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THE EFFECT OF 8-WEEKLY CORE TRAINING ON 50 METERS ATTACHED SWIMMING TECHNIQUE IN FIBERS OF 10-12 AGE GROUP

Research Assistant Mucahit SARIKAYA

Van Yuzuncu Yıl University, Physical Education and Sport Department, Van /TURKEY,
ORCID: 0000-0002-4062-0752

Lecturer Salih ONER

Van Yuzuncu Yıl University, Physical Education and Sport Department, Van /TURKEY,
ORCID: 0000-0002-6643-7665



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ABSTRACT

Objective: The aim of this study was to investigate the effect of 8-week core training on 50-meter back swimming technique in 10-12 age group male swimmers.

Method: The study group consisted of 10 athletes in Van Arsissa Swimming Club and 10 control groups. During the study, the experimental group applied to the core region for 3 days a week, one hour per day except for swimming training. The control group only participated in swimming training during the study period. A 50-meter back swimming technique was used as a test tool.

Results: According to the results of the analysis, a statistically significant difference was found in the comparison of the mean results of the pre-test (59,1510) and the final test (55,0180) within the experimental group (table 2). According to the results of the analysis, a significant difference was found between the control group and the results of the pre-test (61,1530) and the final test (61,0270) (Table 3). (This may cause the control group to perform swimming training for 8 weeks). On the other hand, no significant difference was found between the post-tests of both groups as a result of the comparison of the experimental group (082) (table 4) and the control group (086) (table 4).

Conclusion: As a result, it was seen that 8 weeks of core training in the 10-12 age group swimmers had a positive effect on 50-meter back swimming technique. Especially this age group athlete should say that it is the type of training that should work and should be offered to infrastructure coaches.

Key Words: Core, Training, Swimming

ÖZET

Amaç: Bu araştırmanın amacı 10-12 yaş grubu erkek yüzücülerde 8 haftalık core antrenmanının 50 metre sırt üstü yüzme tekniğine etkisinin araştırmaktır.

Yöntem: Araştırma grubu Van Arsissa Yüzme Kulübü'nde sporcu olan 10 deney 10 kontrol grubu olmak üzere toplamda 20 yüzücü oluşturmaktadır. Araştırma süresince deney grubu yüzme antrenmanları dışında günde 1 saat olmak üzere, haftada 3 gün core bölgesine yönelik olarak: Plank hareketi, çift bacak yukarı kaldırma, topuklara değme, çakı, çapraz kol çapraz bacak, Crunch, makas hareketi, mekik egzersizlerini uygulamışlardır. Kontrol grubu ise araştırma süresi boyunca sadece yüzme antrenmanlarına katılmıştır. Test ölçüm aracı olarak 50 metre sırt üstü yüzme tekniği uygulanmıştır.

Bulgular: Analiz sonuçlarına göre deney grubunun kendi içerisinde ön test (59,1510) ve son test (55,0180) ortalama sonuçlarının karşılaştırılması sonucunda istatistiksel olarak anlamlı fark bulunmuştur (tablo 2). Yine analiz sonuçlarına göre, kontrol grubunun da kendi içerisinde ön test (61,1530) ve son test (61,0270) sonuçlarının karşılaştırılması sonucunda anlamlı bir fark bulunmuştur (tablo 3). (Buna neden olarak kontrol grubunun da 8 hafta boyunca yüzme antrenmanlarını gerçekleştirmesi olasılığı gösterilebilir). Diğer yandan her iki grubun son testleri deney grubu (.082) (tablo 4) ve kontrol grubu (.086) (tablo 4) karşılaştırılmaları sonucunda herhangi anlamlı bir fark bulunmamıştır.

Sonuç: Sonuç olarak, 10-12 yaş grubu erkek yüzücülerde 8 haftalık core antrenmanının 50 metre sırt üstü yüzme tekniğine pozitif etkisi olduğu görülmüştür. Özellikle bu yaş grubu sporcularının büyük oranda çalışması gereken antrenman türü olduğunu söyleyebilir ve alt yapı antrenörlerine önerilmelidir.

Anahtar Kelimeler: Core, Antrenman, yüzme

1. INTRODUCTION

Sport is a part of universal culture and it is an important tool which unites language, race and religion in the world. It is an activity that contributes to world peace. In addition to addressing one's body, soul; It was a very important profession and also considered as a means of advertising on behalf of countries. As a result, countries have competed with each other in the field of sports. However, in this ongoing race; they have naturally turned to sports branches that represent themselves and are closer to success. Swimming sport is a branch of sport where the risk of disability is lower than other sports and contributes to the development of motoric properties. In addition, it is a sports branch that uses all body muscles and is a sport against water resistance. (Bozdogan, 2003; Selcuk, Bilen, Temur & Oner, 2018; Selcuk, Cinar, Sarikaya, Oner & Karaca, 2018). In order to achieve sporting efficiency in this branch of sports, the candidate must start at an early age, be run by a coach with good technical knowledge, and receive support from the family and school environment. In order to be successful, an athlete who is interested in swimming must pay attention to regular training, rest and nutrition with quality training programs (Cinar, Akbulut, Oner, Pancar & Karaman, 2016; Hannula & Thornton, 2001).

This multicomponent structure of the phenomenon of sporting performance points to a versatile training program that a swimming athlete must implement in order to be successful. Core muscles and training for these muscles are an important part of this component. The well-developed core area provides strong and high quality body rotation. In short, the improved core zone greatly improves the performance of swimmers. It is the type of training that especially the athletes of the age group should work to a great extent (Otman, 2012; Pancar, Bozdal, Bicer & Akcan, 2017).

2. METHOD

2.1. Data Collection Tools

Height and Weight Measurement: Height and bodyweight of the participants were measured. Height and bodyweight of the athletes were measured with swimwear without shoes. Premier brand PWS 2027 digital scale (sensitivity: 100g / 0.2 lb) and 0.1 cm precision tape measure were used for weight measurement. The value obtained was recorded in cm (height) and kg (weight) (Selcuk, Bilen, Temur, Oner & Kinaci, 2017; Temur, Selcuk, Oner, Karaman, 2017).

Data Collection: Before the training, Van Arsissa Swimming Club officials were interviewed and required permissions were obtained. The pre-test values of the athletes were taken as 50 m and then the experimental group participated in the core training in addition to swimming training 3 days a week. The control group participated in swimming training only during the study. The exercises were performed as strength training for core muscles for 8 weeks, and after 8 weeks 50m post-test values of the athletes were taken. The core training program applied to the experimental group is attached. Data analysis was performed using SPSS 17.0 for Windows package program.

50 Meters Swimming Test: The pool measures 50x25 meters and has a depth of 3 meters and has 10 lanes (full Olympic pool). Test through the pool Ready! Exit! The time from the moment the athlete pushes the wall of the pool with his feet to the opposite wall is measured with a stopwatch (Delta SW 305). The technique was floated on the back as a distance. Two measurements were taken and the best value was recorded as the test score.

Touching Heels: Back on the ground, arms on the side, legs as wide as the shoulder width, neck up from the ground, the abdomen is looked at, the whole body is tightened and heels are touched.

Double Leg Up Lifting: It strengthens all abdominal muscles, neck, back and leg muscles. In the supine position, arms are on the side, legs are stretched, the double leg is lifted at the same time, then continued without touching the ground.

Plank Movement: It works the whole abdominal muscle. It also strengthens the muscles of the neck, back, waist, chest and front / hind legs; corrects posture disorders. It keeps the shoulder behind and the

breasts up. With the help of the tip of the finger on the elbows the whole body is tightened and the head looks up.

Cross Arm Cross Leg: Strengthens abdominal muscles, neck, back and leg muscles. It is laid on its back, one leg is bent and the other leg is stretched, we try to put our arm in the cross on our crossed leg, the stretched leg does not touch the ground.

Crunch: It is laid on its back, hands behind the head, knees 90 degrees before the neck touches the ground and the whole body tightened. Back, neck, abdominal muscles work.

Scissor Movement: It is laid on its back, hands are under the hips used for support. The legs continue to move up and down without touching the ground. It provides strengthening of leg, back and abdominal muscles.

Shuttle: The hips are on the ground, legs are bent, arms are crossed across the chest, the whole body continues to move tightly.

Additional 1

8-Week Core Training Program			
	1. - 2. Week	3. - 5. Week	6. - 8. Week
	Time and over again	Time and over again	Time and over again
Touching Heels	25 sn x 2 over again	30 sn x 3 over again	40 sn x 3 over again
Double Leg Lifting	25 sn x 2 over again	30 sn x 3 over again	35 sn x 3 over again
Pocketknife	30 sn x 2 over again	35 sn x 3 over again	40 sn x 3 over again
Plank Movement	20 sn x 2 over again	25 sn x 3 over again	30 sn x 3 over again
Cross Arm Crossed Leg	35 sn x 2 over again	40 sn x 3 over again	45 sn x 3 over again
Crunch	30 sn x 2 over again	35 sn x 3 over again	40 sn x 3 over again
Scissor Movement	30 sn x 2 over again	35 sn x 3 over again	40 sn x 3 over again
Shuttle	25 sn x 2 over again	30 sn x 3 over again	35 sn x 3 over again

3. FINDINGS

Table-1 Age, Height and Weight Distributions of Experimental and Control Groups

Parameters	Experimental Groups	Control Groups
	N=10 X±SS	N=10 X±SS
Age (Year)	11.8 ± ,78	12.3 ± ,82
Height (Cm)	1.50 ± ,084	1.54 ± 0,74
Weight (Kg)	48.4 ± 14.60	47.4 ± 9.55

As can be seen in Table 1, age, height and weight distributions of the experimental and control groups were the mean age of the experimental group (10.8 ± 78), height (1.50 ± 084) and weight (48.4 ± 14.60) of the control group, 82), height (1.54 ± 0.74), weight (47.4 ± 9.55) were found to be.

Table-2 Experimental Group analysis

Tests	Mean	N	Standart Devision	T	P
Pre-Test	59,1510	10	9,78201	7,06	,000
Post-test	55,0180	10	8,94716		

In Table 2, a statistically significant difference was found as a result of comparing the test results of the experimental group ($p < 005$).

Table-3 Control Groups Analysis

Tests	Mean	N	Standart devision	T	P
Pre_Test	61,1530	10	5,09614	2,43	,038
Post-Test	61,0270	10	5,14868		

In Table 3, a statistically significant difference was found as a result of the comparison of the test results of the control group ($p < 005$).

Table-4 Intergroup Analysis

Tests	Group	N	Mean	Standart deviation	T	F	P
Pre-Test	Experimental	10	59,1510	9,78201	-,574	2,273	,573
	Control	10	61,1530	5,09614			,575
Post-Test	Experimental	10	55,0180	8,94716	-,574	2,075	,082
	Control	10	61,0270	5,14868			,086

In Table 4, no statistically significant difference was found as a result of comparing the test results of the experimental and control groups ($p > 005$).

4. RESULTS AND DISCUSSIONS

According to the results of the analysis, a statistically significant difference was found between the pre-test (59,1510) and post-test (55,0180) mean results of the experimental group (table 2). According to the results of the analysis, a significant difference was found between the pre-test (61,1530) and post-test (61,0270) results of the control group (table 3). (This may be attributed to the possibility that the control group will perform swimming training for 8 weeks). On the other hand, no significant difference was found as a result of the posttest comparisons of both groups in the experimental group (082) (table 4) and control group (086) (Table 4). A good and strong core area allows the athlete to load more, while at the same time providing a more efficient and good display of technical movements. In terms of sports performance, the greater the core stability, the greater the power production in the arms and legs (Afyon & Boyaci, 2016). For this reason, importance should be given to core area during training. One of the reasons that some swimmers have weak foot strokes is that their core areas are not strong enough. In this context, swimmers clearly show that the lower extremity has a weak core region, as the lower limb rotates differently from the upper limb or the lower limb swings in a tail-like manner. The well-developed core region provides strong and high quality body rotation.

Saeterbakken & Fimland (2011) They found that core training had a positive effect on hand speed in handball. Similarly, Karacabey, Tetik, Kartal, Caglayan & Kaya (2016) reported that core training programs applied to volleyball athletes affected the physical and motoric parameters of athletes. They found that after the core training program of the athletes, muscle strength was increased in general and there was a significant difference especially in the strength of leg muscles.

We also see how important the strengthening of the core (core) area is in daily life and for improving sporting performance. For example, Nourbakhsh & Arab (2002), In their work; found a high correlation between low back pain and central region weakness. Core stability allows the simultaneous development of arm and leg strength (Willardson, 2007). The positive effect of these training on the technical characteristics of the athlete will allow the athletes to perform their technical behaviors with less energy. As a result, athletes will be less affected by fatigue in long-term training or competitions.

Afyon & Boyaci (2016) In their study, which aimed to examine the effect of regional (core) training on the development of some motoric properties (strength and speed) in football players in the age group of 18, they stated that the 8-week central zone (core) training to be applied in addition to football training contributed to the strength and speed development of the players. When the related literature is examined, it is stated by many researchers that core training has an effect on motoric characteristics and contributes to the increase in sport performance (Afyon, 2014; Atici, 2013; Jim, Jeff, John & Jacob, 2012; Thomas & William, 2009).

In conclusion, 8 weeks of core training has a positive effect on 50-meter back swimming technique in male swimmers aged 10-12 years. It can say that especially these age group athletes are the type of training that they should work to a great extent and should be recommended to infrastructure coaches.

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