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Effect of pranayama on cardio respiratory functions of school girls

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Abstract

The practice of Yoga is believed to have started with the very dawn of civilization. The science of yoga has its origin thousands of years ago, long before the first religions or belief systems were born. In the yogic lore, Shiva is seen as the first yogi or Adiyogi, and the first Guru or Adi Guru. Pranayama means control over energy in the body. If one can control one's energy, then one can withdraw it from the outer senses and up the spine, thereby raising one's consciousness. Traditionally pranayama is used to mean control over the breath, but it is actually controlling the energy in the body via control of the breath.

Purpose: The purpose of the study was to know the "Effect of Pranayama on Lungs Functions of High School Girls".

Procedure: In this study The selected sample consists of Thirty School girls. The age group of subjects ranges from 13-15 years. Here selected various breathing components like fast pranayama is independent variable and slow pranayama is dependent variable. For this study researcher choosen the pre test and post test of vo2 max to observe the effect of independent variable fast pranayama and slow pranayama.

Statistical Teqnique: The data were analysed statistically, apart from the descriptive statistics, independent samples t test was used to determine the significant changes in pranayama in 6 pranayama training programe. To compare the changes in variables between two groups one way ANOVA was used. The level of significance was $p \leq 0.05$.

Keywords: The results found from control group result analysis that there's increase in vo2 in high school girls

Introduction

Yoga is essentially a spiritual discipline based on an extremely subtle science, which focuses on bringing harmony between mind and body. It is an art and scince of healthy living. The word 'Yoga' is derived from the Sanskrit root 'Yuj', meaning 'to join' or 'to yoke' or 'to unite'. Pranayama (prana = energy + yama = control) is a type of meditation technique that involves various ways of controlling the breathing, with the goal being to withdraw ones senses from the outside world. This helps one to raise one's prana (or Kundalini energy in this case) up the deep spine to the spiritual eye or sixth chakra, which brings one to enlightenment. Kriya Yoga is one such technique, made well known by Paramhansa Yogananda in Autobiography of a Yogi. It is also the fourth limb of spiritual advancement as laid out in Patanjali's Yoga Sutras. Kapalbhathi pranayama is a yogic breathing practice that is considered a kriya, or internal purification practice. The term is derived from the Sanskrit, kapal, meaning "skull" and bhathi, meaning "to shine". Bhastrika pranayama is one of the conscious breathing techniques of yoga. Bhastrika is a Sanskrit term meaning "bellows." This Hatha yoga breathing technique promotes physical and mental health. The major need for selecting this problem is to investigate the effect of six weeks pranayama training. "effect of pranayama on cordiorepiratory funcations of high school girls and how pranayama improve the cordiorepiratory funcation of selected high school girls".

Methodology

To achiveb the purpose of the investigation, the researcher had selected a total of twenty (N=20) school girls from GHS of Uttangi using simple randomized sampling technique. The age group of subjects range from 13-15 years. For this study choosen the pre test and post test only design to observe the effect of independent variable fast pranayama and slow pranayama

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of school girls. Total subjects (N=20) divided in two groups on randomization technique. One group was 10 members of controlled group. Pretest (before treatment) was conducted for both the teams to measure breathing strength and scores were recorded. After pretest, only experiment group has undergone pranayama training program, twice in a week for continuous of 6 weeks. Other group (controlled group) has not undergone any type of training and they were in formed to fallow their daily routine. After 6 weeks of pranayama training the post test was conducted for both the controlled and experiment groups and scores were recorded to observe the effect of pranayama training on players fast pranayama and slow pranayama in experimental group.

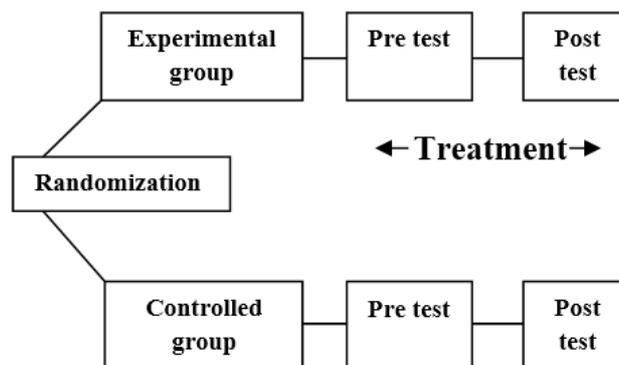


Table 1: List of study variables, Name of the and tools used to measure variables.

Sl. No	Variables	Equipment	Criterion Measers
01	Vital capacity	Spirometry	Miley liter

Table 2: Components of six weeks pranayama trainnig program.

4 weeks kapalbhathi pranayama and Bashthrika pranayama Training Program.			
Weeks	Schedule	Timings	Duration
1st Week	Preliminary yogic exercise	5minutes	20minutes
	Practice of kapalbhathi and bashthrika pranayama (9 Rounds 1Set)	10minutes	
	Relaxation Postiure	5minutes	
2nd Week	Preliminary yogic exercise	5minutes	25mimutes
	Practice of kapalbhathi and bashthrika pranayama (9 Rounds 2set)	15minutes	
	Relaxation Postiure	5minutes	
3rd Week	Preliminary yogic exercise	5minutes	30minutes
	Practice of kapalbhathi and bashthrika pranayama (9 Rounds 3set)	20minutes	
	Relaxation Postiure	5minutes	
4th Week	Relaxation yogic exercise	5minutes	35minutes
	Practice of kapalbhathi and bashthrika pranayama (9 Rounds 4set)	25minutes	
	Relaxation Postiure	5minutes	
5th week	Preliminary yogic excrise	5minutes	40minutes
	Practice of kapalbhathi and bashthrika pranayama (9rounds 4set)	30minutes	
	Relaxation postiure	5minutes	
6th week	Relaxation yogic exercise	5minutes	45minutes
	Practice of kapalbathi and bashthrika pranayama(9Rounds 4set)	35minutes	
	Relaxation postiure	5minutes	

Statistical analysis

In the jet age the science of pranayama training has made tremendous progress to device ways and means to gain breathing capacity. Strength cannot be achieved or developed without the resistance training. Experts have been experimenting with various training programmes to enhance the performance with the aid of pranayama training. Training schedule with the best equipment has had an impact on sports persons to improve in their performance.

The objective of the study is to determine the effect of weight training on explosive strength of high school boys volleyball players. The independent variable considered under the study is pranayama training and the dependent variables are arm fast pranayama and slow pranayama. The data collected was subjected to the analysis and the results obtained using appropriate statistical tools are discussed briefly in this

chapter. The results of the study are as under, the mean, S.D, and ‘t’- test of the subjects are presented in the tables below.

Table 3: Descriptive statistics for fast pranayama and slow pranayama pretest-posttest

Descriptive Statistics				
	Groups	Mean	Std. Deviation	N
prevo2	G1	2110.0000	341.40234	10
	G2	2160.0000	333.99933	10
	G3	2020.0000	161.93277	10
	Total	2096.6667	287.05801	30
postvo2	G1	2490.0000	299.81476	10
	G2	2520.0000	304.77679	10
	G3	1990.0000	137.03203	10
	Total	2333.3333	351.67906	30

Table 3: Tests of within-subject Effects.

Tests of Within – Subjects Effects						
Measure: MEASURE_1						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	
Change	840166.667	1	840166.667	64.720	.000	
change*groups	534333.333	2	267166.667	20.581	.000	
Error(change)	350500.000	27	12981.481			

Table 4: Tests of Between-Subjects Effects.

Tests of Between – Subjects Effects					
Measure: Measure_1 Transformed Variable: Average					
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Intercept	294373500.000	1	294373500.000	2118.077	.000
Groups	1339000.000	2	669500.000	4.817	.016
Error	3752500.000	27	138981.481		

Vo2 score pre and post test.

In the pre test vo2 score for 2096.67 increase to 2332.33 for month and increase of 36.66 increase is point to be highly signification. (F=64.72 - P=.000).

Group was comparison in a again vo2 signification change 3 - 4. (F=20.581-P=.000) from the Mean Values groups 1 and 2

have increase there vo2 value from 3, 2, 6, 4 in group 3 is and increase of vo2 score. Group 1 and 2 increase. 380' and 360' in the pre to post test. Group 3 increase from pre to post test.

It's found from pre test -post test result analysis that there's increase in vo2 in high school girls.

Table 5: t test for fast pranayama vital capacity pretest-posttest (group-1)

Paired Samples Statistics						
		Mean	N	Std. Deviation	Std. Error Mean	
Pair1	Pre vo2	2110.0000	10	341.40234	107.96090	
	Post vo2	2490.0000	10	299.81476	94.80975	
Paired Samples Test						
		Paired Differences		T	Df	Sig.(2-tailed)
		Mean	Std. Deviation			
Pair1	prevo2-postvo2	-380.00000	161.93277	-7.421	9	.000

In the pre test Vo2 values 2110.000 and in the score vo2 values increase to 2490.000 and increase of 341.40234 for point to be signification. T value of 7.42Hu It's found from

pre test result analysis that there's increase in vo2 inhigh school girls.

Table 6: t test for slow pranayama vital capacity pretest-posttest (group-2)

Paired Samples Statistics						
		Mean	N	Std. Deviation	Std. Error Mean	
Pair1	prevo2	2160.0000	10	333.99933	105.61986	
	postvo2	2520.0000	10	304.77679	96.37888	
Paired Samples Test						
		Paired Differences		T	Df	Sig.(2-tailed)
		Mean	Std. Deviation			
Pair1	prevo2-postvo2	-360.00000	134.98971	-8.433	9	.000

In the pre test vo2 values 2160.000 and in the score vo2 values increase to 2520.000 and increase of 333.99933 for point to be signification. T value of 8.43 point to be

signification at 000 value.

It's found from post test result analysis that there's increase in vo2 in high school girls.

Table 7: t test for control group pretest-posttest (group-3)

Paired Samples Statistics							
		Mean	N	Std. Deviation	Std. Error Mean		
Pair1	prevo2	2020.0000	10	161.93277	51.20764		
	postvo2	1990.0000	10	137.03203	43.33333		
Paired Samples Test							
		Paired Differences			T	df	Sig.(2-tailed)
		Mean	Std. Deviation	Std. Error Mean			
Pair1	prevo2- postvo2	30.00000	182.87822	57.83117	.519	9	.616

In the pre test vo2 value 2020.000 and in the score vo2 value increase to 1990.0000 and increase of 161.93277 for point to be signification. T value of 57.83117 point to be signification at 616 value.

Conclusion

In this study found from control group result analysis that there's increase in vo2 in school girls.

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