



P-ISSN: 2394-1685
E-ISSN: 2394-1693
Impact Factor (ISRA): 5.38
IJPESH 2021; 8(4): 277-278
© 2021 IJPESH
www.kheljournal.com
Received: 17-05-2021
Accepted: 21-06-2021

Kaushik C Macwan
Ph.D. Research Scholar, Gujarat
Vidyapith, Ahmedabad, Faculty
of Physical Education & Sports
Science, At. Sadra, Gandhinagar,
St. Gujarat. India

Dr. Kamleshkumar P Patel
Professor / Co-ordinator, Gujarat
Vidyapith, Ahmedabad
Mahadev Desai Samajseva
Sankul Nr. Income tax office,
Ashram Road, Ahmedabad,
Gujarat, India

Corresponding Author:
Kaushik C Macwan
Ph.D. Research Scholar, Gujarat
Vidyapith, Ahmedabad, Faculty
of Physical Education & Sports
Science, At. Sadra, Gandhinagar
St. Gujarat. India

A study of the effect on the ability to breath hold and vital capacity through swimming training program

Kaushik C Macwan and Dr. Kamleshkumar P Patel

Abstract

The purpose of this research study was to study the effect of swimming training program on Vital Capacity and respiratory capacity. A total of 60 students of Sakar School in Chandkheda area of Ahmedabad district were selected in this research study. The study will be limited to students in the age group of 12 to 15 years. Selected students were trained in swimming. The Criterion Measures for Vital Capacity Spirometer and Breath hold clip test. For this research studies keeping in view the objective, total 60 subjects were selected and were equally divided into two groups of 30 each. Group A of 30 subjects for swimming Training, Group B Group B of 30 subjects treated as a control group for the study. Six (6) weeks of training was imparted for various selected subjects.

For the purpose of this study, one experimental group and one control group pre and post test design was used. For the analysis of collected data, Analysis of Co-Variance (ANCOVA). LSD was used as post hoc test to compare the means of various altitude. The level of significance was set at 0.05.

Keywords: school students players, vital capacity, breath hold capacity & swimming training

Introduction

Swimming is at the forefront of exercises, exercises or sports that balance the stresses of today's heterogeneous mechanized life, torn between both mental and physical events. The benefits of refreshing open air and sunlight are automatically reaped by having to resort to state-of-the-art swimming pools, rivers, lakes, ponds, seas or other natural reservoirs to perform this activity. The exercise of swimming alone can give equal pleasure to men of any age. Strong, healthy, crippled, deaf, dumb, everyone can take advantage of it. Swimming exercises should never be frustrating. Because once you learn to swim, you will never forget it, so the mind is drawn towards gaining more and more proficiency in the art of swimming. That is why swimming is becoming more and more varied day by day.

The human body is like a wonderful machine. The science that gives us information about the structure of the body is called physiology. This scripture gives us an idea about the size and shape of the body and its various organs, its relation to other organs, its composition and its chemical process etc. Each part of the body has its own specific function. Our body has systems like nervous system, ossicles, nervous system, circulatory system, respiratory system, digestive system, glandular system, reproductive system as well as excretory system for specific function. Our body is a masterpiece of nature. The body is a living machine. The science of knowing how the various organs of the body work is called physiology. Physiology provides information on how the organs of the body function, when they function, and why they function. Learning physiology gives knowledge of different organs of the body, their place-function in the body etc. With the knowledge of physiology we can maintain good health. The human body is like a machine. It follows certain rules and laws. With the knowledge of physiology, we know where the body is damaged and what should be done to remove that damage? The study of physiology leads to an understanding of the structure of the body and its functions.

Objective

The purpose of this research study was to study the effect of swimming training program on Vital Capacity and respiratory capacity.

Methodology

A total of 60 students of Sakar School in Chandkheda area of Ahmedabad district were selected in this research study. The study will be limited to students in the age group of 12 to 15 years. Selected students were trained in swimming. The Criterion Measures for Vital Capacity Spirometer and Breath hold clip test. For this research studies keeping in view the objective, total 60 subjects were selected and were equally divided into two groups of 30 each. Group A of 30 subjects for

swimming Training, Group B Group B of 30 subjects treated as a control group for the study. Six (6) weeks of training was imparted for various selected subjects.

For the purpose of this study, one experimental group and one control group pre and post test design was used. For the analysis of collected data, Analysis of Co-Variance (ANCOVA). LSD was used as post hoc test to compare the means of various altitude. The level of significance was set at 0.05.

Results

Table 1: Analysis of covariance for the two experimental groups and the control group in Vital Capacity

Test	Group - A Swimming Group	Group- B Control Group	(SS)		(DF)	(MSS)	F
			B	W			
Pre-Test Mean	363.333	339.333	B	8640	1	8640	2.564
			W	195453.333	58	3369.886	
Post-Test Mean	394.667	351	B	28601.667	1	28601.667	8.429*
			W	196816.667	58	3393.391	
Adjusted Mean	383.348	362.319	B	6352.866	1	6352.866	15.790*
			W	22932.952	57	402.333	

* Significant at 0.05 level $F(1, 58) = 4.006$ & $(1, 57) = 4.009$

The 'F' ratio of the pre-test was found to be 2.564 in Table-1 above. Which was not found to be meaningful at the level of (4.006) 0.05 compared to the table value. The 'F' ratio of the final test was found to be 8.429. Which was found to be

meaningful at the level of (4.006) 0.05 compared to the table value. The 'F' ratio of the revised median was found to be 15.790. Which was found to be meaningful at the level of (4.009) 0.05 compared to the table value.

Table 2: Analysis of covariance for the two experimental groups and the control group in breath hold

Test	Group - A Swimming Group	Group- B Control Group	(SS)		(DF)	(MSS)	F
			B	W			
Pre-Test Mean	30.2	31.133	B	8640	1	8640	2.564
			W	195453.333	58	3369.886	
Post-Test Mean	43.633	30.867	B	28601.667	1	28601.667	8.429*
			W	196816.667	58	3393.391	
Adjusted Mean	43.660	30.840	B	6352.866	1	6352.866	15.790*
			W	22932.952	57	402.333	

* Significant at 0.05 level $F(1, 58) = 4.006$ & $(1, 57) = 4.009$

The 'F' ratio of the pre-test was found to be 2.323 in Table 2 above. Which was not found to be meaningful at the level of (4.006) 0.05 compared to the table value. The 'F' ratio of the final test was found to be 241.800. Which was found to be meaningful at the level of (4.006) 0.05 compared to the table value. The 'F' ratio of the revised median was found to be 230.826. Which was found to be meaningful at the level of (4.006) 0.05 compared to the table value.

Findings

- There was a significant improvement in the Vital Capacity of the subjects selected from the systematic Six week swimming training program.
- The systematic Six week swimming training program showed a significant improvement in the breathing capacity of the selected subjects.

References

- Gandhi, Harkishandas *et al.*, Human Physiology Obstetrics and Child Raising, 2nd ed.; Ahmedabad: Parshva Prakashan 1990.
- Raj, Jai Chandusinh. News Bulletin, Patiala: NSN eye. S April 1988.
- Laxmikant, Guneshwar Singh, Anatomy, Kriya Vigyan, Jaipur: College Book Depot 1987.
- Verma Prakash J. A Textbook on Sports Statistics, Gwalior: Venus Publications 2000.