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Effect of strength training exercises for development of speed among free style event in swimming

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Abstract

The purpose of the present study to find out the effect of strength exercises for the development of speed in Freestyle swimming. The sample for the present study consists of 20 Male Swimmers, aged 21 ± 2 , of Lakshmbai National Institute of Physical Education, Gwalior, out of which 10 are experimental group and 10 are controlled group. Strength exercises such as biceps curls, bench press, front press, back press etc. were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for eight weeks. Pre Test and Post Test was conducted 50 M Free Style swimming to assess the speed. To see the effects of Strength Training Exercises for Development of Speed among Free Style Event in Swimming, the dependent t-test was employed and found significant difference at 0.05 level of significance, in speed of free style event swimmers. This study shows that due to the strength training there is an improvement of experimental group in the 50 M free style swimming compare to the controlled group. Strength training is essential for elite swimming performance. To optimize the benefit of land-based training, you must select exercises with mechanical relevance to the swimming action, particularly those movements which propel the swimmer through the water, such as the arm pull and leg kick.

Keywords: Strength training, free style swimming etc.

Introduction

Strength training is a type of physical exercise specializing in the use of resistance to induce muscular contraction which builds the strength, anaerobic endurance, and size of skeletal muscles. Swimming techniques are the manners in which the swimmer moves cyclically and are determined by competition rules (MR *et al.* 2011, M *et al.* 2009) [1, 2].

The performance in swimming, as in other cyclic sports such as cycling and running, has been strongly linked to physiological, technical and physical capacities. But, as water locomotion demands more energy per unit distance compared to the locomotion on land the control of technical level may be important in increasing propulsive force and reducing active drag (Shortwell *et al.* 2011, TM *et al.* 2011).

Swimming is a sport that requires both muscular strength and endurance, and for this reason when training with weights you need to concentrate on developing strong muscles with high endurance capabilities. 50 sprinters should swim only small amount of basic endurance training, most of it in the form of stroke drills, kicking and pulling. The sprinters should swim at low to moderate speed that approximate their aerobic thresholds, not their anaerobic thresholds. Basic endurance training will reduce time they need for recovery without running the risk of slowing their sprint speed. Swimmers who specialize in 50 events do not need to do any threshold or overload endurance training. They do not need to improve the aerobic capacity of their fast twitch muscle fibers, and they certainly do not want to risk losing strength and contractile speed in those fibers (Maglischo, 2003).

In competitive swimming, four major styles have been established. These have been relatively stable over the last 30–40 years with minor improvements. The four main strokes in swimming are:

- Freestyle (free)
- Breaststroke (breast)
- Backstroke (back)
- Butterfly (fly)

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Freestyle is a category of swimming competition defined by the rules of the International Swimming Federation (FINA), in which competitors are subject to only limited restrictions on their swimming stroke. The stroke used almost universally in freestyle races is the front crawl, as this style is generally the fastest.

Objectives of the study

1. The result of the study will critically analyze the Effect of Strength Training Exercises for Development of Speed among Free Style Event in Swimming.
2. It will be helpful to find out the importance of physical fitness in the racket games.
3. The result of the study will be helpful in preparing the physical fitness programmes of racket games players.
4. It may also add knowledge to fitness of racket sports.
5. This study may be undertaken to analyze them self (players) with other racket games in physical fitness.

Methodology

Selection of the subjects: For the purpose of the study 20 subjects of tennis, badminton, squash and table tennis were selected on the basis of purposive sampling technique for the present study, and the age level of the players was 21 ± 2 years. Strength exercises such as biceps curls, bench press, front press, back press etc. were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for eight weeks

Variables: Speed

Criterion measures: Pre Test and Post Test were conducted 50 M Free Style Swimming to assess the speed.

Statistical Analysis

The effect of Strength Training Exercises for Development of Speed among Free Style Event in Swimming was calculated by using dependent t-test (paired t-test). For testing the hypothesis the level of significance was set at 0.05 levels.

Findings

Table 1: Showing the Performance of Swimming Experimental Group and Swimming Controlled Group in 50 Meters Free Style Swimming

50 M Free Style Swimming	N	Pre test	Post test	t	Sig.
Experimental	10	40.22	37.20	-3.35	0.004
Control	10	40.22	41.70		

Table no.1 is showing the Performance of Swimming Experimental Group and Swimming Controlled Group in 50 Meters Free Style Swimming.

The performance of experimental group has increased and controlled group has decreased their performance.

Graphical Representation

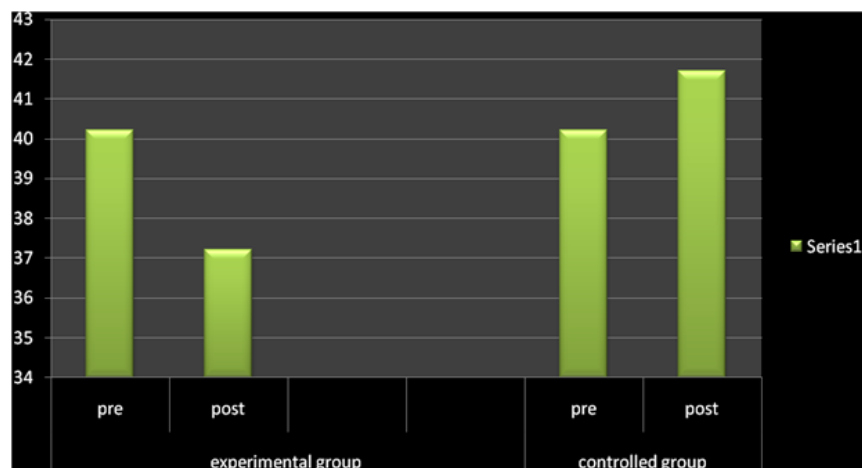


Fig 1: Difference in Pre and Post performance of experimental and control group

Discussion and Conclusion

This study shows that due to the strength training there is an improvement of experimental group in the 50 M free style swimming compare to the controlled group. The Mean Performance of Experimental Group in 50 M Free Style Swimming in Pre Test is 40.22 there is improvement in performance to 37.20. That Means Experimental group has improved 3.02 due the strength exercises training in the mean timing. The Mean Performance of Control Group in 50 M Free Style Swimming in Pre Test is 40.22 there is decreased in performance to 41.70. That Means Experimental group has decreased by 1.48 due to the general training.

Strength training is essential for elite swimming performance. To optimize the benefit of land based training, you must select exercises with mechanical relevance to the swimming action, particularly those movements which propel the swimmer through the water, such as the arm pull and leg kick. It is concluded that due to the strength training there is improvement in the 50 M free style swimming.

References

1. Albery MR, Potdevin FP, Dekerle J, Pelayo, PP, Sidney MC. Effect of Stroke Rate Reduction on Swimming Technique during Paced Exercise, *Journal of Strength & Conditioning Research*. 2011;25(2):392-397.
2. Albery M, Sidney M, Pelayo P, Tooussaint HM. Strokking Characteristics during Time to Exhaustion Tests, *Medicine & Science in Sport & Exercise*. 2009;41(3):637-644.
3. Andrew D, Sortwell. Relationship between Strokking Parameters and Leg Movement Quantity in 100 Meter Front Crawl, *International Journal of Exercise Science*. 2011;4(1):22-29.
4. Barbosa TM, Marinho DA, Costa MJ, Silva AJ. Biomechanics in Applications, (Vols. 16- Biomechanics of Competitive Swimming Strokes), InTech Citation, 2011.
5. Barden JM, Kell RT. Relationships between stroke parameters and critical swimming speed in a sprint

- interval training set. *Journal of Sports Sciences*. 2009;27(3):227-235.
6. Delecluse C. Influence of strength training on sprint running performance: current findings and implications for training. *Sports Medicine*. 1997;24(3):147–156.
 7. Garhammer J. Free weight equipment for the development of athletic strength and power *Nat Strength Cond Assoc J*. 1981;3:24–26.
 8. Ernest W. Maglischo. *Swimming Fastest*, Human kinetics, 2003, p. 511.