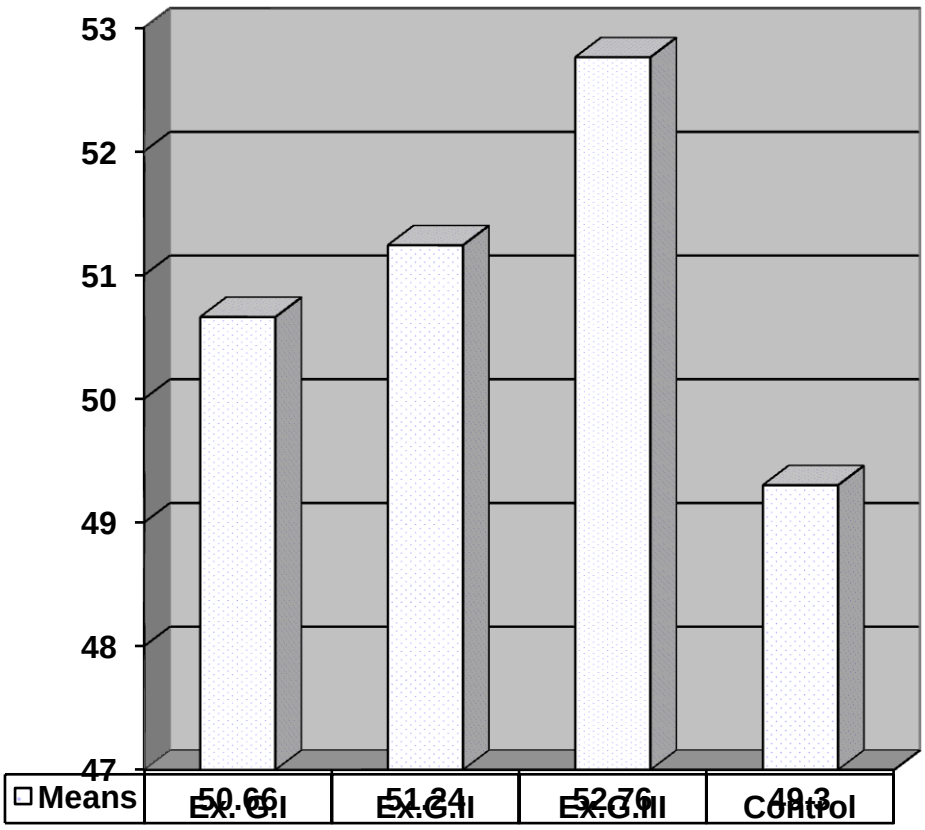
Table value at 0.05 level of confidence for 3 and 56 (df) is.2.77, 3 and 55(df) is 2.77 .
* Significant at 0.05 level.

Table 2. *Scheffe's confidence interval test scores on breath holding time (scores in seconds)*

MEANS				Mean Difference	Required . C I
Yogic Practices	Physiotherapy	Combined	Control		
50.7	51.2			0.6	1.7
50.7		52.8		2.1*	1.7
50.7			49.3	1.4	1.7
	51.2	52.8		1.5	1.7
	51.2		49.3	2.0*	1.7
		52.8	49.3	3.5*	1.7

***** Significant at 0.05 level.

Figure I. Bar diagram on ordered adjusted means of Breath holding time (scores in seconds)



The Table shows that Scheffe's confidence interval values of Breath Holding Time of yogic practices with and without diet modification groups and control group of Low back pain for middle age men.

The findings of the study on Breath Holding Time reveal that the experimental groups namely EX.GR-I (yogic practices), EX.GR-II (physiotherapy) and EX.GR-III (combined) had significantly improved after the training. Besides, the results of the study indicated that there was significant difference between the EX.GR-I (yogic practices), EX.GR-II (physiotherapy) and EX.GR-III (combined).

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Discussion on Hypothesis

The hypothesis results shows that the calculated 'F' value is greater than the table value on the Breath Holding Time among Low back pain for middle age men for post test scores as Breath Holding Time is increased. This proves that there was significant difference between the experimental groups and control group. Hence the hypothesis was accepted at 0.05 level of significance.

Conclusion

There was a significant improvement in Breath Holding Time of experimental groups when compared to the control group. Combined group (Yogic practices with physiotherapy) group has shown mild improvement than the Yogic practices group and physiotherapy)group.

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