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Investigation on the impact of selected asana, combined asana and pranayama practices on abdominal strength of college male students

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Abstract

The purpose of the present study was to analyze the effect of asana, combined asana and pranayama practices on abdominal strength of college male students. For the study, 60 college men students were selected from Mahatma Jyotirao Phule Sharirk Shikshan Mahavidyalaya, Nagpur, Maharashtra. Age = 18 and 22 was randomly selected as subjects. They were divided into three equal groups, asana training group (n = 20) combined practices of asana and Pranayama Group (n = 20) and Control Group (n = 20). The bent leg curl up test was used to analyze the abdominal strength. It was recorded as a pre-test and post-test. The training consists of 6 weeks for both groups, selected asana was practiced by the asana group and asana and pranayama were practiced by the combined training group for 5 days in a week and 45 min/day, and the training program was modified once in every 2 weeks, Control Group has not involved any specific training. The data were collected and analyzed using ANCOVA. Further, Scheffe's post hoc test was applied to know the paired mean difference if the optioned "F" ration was significant. Level of confidence was fixed at 0.05. The resulted study shows that subjects performing combined practices of asana and Pranayama Group were found to be significant in abdominal strength than the other two groups.

Keywords: Abdominal strength, asanas, pranayama

Introduction

Yoga is a way of life, a conscious act, not a set or series of learning principles. Derived from the Sanskrit root "Yujir Yogey" meaning to unite, to yoke, to join, to put together, yoga is not about mind over body. On the other hand, yoga is about developing harmony between them. Yoga is a 5000 years old science whose teachings were first imparted not in a classroom or Gurukul, but on the battle field in the epic Mahabharata, the sage, Lord Krishna is first said to have imparted the teachings of yoga to his despondent student Arjuna. Around 1500 years later, another sage, Patanjali, went on to enunciate, for the benefit of humankind and eternity, the way to reach the summum bonum of life through a series of 195 aphorisms (sutras) in his epic treatise the Yoga Sutras of Patanjali.

The word "Yoga" originates from Sanskrit and means "to join, to unite". Yoga exercises have a holistic effect and bring body, mind, consciousness and soul into balance. In this way Yoga assists us in coping with everyday demands, problems and worries. Yoga helps to develop a greater understanding of our self, the purpose of life and our relationship to God. On the spiritual path, Yoga leads us to supreme knowledge and eternal bliss in the union of the individual Self with the universal Self. Yoga is that supreme, cosmic principle. It is the light of life, the universal creative consciousness that is always awake and never sleeps; that always was, always is, and always will be.

Many thousands of years ago in India, Rishis (wise men and saints) explored nature and the cosmos in their meditations. They discovered the laws of the material and spiritual realms and gained an insight into the connections within the universe. They investigated the cosmic laws, the laws of nature and the elements, life on earth and the powers and energies at work in the universe both in the external world as well as on a spiritual level. The unity of matter and energy, the origin of the universe and the effects of the elementary powers have been described and explained in the Vedas. Much of this knowledge has been rediscovered and confirmed by modern science.

These are experiences and insights a far-reaching and comprehensive system known as Yoga originated and gave us valuable, practical instructions for the body, breath, concentration, relaxation and meditation. The practices that this book offers have therefore already proven themselves over thousands of years and have been found to be helpful by millions of people.

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The system "Yoga in Daily Life" is taught worldwide in Yoga Centres, Adult Education Centres, Health Institutions, Fitness and Sports Clubs, Rehabilitation Centres and Health Resorts. It is suitable for all age groups - it requires no "acrobatic" skills and also provides the unfit, as well as handicapped, ill and convalescent people, the possibility of practicing Yoga. The name itself indicates that Yoga can be and should be used "in Daily Life".

The exercise levels were worked out in consultation with doctors and physiotherapists and can therefore with observation of the stated rules and precautions be practiced independently at home by anyone. "Yoga in Daily Life" is a holistic system, which means it takes into consideration not only the physical, but also the mental and spiritual aspects. Positive Thinking, perseverance, discipline, orientation towards the supreme, prayer as well as kindness and understanding form the way to Self-Knowledge and Self-Realization.

Asana is stability and comfort experienced in the position. After attaining the position, one needs to relax all the muscles and try to maintain the positions for long. Due to various twists, stretches, and strains in the body, the internal organs are stretched and subjected to strain. This increases the blood supply, oxygen supply to the organs increasing the efficiency and functioning of the organ. There are eight types of Pranayama mentioned in Hatha Yoga. One of the basic preparations for Pranayama is Nadi Shodhan Pranayama or alternate nostril breathing, alternate nostril breathing has calming effect on nervous system, and also in muscular system. Furthermore, research has shown that Bhramari and Bhastrika Pranayama help in abdominal strength. In Bhastrika Pranayama, the abdominal muscles are used which puts pressure on the internal organs.

Methodology

The aim of the present study was to find out the effect of selected asana practices and combined practices of asana and pranayama on abdominal strength of college men students. For this purpose, 60 college men students were selected from Mahatma Jyotirao Phule Sharirk Shikshan Mahavidyalaya, Nagpur, Maharashtra, India. (Age = 18 and 22), the random group design was used as experimental design. The subjects were divided into three equal groups that consist of 20 each. The age group of 18–20. Asana Practice Group (n = 20) combined practices of asana and Pranayama Group (n = 20) and Control Group (n = 20). After dividing three groups, namely, experimental Group-I, Experimental Group-II, and Control Group. Experimental Group-I underwent Asana Practice Group, Experimental Group-II underwent combined practices of asana and pranayama group. Control Group has not involved any specific training. The bent leg curl up test was used to analyze the abdominal strength. It was recorded as a pre-test and post-test. The training consists of 6 weeks for both groups, selected asana was practice by the asana group (Salabasana, Halasana, Virkasna, Sarvangasana, Shavasana, Viparita karani, Mayurasana, Bhujangasana, Makrasana, Dhanurasana, Ardhamatsyendrasana Vajrasana, Yoga Mudra, and Pavan Muktasana) and asana and pranayama were practiced by the combined practices group (alabasana, Halasana, Virkasna, Sarvangasana, Shavasana, Viparita karani, Mayurasana, Bhujangasana, Makrasana, Dhanurasana, Ardhamatsyendrasana Vajrasana, Yoga Mudra, Pavan Muktasana and Nadi Sudhi, Nadi Shodhana

Pranayama, Bhramari, and Bhastrika Pranayama) for 5 days in a week and 45 min/day, and the training program was modified once in every 2 weeks.

Statistical technique

Analysis of data using ANACOVA showed that there were significant difference between Experimental Groups and Control Group. The level of significance was fixed at 0.05 level ($p < 0.05$) of confidence. The F ratio was significant then the Scheffe’s test for the differences of the adjusted post-test paired means of bent leg curl up was conducted and presented in this study.

From Table 1, the mean and standard deviations of the pre-test for asana practice group were 27.9 and 2.55 for Combined Asana and Pranayama practices group 27.45 and 1.50 and for Control Group 27.6 and 2.84, respectively. The mean and standard deviations of the post-test for asana Practice Group were 32.45 and 2.42 for Combined Asana and Pranayama practices group 33.6 and 2.41 and for Control Group 26.75 and 2.17, respectively. The analysis of covariance was calculated and presented in Table 2.

Table 1: The Summary of Mean and Standard Deviation for the Pre-and Post-tests on Bent Leg Curl Up of Asana Practices Group Combined Asana and Pranayama Practices Group and Control Group

Groups	Pre-test		Post-test	
	Mean	SD	Mean	SD
APG	27.9	2.55	32.45	2.42
APCPG	27.45	1.50	33.6	2.41
CG	27.6	2.84	26.75	2.17

Table 2 shows that the adjusted post-test mean for asana practice group is 32.26 and the adjusted post-test mean for combined asana and pranayama practices group is 33.75 and the adjusted posttest mean for control group is 26.79. The obtained F ratio was 116.74 and this value was greater than the table value of 3.16 at 0.05 level of confidence. Since the F ratio was significant, then the Scheffe’s test for the differences of the adjusted post-test paired means of bent leg curl up was conducted and presented in Table 3.

Table 2: Analysis of Covariance on Bent Leg Curl Up of Asana Practices Group, Combined Asana and Pranayama Practices Group, and Control Group

Adjusted post-test mean			Source	SS	df	MS	F
APG	APCPG	CG					
32.26	33.75	26.79	Between	537.77	2	268.88	116.74
			within	128.99	56	2.3	

Significant at 0.05 level of confidence. The table value is 3.16.

Table 3: Scheffe’s Test for the Differences of the Adjusted Post-test Paired means of Bent Leg Curl Up

Adjusted Post-Test Means			Mean	Confidence
APG	APCPG	CG	Differences	Interval Value
32.26	33.75		1.49	1.21
32.26		26.79	5.47	
	33.75	26.79	6.96	

Table 3 shows that the mean difference in bent leg curl up between Asana Practice Group and Combined Asana and Pranayama Practices Group was 1.49, the mean difference between Combined Asana and Pranayama Practices Group and Control Group was 5.47 and the mean difference

between Asana Practice Group and Control Group was 6.96 and the confidence interval value was 1.21. Mean difference value was greater than the confidence interval value so the Asana Practice Group was better when compare with Combined Asana and Pranayama Practices Group and both Asana Practice Group and Combined Asana and Pranayama Practices Groups were higher value than the Control Group and both the groups were better when compare with the Control Group.

Conclusions

Analysis of data using ANACOVA showed that there was significant difference between Experimental Groups and Control Group on the abdominal strength. The significant improvement in the abdominal strength highlights the effect of asana practice and combined asana and pranayama practice group, the control group did not participate any kind of program specifically for improving the selected variable level. Regarding the improvement among the two practice groups, the Combined Asana and Pranayama Practice Group showed better in the abdominal strength.

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