

The effect of SAQ exercises on physical fitness level and performance of swimming players

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Abstract

SAQ training is known as one of the most effective training methods to improve performance in swimming sports. Objective: This study aimed to identify the effect of the of SAQ exercises training on the level of physical fitness and skillful performance levels of swimming players. Methods: Sixteen female swimming players was included in this study. The mean of their age, weight and height were (18.29 ± 1.17) years, (63.91± 1.25) kg, and (165 ± 2.33) cm, respectively. Participants was divided into two groups, experimental and control. All participants agreed to participate in the study and were familiar with SAQ training. (Pre - post) test measurements was taken Results: The most important results obtained from this study that 8 weeks of SAQ exercises training was effective on improving physical fitness level and skill performance in swimming players. Conclusion: SAQ training showed an improvement in muscles strength and some skills performance.

Keywords: Swimming, SAQ training, fitness.

Introduction

Athletic training methods evolved dramatically over the past years has become so convenient for the players and the coach has become an all-new tracks in the area of training on an ongoing basis in order to be able to provide better and better thing in this area and raise the level of performance of his players.

In this sense can be seen as a sports training process development and use of different methods and means of training is in order to change the status of the trainee, according to pre-determined target It exercises that have become in the recent period commonly used by athletes Alsakio training exercise where beginners and those with high level.

Refers Mario Jovanovich et Mario Jovanovic, et al. (2011) that the term Alsakio SAQ is derived from the first letters of each of the transitional Speed Speed, agility and speed motor Agility Quickness.

He adds Vilmorjan and Palangsama Velmurugan & Palanisamy (2012) to exercise an interview that Alsakio produces integrated effects of many physical capabilities within a single training program training system Refers Remco Polman et Remco Polman, et al. (2009) that Alsakio exercises integrated training system designed to improve acceleration, compatibility between the eye and the hand,

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explosive power, the speed of response. (494: 20)

On the nature of the correlation between the three training elements (transitional speed, agility and speed motor) shows Bachelet et Baechle, et al. (2000) that the transition speed is the player's ability to perform sequential and similar movements in the shortest time possible, while agility are the player to change the conditions in the air, ability, and speed motor is the maximum constriction or motor response to muscle in as little time as possible.

Explains Vikram Singh, Vikram Singh, (2008) the difference between the transitional speed and speed motor that transition speed you need to time to reach the maximum speed of any must be growing, and this is evident in the enemy races, in which the player of time sufficient needs to reach the speed of zero to maximum speed, while speed motor they do not need to this time, but the maximum muscle contraction in the shortest possible time and appear in the explosive of some sports movements. While sees Bachelet et Baechle, et al. (2000) to a similarity between the terms of motor speed and the speed of the motor response Refers Sheppard and Young young & Sheppard (2006) that the concept of agility of the concepts that are frequently questions by researchers and thinkers in the field of sports, and to date there is no consensus in the sports field on the nature and concept of fitness, and this may be due to the association with some of the physical and motor abilities. (22: 919)

Through access to the global information network (Internet) Noted researcher modern Alsakio training in the sports field indicates where Vilmorjan and Palangsama Velmurugan & Palanisamy (2012) that Alsakio training is one of the modern training shapes in the field of sports and studies on physical and physiological effects on the junior and senior players differed in their findings and to the difference in the way she approaches in the field of sports.

Swimming exercises are considered one of the most difficult types of exercises because they contain a special style and nature of training, as training in the terrestrial environment differs from the aquatic environment. Special physical abilities that contribute to improving the technical performance of the swimmer

Subjects And Methods

The research sample included female students of Physical Education departments from Sultan Qaboos University in Oman. Participants included 20 players aged (18-20) years. Sixteen players were selected to conduct the basic experiment of the research. Participants was divided into two groups, experimental and the other control group. All participants agreed to participate in the study and were familiar with SAQ training. For the present study (pre - post) test randomized group design which consists of control group and experimental group was used. The mean of their age, weight and height were (18.29 ± 1.17) years, (63.91 ± 1.25) kg, and (165 ± 2.33) cm, respectively.

Anthropometrics And Procedures

Participants reported to the female sport complex in the morning, body height (cm), body mass (kg) and percentage of body fat were taken before conducting the study. Body height was recorded using stadiometer accurate to 1 cm (SECA, Germany), while body mass was measured using electronic scale (Tanita, Japan) accurate to 0.1 kg.

The subjects were matched in the experimental group and control group and were exposed to SAQ exercise training for 8 weeks, 3 sessions /week for 40 minutes. At the beginning of each session, 10 minutes of warm up was applied to experimental group. Participants performed 20 minutes of exercises including vertical jump, hand strength, balance, leg strength and speed and agility exercises. Vertical

jump was measured using Optojump test, hand strength was measured using handgrip dynamometer, balance was measured using Standing Balance test, leg strength was measured using leg Dynamometer test, Maneuver Speed was measured using Maneuver Speed test (20m) and Throwing speed was measured using Throwing Speed for (30s).

Statistical Analysis

Data analysis was performed using the statistical package for the social sciences (V15.0, SPSS. Inc) and statistical significance was set at .05. Mean and standard deviation, and the median and the interquartile range were used. Categorical data will be presented as frequencies and percentages. Unpaired student's *t*-test will be used to detect differences between groups.

Results And Discussion

Table (1)
M±SD for anthropometrics, fitness and the skills performance of the research sample

Variables	Units	SMA	Standard deviation	Mediator	Torsion coefficient
Age	Year	18.29	1.17	18.20	0.230
Height	Cm	165.82	2.33	165.00	1.055
Weight	Kg	63.91	1.25	63.50	0.984
Arm Strength	No	18.15	1.22	18.00	0.368
Leg strength	Kg	41.13	1.45	41.00	0.268
Legs capacity	Cm	29.70	1.17	29.60	0.256
Arm capacity	M	6.63	0.32	6.50	1.695
RLB	S	7.23	0.45	7.00	1.533
LLB	S	7.10	0.22	7.00	1.363
MWS	S	8.41	0.11	8.40	0.833
T S	No	7.38	0.21	7.35	0.967
MS(30s)	S	11.32	0.29	11.30	0.358

Right leg Balance (RLB), Left leg Balance (LLB), maneuver with shooting, (MWS) Maneuver Speed(MS), Throwing Speed(TS).

Table (2)

The significance of the differences between pre and non - pre standards in the level of some physical variables and the skillful performance of swimming players experimental research group.

variable	unit	Experimental group				Control group				(T) Value Post-Test (EXP - CON)	Sig
		Pre test	Post test	Aver	Improv %	Pre test	Post test	Diffe aver	Improv %		
		Mean ± SD	Mean ± SD			Mean ± SD	Mean ± SD				
Arm Strength	Num	18.10±1.25	24.45±0.26	5.35	29.55%	18.15±1.31	20.60±0.51	2.45	13.49%	3.11	S
Leg strength	Kg	41.35±0.96	46.70±0.36	5.35	12.93%	41.32±0.69	43.90±0.25	2.58	6.26 %	3.24	S
Legs capacity	Cm	29.65±0.47	34.18±0.32	4.53	15.27%	29.20±0.47	31.17±0.32	1.97	6.74 %	3.64	S
Arm capacity	M	6.62±0.32	8.15±0.47	1.53	23.11%	6.68±0.32	7.15±0.47	0.47	7.03 %	3.48	S
RLB	S	7.15±0.15	11.12±0.36	3.97	55.52%	7.12±0.47	9.20±0.32	2.08	29.21%	2.98	S
LLB	S	7.09±0.25	12.60±0.85	5.51	77.71%	7.10±0.62	9.18±0.15	2.08	29.29%	3.87	S
MWS	S	8.38±0.25	6.22±0.11	2.16	34.72%	8.38±0.62	7.88±0.11	0.48	6.09 %	3.32	S
T S	Num	7.32±0.14	12.25±0.02	4.93	67.34%	7.31±0.21	9.50±0.24	2.19	29.95%	3.45	S
MS(30s)	S	11.31±0.17	8.55±0.15	2.76	32.28%	11.28±0.52	10.60±0.18	0.68	6.41 %	3.66	S

Significant Difference ($P \leq 0.05$) = 1.746 between post-test for experimental and control group.

Table (2) shows significant differences between the averages of pre and post measurements at the physical fitness variables and the skill level of the swimming players ($p \leq 0.05$). Results showed there was an improvement in physical fitness variables and skills performance between pre and post SAQ training for the experimental group. The average rate of improvement using the SAQ training was higher than the improvement rate of the control group.

The reason for this may be that the proposed training program using SAQ training enhanced performance by developing the ability to link the

technical skills used in the of the experimental group The increase in the rate of improvement of physical abilities may be due to the positive impact of the group of exercises, which led players to put more effort that effect the efficiency of the nervous system which led to increase the correlation between sensory nerves affected by the stimuli found within the program and its link with the motor nerves which led to the development and improvement of the physical abilities that included in this study.

The researchers suggested that the proposed program using the SAQ training has included the training of

compatibility in the development of the element of the speed of transition, which generated an involuntary muscle contraction that raises other sensory organs and thus increase the number of motor units in the muscles working on these joints to increase muscle strength as well as to match the training of the SAQ with the movements that lead to competition. This results were consistent with what Milanović et al (2014) that showed SAQ training contributed to the improvement of some special physical abilities.

The researchers also attribute this progress to the competence of the control group as regularity and continuity of practice, as well as continuous competition among the players to provide the best physical and skillful performance has had a significant impact on raising the level of physical abilities, which reflected the impact on the development of skills.

These results were in consistent with the findings of Zaidan (2007) that found skill training alone was not sufficient to improve skill and obtain successful results. In addition to skill development, it is necessary to develop the motor abilities of the skill itself. Since swimming requires high physical and professional abilities, muscle compatibility, motor creativity, sense of time, space and a sense of dynamic performance that is diverse and

inclusive ,the SAQ training was effective on improving muscles strength of both legs and arms as well as improving balance.

Conclusions

SAQ training has improved the physical fitness of swimming players
SAQ training has improved the skill level of swimming players

Recommendations

- The use of SAQ exercises because of its positive effect on improving the physical variables of swimmers.
- Diversity in the use of physical and skill exercises because of their positive effect for swimmers.
- Using SAQ exercises with other swimmers

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