International Journal of Psychosocial Rehabilitation, Vol. 24, Issue 01, 2020
ISSN: 1475-7192

The effect of anaerobic exercises with resistance ropes for the arms to develop speed endurance and achievement for the 100-meter freestyle swimmers

[1]Ahmed Mohammed Farhan

Abstract
Sports training, its rules and training methods have an impact on the development and development of the players' qualities and abilities (physical, physiological, psychological, etc.), whether in individual and group events and games, and in specialized activities.
And that the sport of swimming and its effectiveness requires speed in performance in order to cut the distance of the race in the shortest possible time. Undoubtedly, it needs to develop and train the physical qualities and capabilities to achieve good performance and achievement.
The importance of the research is to identify the effect of anaerobic exercises with resistance ropes for the arms to develop the endurance of speed and achievement for the 100-meter freestyle swimmer.
After presenting, analyzing and discussing the results, the most important conclusions were that anaerobic exercises have a positive effect in developing the selected physical ability (endurance of speed) under research and achieving achievement in the least possible time.
Keywords: *anaerobic exercises speed endurance, free swimming.*

1- Introduction

1-1 Introduction and importance of the research:
Sports training is the means that contribute effectively and significantly to the development of physical qualities and abilities and to achieve the required achievement for various sports and events, including swimming because it is practiced in a different medium (aquatic medium), and the swimmer needs to develop his physical abilities in order to shed strength and achieve the required speed against water resistance. To move forward with high efficiency and cut the distance in the least possible time.
Swimming is one of the activities in which the competition is over the seconds and its parts, and the swimmer must be well prepared, especially the physical aspect, which is

[1]University of Diyala / College of physical Education and Sport sciences
seff.seff@uomisan.edu.iq

highly relied upon in order to achieve the planned and prepared number in advance and to overcome fatigue and effort during exercises and races. (Mufti Ibrahim Hammad, 1998, 85).

The importance of the research is to identify the effect of anaerobic exercises with resistance ropes for the arms to develop endurance of speed and achievement for the 100-meter freestyle swimmer.

After presenting, analyzing and discussing the results, the most important conclusions were that anaerobic exercises have a positive effect in developing the selected physical ability (endurance of speed) under research and achieving achievement in the least possible time.

2.1 Research problem:

The researcher noticed, by following up on the swimmers' exercises, he found that the exercises used inside the water focus on swimming for different distances and the use of external resistances with (land) exercises outside the water, such as resistance devices (such as the Maltijm), which differ from in terms of shape and performance inside the water for the type of swimming specialization (freestyle) and the diagnosis of some Weaknesses and low levels of achievement, which called the researcher to study these reasons to obtain data and information that will help in solving part of the problem through the use of anaerobic exercises with resistance ropes that will serve the target physical component and work to achieve the required achievement for the members of the research sample for a distance of 100 meters free.

3-1 Research Objectives:

Preparing anaerobic exercises using resistance ropes for the arms to develop the endurance of speed and achievement for the 100-meter freestyle swimmer.

Identifying the effect of anaerobic exercises using resistance ropes for the arms to develop the endurance of speed and achievement for the 100-meter freestyle swimmer.

4.1 Imposing the search:

There are statistically significant differences between the pre-test and the post-test for the members of the research sample.

5-1 Research Areas:

5-1-1 Human field: Al Islam Sports Club swimmers for the 2019/2020 sports season.

5-1-2 Time range: 9/14/2019 to 11/21/2019.

5-1-3 Spatial domain: Al Shaab Indoor Olympic Swimming Pool / Baghdad Governorate.

Research Methodology and Field Procedures:

2-1 Research Methodology:

The researcher used the experimental method by designing a single group with a pre and post test for its suitability to the nature of the research problem.

2-2 Research community and sample:

The research sample was chosen by the intentional method and included the swimmers of Al Salam Sports Club for the youth category for the sports season 2019-2020 for the youth category, which numbered (10) swimmers.

2-3 Tools and devices used in the research:

- Dell personal computer.
- Registration Form.
- Test and measurement.
- Registration forms.

- Casio stopwatch.
- International Information Network (Internet).
- Auxiliary staff.

2-4 Tests used in the research:

First: the name of the test: a test for a distance of (100) meters free swimming.

Purpose of the test: To measure achievement.

Tools used: swimming pool, stopwatch, registration form, whistle, support staff.

Performance description: The position of the body of the tester (the swimmer) is horizontal, that is, in the same position of buoyancy inside the water at the edge of the basin. When the signal is heard, the swimmer begins to swim freely, until the end of the specified distance.

Recording method: The laboratory (the swimmer) records the time he took to travel the distance in seconds and its parts.

Second: A test for a distance of (200) meters free swimming.

1. The purpose of the test: To measure the speed endurance of the swimmer.
2. Tools used: swimming pool, stopwatch, registration form, whistle, auxiliary staff.
3. Description of performance: The position of the laboratory body (the swimmer) is horizontal, i.e. in the same position of buoyancy inside the water at the edge of the basin. When the signal is heard, the swimmer begins to swim freely until the end of the specified distance.
4. Recording method: The laboratory (the swimmer) records the time he took to travel the distance in seconds.

2-5 Tribal tests:

The researcher conducted tribal tests for the members of the research sample on 15/9/2019 corresponding to today Sunday in the indoor Olympic swimming pool, and the two tests are from the distances approved by the International and Iraqi Federation for Competitions and Competitions.

2-6 The main experience:

The researcher applied the main experimental procedures and implemented anaerobic exercises using resistance ropes to develop speed endurance for the arms and achievement on 17/9/2019 corresponding to Tuesday.

The duration of the anaerobic exercises is (8) weeks at a rate of (3) units per week to be carried out on Sunday, Tuesday and Thursday.

The total of the training units is (24) units.

The exercises were applied in the main section of the training unit, and their duration was (30) minutes from the time of the training unit.

High intensity interval training method was used 85-90%.

The repetitions used (3-10) for each group and the totals were (3-6) groups.

The performance of the anaerobic exercises after the performance of the warm-up was good to avoid injuries to the members of the research sample.

2-7 Post-tests:

The post tests were carried out after applying the anaerobic exercises in the same way and procedures as the tribal tests for the members of the research sample in the closed Olympic swimming pool on Tuesday 19/11/2019.

2-8 Statistical means:

The statistical package (spss) was used to process the results.

3- Presentation and discussion of the results:

3-1 Presentation and discussion of the results of the research variables tests:

The results and discussion of the speed endurance tests for the arms and the achievement of swimming (100) meters free in the test (pre- and post-test) for the members of the research sample as shown in Table (1).
Table No. (1)

It represents the arithmetic means, standard deviations, and the value of (T) for the individuals of the research sample.

T	Variables	the exams	sample number	Arithmetic mean	standard deviation	Standard error of the mean
1	m 200 freestyle bearing speed	pretest	10	121.351	2,068	0.654
		post test	10	119.200	2.057	0.651
2	Achievement m100 freestyle	pretest	10	57.199	1.209	0.382
		post test	10	56,716	1.261	0.399

T	Variables	Arithmetic mean	standard deviation	Standard error of the mean	T. value	Indication level
1	Bearing speed for arms	2.151	1.136	0.359	5.986	0.000
2	Achievement freestyle m100	0.483	0.179	0.057	8.544	0.000

3.2Discussing the results:
After processing the results of the research, it was found that anaerobic exercises had a positive effect on the development of the research variables represented in the target physical ability (endurance, speed and achievement) to swim 100 meters freestyle.

The complex physical component (endurance of speed) is one of the important requirements and necessities for training short and medium distance swimmers because it helps the swimmer to travel the distance more efficiently and in less time, and that this compound physical ability is related to the body's ability to bear fatigue and bear the pain resulting from high acidity in the blood as a result of accumulation Lactic acid and therefore the ability (speed endurance) was linked to the lactic acid system, and speed endurance training is called (lactic acid training), and as Issam

Abdel-Khaleq stresses on "the need for a swimmer to have the ability to endurance speed because swimming is a recurring activity, which requires avoiding manifestations of fatigue due to the speed of movement." forward in the short competitions. (Issam Abdel-Khaleq, 184, 2005) (Muhammad Ali Ahmed Al-Qatt, 100, 2002)

And that swimming (100) meters freestyle requires physical effort, which is characterized by the speed of motor performance to cut the race distance in the least possible time, and this was provided by anaerobic exercises with the ability of the body's organs to resist fatigue and achieve achievement for the members of the research sample. (Maher Ahmed Assi and Mustafa Hamid, 2009)

And that anaerobic exercises using resistance ropes inside the water helped the research sample members to speed up their performance by emphasizing the ideal performance, using the correct technique and reducing the resistance to achieve the desired goal (achievement), which is the main goal of the coaches and raising the levels of swimmers in all competitions and championships.

Conclusions

1- Anaerobic exercises with resistance ropes have a positive effect in developing the speed endurance of the arms and achievement.
2- The anaerobic exercises using resistance ropes inside the water were carried out with a performance similar to the kinetic performance of the 100m freestyle swim.
3- The results of the research showed that there were significant statistically significant differences for the achievement of the (100) m freestyle swim between the pre-test and the post-test.

Recommendations

1. Attention to training and developing physical abilities in general outside the water and inside the water to ensure the development of working muscles.
2. Benefiting from anaerobic exercises with resistance ropes inside the water due to the positive results achieved for the members of the research sample.
3. Conducting similar research and studies on other activities and samples in swimming.

References

1. Bastawisi Ahmed (2014), 1st Edition: Foundations of Developing Muscular Strength in the Field of Sports and Events, (Cairo, Modern Book Center for Publishing).
2. Essam Abdel-Khaleq: Mathematical Training, Theories, Applications: (Alexandria, Knowledge Foundation for Printing and Publishing, 1999).
3. Maher Ahmed Assi and Mustafa Hamid Mohamed; Scientific foundations for teaching and training swimming: (1st Edition, House of General Cultural Affairs, Baghdad, 2009)
4. Muhammad Ali Ahmad al-Qatt; Sports Physiology and Swimming Training: (Arab Publishing Center, Part 1, Cairo, 2002)