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# ANALYSIS ON IMPACT OF SWIMMING TRAINING ON MASCULAR STRENGTH AMONG THE SWIMMERS

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**Abstract**

Swimming is the self-impetus of an individual through water, or a fluid substance, normally for diversion, game, exercise, or endurance. Velocity is accomplished through facilitated development of the appendages and the body. People can pause their breathing submerged and embrace simple train swimming promptly after birth, as an endurance response. Swimming is reliably among the top public sporting activities, and in certain nations, swimming exercises are a mandatory piece of the instructive curriculum. In the present research study, middle age swimmers from Shree Hanuman VyayamPrasarakMandal's Aquatic Center, Amravati was the source of data. In the present research study, middle age swimmers who did the daily practice in Shri. H. V. P. Mandal's Swimming Pool, Amravati, was selected as subjects. The age of the selected subjects was ranging from 35 to 44 years age group.The research study was formulate as a simple random group design consisting of a pre-test and post-test. For control group no specific training was given, except their daily work. The training given as per scheduled to the experimental groups only. The training period was 60 minutes per day, 6 days in a week for 90 day's. There is a significant difference in post test means of control and experiment group. Therefore, the swimming training programme administered on experimental group improves muscular arm strength of the swimmers.

**Keywords**: Swimming, exercise, endurance, trainning

## Introduction

Gurgling motion in swimming - Bubbles Blowing Bubbles teaches exhalation: blowing bubbles through the mouth is the precursor to exhalation underwater. Basically, no matter what moment your face is in the water, you must breathe out continuously and easily. Exhaling releases stress from your body and helps your body stay away from worry for longer. You can exhale through your mouth or nose or both. Try to make a steady even flow of air pockets. Free-form breathing involves continuously inhaling pockets of air into the

water through your mouth or nose, except when you turn your head out of the water and inhale. Because people are generally uncomfortable underwater, they tend to inhale when their head is above water and then hold their breath during the stroke. They linger as long as possible to exhale a large pocket of air into the water, causing a splash. Built-in infiltration forces you to constantly supply air. When you lift your head out of the water, you are relaxed and ready to take a breath. Carbon Dioxide Abundance: When swimming, exertion is your enemy. If you stop breathing, your body starts to panic. The lack of oxygen is coordinated by an increase in carbon dioxide in the lungs and circulatory system, which induces the anxiety of slow breathing. Exhaling a steady stream of air pockets as you swim will keep carbon dioxide in your frame, and you won't feel the jitters after your next breath. If you try to breathe in and out while your head is above water, you will break one of so many functions in a short period of time. Knitting and Bubble: You can do activities that help you feel more comfortable using the built-in breathable air pockets and work on your method. Jumping, where you go under water and gradually inhale pockets of air through your nose and mouth, is a way to learn about breathing control. When you return to the surface, inhale and then dive back into the water and exhale again. As described in the book "Janet Evans' Total Swimming" by Olympic swimmer Janet Evans, Evans used an action where she grabbed the edge of the pool, took a deep breath, and then lowered her head and body under the water. Then at that moment he blew air out of his nose, clearing his lungs, rising before emerging. The strategy is a basic but useful approach to controlling foaming.

**The study reveals that-**

Kay Latto (1981) showed that swimming is extremely high on the rundown of well known exercises accessible to intellectually debilitated individuals. The sporting, instructive, and restorative worth of water has for quite some time been perceived (Lepore, Gayle and Stevens 2007). Numerous writers and articles portray that the water climate can be utilized for restoration, treatment, guidance, instruction, relaxation, rivalry, and entertainment. Moreover, Physiological, mental, and social advantages can be acquired from swimming. It likewise give singular worth a chance to a long lasting sporting outlet with companions and family (Paul Jansma 1988 p.312). Significant objectives of a swimming system for

understudies with inabilities incorporate appreciating water exercises, figuring out how to swim, and working on swimming execution.

Hough, considered the impact of preparing on the exhibition of swimmers. The swimmers were given the gurgling preparing half a month. After the preparation for swimming it found that there was an improvement in the exhibition of the swimmers. Natural impacts of drenching in water up to the chest or higher can worked on lymphatic pressure, venous pressure, expanded focal blood volume, expanded heart volume, expanded oxygen conveyance, expanded blood stream, offloading of body weight, diminished joint pressure with development (Lepore, Gayle and Stevens 2007).

## METHODOLOGY

As every research demands a systematic method and procedure, like wise this chapter adopts the following procedure including information regarding –

### Sources of Data

In the present research study, middle age swimmers from Shree Hanuman VyayamPrasarakMandal's Aquatic Center, Amravati was the source of data.

### Selection of Subjects

In the present research study, middle age swimmers who did the daily practice in Shri. H. V. P. Mandal's Swimming Pool, Amravati, was selected as subjects. The age of the selected subjects was ranging from 35 to 44 years age group

### Sampling Procedure

Procedure adopted for the selection of subjects was purposive sampling method.

### Experimental Design

The research study was formulate as a simple random group design consisting of a pre-test and post-test.

For control group no specific training was given, except their daily work. The training given as per scheduled to the experimental groups only. The training period was 60 minutes per day, 6 days in a week for 90 day's. Exercise was introduced in progressive

manner and adopted simple to complex procedure. The variables measurement for all four groups in the beginning was pre-test and at the end of the experimental period means after 90 day's again all the variables was measured for all four groups is post-test.

**Administrationof Test**

**Push-ups**

**Purpose:**To measuremuscularstrengthofthesubjects.

**Equipments:**Mats

**Procedure:** The subjects being tested took prone lying position on theground with the hands under the shoulders and fingers stretched, legsstraight and parallel with comfortably apart and the toes tucked underthe feet. On the command "Go" the subjects performed push-ups withthe arms and extended it completely. The legs and back were keptstraight throughout the test. Then the subjects lowered his body usingthearmuntilitcameto90degreeangleandupperarmswereparallelto the ground. Theaction willberepeatedas manytimesas possible.

**Scoring:** Total number of correct push-ups will be recorded as thescoreof the subject.

**Analysis of Covariance (ANCOVA) for Push-ups performance of 35-44 years age group Experimental and Control Group swimmers**

**ANOVA table for Pre-Test (x) and Post Test (y) scores**

| Source of Variance | d.f. | SSx | SSy | MSSx | MSSy | Fx | Fy |
|---|---|---|---|---|---|---|---|
| Treatment group means | 1 | 1.35 | 114.82 | 1.35 | 114.82 | $0.213^{@}$ | 23.435* |
| Error | 58 | 367.90 | 284.17 | 6.34 | 4.90 | | |

*Significant and $^{@}$Not Significant at 0.05 Tabulated $F_{0.05(1,58)}$= 4.00

Findings of above table reveals that there is no significant difference among the pre-test means of experimental and control groups in respect to push-ups performance, because the calculated Fx = 0.213 is less than the tabulated F-value of 4.00 at 0.05 level for 1/58

degrees of freedom. But Fy = 23.435 is significant indicating in post test there is significant difference in push-ups performance of experimental and control group.

**Analysis of Covariance**

| Source of Variance | d.f. | SSx | SSy | SSxy | SSyx | MSSyx | Fyx |
|---|---|---|---|---|---|---|---|
| Treatment group means | 1 | 1.35 | 114.82 | -12.45 | 135.17 | 135.17 | 162.887 * |
| Error | 57 | 367.90 | 284.17 | 295.20 | 47.30 | 0.83 | |

*Significant and @Not Significant at 0.05 Tabulated $F_{0.05(1,57)}$= 4.00

Since the calculated Fyx = 162.887 is greater than Tabulated F0.05(1,57)=4.00, it is quite clear that the swimming training programme is not equally effective in improving the push-ups performance of control and experimental group. To find out which group is more effective, pairwise comparison analysis on adjusted means of post test data would be carried out.

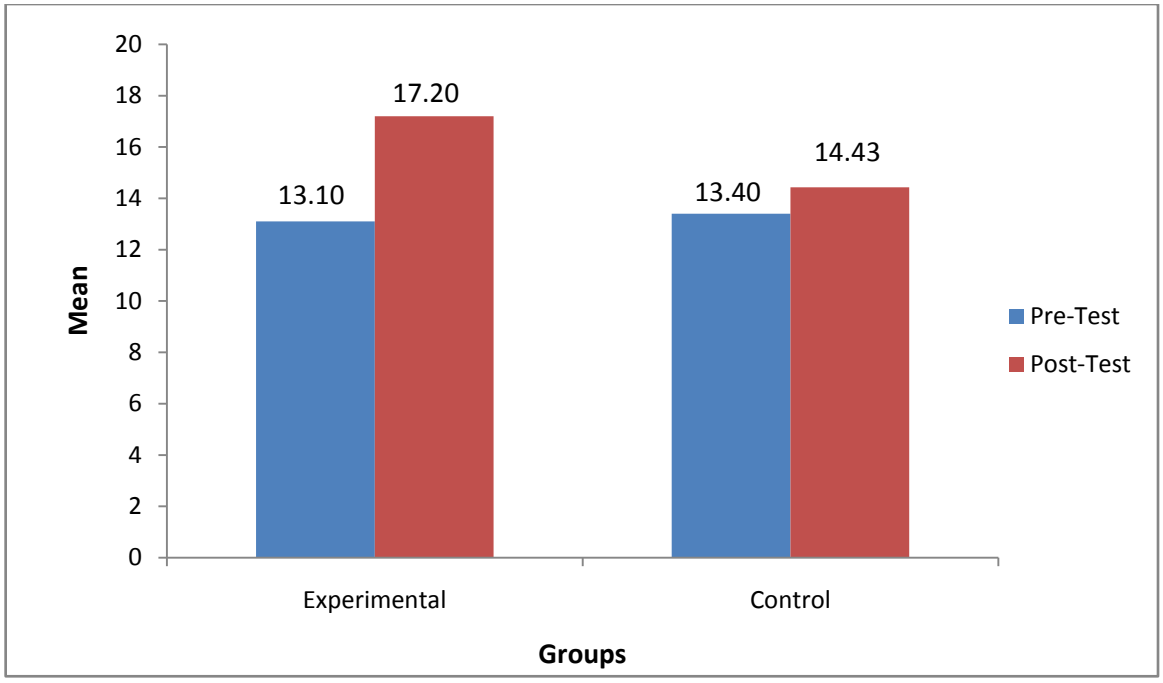
**Group Means and Adjusted Final Means**

| **Groups** | **Samples size** | **Mx** | **My** | **Mean adjusted Myx** |
|---|---|---|---|---|
| Experimental | 30 | 13.10 | 17.20 | 17.32 |
| Control | 30 | 13.40 | 14.43 | 14.31 |

**Testing Significance of Difference among Adjusted Post Test Means of Experimental and Control Groups using LSD Test**

| **Experimental Group** | **Control Group** | **Mean Difference** | **Critical Differece** |
|---|---|---|---|
| 17.32 | 14.31 | 3.01* | 0.47 |

From the above findings it is evident that MD=3.01 > CD=0.47, hence there is a significant difference in post test means of control and experiment group. Therefore, the swimming training programme administered on experimental group improves muscular arm strength of the swimmers.




## Results

The pre-test means of experimental and control groups in respect to push-ups performance, because the calculated Fx = 0.213 is less than the tabulated F-value of 4.00 at 0.05 level for 1/58 degrees of freedom. But Fy = 23.435 is significant indicating in post test there is significant difference in push-ups performance of experimental and control group. Since the calculated Fyx = 162.887 is greater than Tabulated F0.05(1,57)=4.00, it is quite clear that the swimming training programme is not equally effective in improving the push-ups performance of control and experimental group. To find out which group is more effective, pairwise comparison analysis on adjusted means of post test data would be carried out.

## Conclusion

From the above paper, it concludes that there is a significant difference in post test means of control and experiment group. Therefore, the swimming training programme administered on experimental group improves muscular arm strength of the swimmers.

**References**

1. Astrand, P. and Kaaxe R., Text Book of Work Physiology, (McGraw Hill Book Company, New York, U.S.A. 1977).
2. Berg Ardy Fred, The Factnan File Dictionary of Fitness, (New York : Fact On File Publication, 1984)
3. Bucher Charles A., Administration of School Health and Physical Education Programme, (Ed2; St, Louis: The C.V. Mosby Company, 1978).
4. Clark H.Harrison, Application of Measurement to Health and Physical Education (5th Ed., Englewood Cliffs, N.J: Prentice Hall, Inc., 1976), pp.84-85.
5. Crider A.B., et.al., Psychology (3rd Ed. USA: Fireman and Company, 1989)
6. Faigenbaum Avery D., Wayne L. Westcott, Youth strength training : programs for health, fitness, and sport, (2nd Ed., Published in 2009 by Human Kinetics), p-6.
7. Forsberg Gerald, First Stroke in Swimming, (London: Routledge and Kegan Paul; 1961), p.9.