

The effect of S.A.Q Training on Some Biochemical Indicators and Straight Punch Force for Young Boxers of 63-69 Kg

By

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Abstract

The purpose of the research project was to determine how (S.A.Q) training affected certain biochemical markers (GPX. GOT. GPT) and straight punch power (63-69) for fighters who are less than 19 years old. The research hypothesised that S.A.Q. training would have a positive impact on a few biochemical indicators and straight punch strength. The experimental method was used to represent the research methodology, and it involved two groups of equal size. The experimental group underwent S.A.Q. training for six weeks at a rate of three training units per week, while the control group performed coach-prepared exercises and represented the research community by involving six players from Al-Rawdatain Club barriers. The researchers used the statistical programme SPSS to extract the most significant findings:

- 1- The S.A.Q training has clearly contributed to the high levels of enzyme (GOT-GPX).
- 2- There is no clear effect on the enzyme (GPT).
- 3- S.A.Q exercises contributed to increasing the power of the straight punch of the members of the experimental research sample.

Keywords: S.A.Q - Biochemical Indicators - Punch Force

Introduction

Scientific progress in the field of sports training always seeks to reach advanced results, and this is what we notice at the level of numbers and results in all sports, the methods and methods of training that were built on sound scientific foundations contributed effectively to this great development, the S.A.Q training is a training method that harmonizes with great muscle effort, which leads to stimulating muscle groups in mobilizing the largest possible number of muscle fibers, as well as rapid muscle contraction, which in turn contributes significantly to the speed of movement of the boxer, whether in the defensive or offensive movements, it also has a great role in influencing functional indicators at the level of enzymes and hormones, and that S.A.Q. training is a common way to train athletes, to benefit from training in speed, agility or strength, or the ability to exert maximum strength during high-speed movements, as well as the efficiency of the brain signal and the speed of reaction, and the fact that the game of boxing is one of the games with an open environment, the player needs intensive training similar to the nature of the performance and simulates the mechanism of muscle contraction, reaction speed and compatibility between the eye and the arm, this is what is found in S.A.Q exercises, which simulate the speed of movement and flexibility of the nerve impulse coming from the brain, as well as mobilizing muscle fibers to produce high strength, and this is what the boxer needs to punch the opponent.

Therefore, it is crucial to do research on the use of S.A.Q training to boost the effectiveness of anaerobic enzymes and hormones that are responsible for muscular strength and young boxers' straight punch strength.

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Research Problem

The game of saliva boxing has drawn a lot of interest from researchers and coaches around the world because it's one of the sports that requires a lot of physical prowess. The researcher followed up on the training of young boxers at Al-Rawdatain Club and noticed that there wasn't much modern training that matched the demands of the game in terms of speed, strength, and dominant energy system. As a result, the researcher employed S.A.Q exercises on the research sample.

Research Objectives

- 1- Determine how S.A.Q. training affects the strength of the straight punch for young boxers weighing 63–69 kg as well as various anaerobic enzymes (GOT–GPX–GPT).
- 2- Determine the importance of the variations between the two groups' post-test results for a few anaerobic enzymes and the research sample members' straight punch strength.

Research hypothesis:

- 1- S.A.Q. workouts have a favourable impact on young boxers' straight punch strength and some biochemical markers.
- 2- The experimental group performed better on post-tests than the control group, with statistically significant differences found.

Research Fields

- Human Field: players Al-Rawdatain Club in Karbala province boxing.
- Time Field: The time period from (1/7/2023) to (10/9/2023).
- Spatial Field: halls and boxing ring at Al-Rawdatain Sports Club.

Research Methodology

The researcher used the experimental method to suit the nature of the research problem.

Research Community

The six young boxers at Al-Rawdatain Club who weigh between 63 and 69 kg fully represent the research community. The research sample was split into two experimental and control groups equally. The experimental group underwent S.A.Q. exercises, while the control group performed exercises designed by the trainer.

Table 1 . Shows the experimental design of the research

Group	Measurements and pre-tests	Experimental procedure	Measurements and post-tests
Experimental group	<ol style="list-style-type: none"> 1- Enzymatic (GPX.GOT.GPT) 2- Testosterone. 3- The power of the straight punch 	S.A.Q style exercises	<ol style="list-style-type: none"> 1- Enzymatic (GPX.GOT.GPT) 2- Testosterone. 3- The power of the straight punch
Control group	Apply the same measurements above	The same exercises are applied in the usual trainer style	Apply the same measurements above

Field Research Procedures

Identification of research tests:

Enzyme measurement. .GPX. GOT. GPT) (Raysan Khreibit, p. 84)

The laboratory performs a warm up for two minutes, after which the player performs the long anaerobic step for 30 seconds in the manner of stepping on one foot by placing one foot on the box and the body is carried on one foot, the laboratory calculates the number of steps of the laboratory up and down within 10s, 20s, and 30s, then blood samples are drawn by 5 cc and then transported to the laboratory to extract the variables (GPX. GOT. GPT).

Measurement of the force of the straight punch (Haidar Abdali: p. 66)

Purpose of the test: Measurement of the strength of the straight punch:

Test Description:

The player stands ready and faces the device, and when the signal is given, the player punches the device with maximum force, each player is given two attempts for each arm with an interval of 3 minutes between them, the best attempt is calculated as the results are read by a locally manufactured device connected to a computer and the punch force is measured in newton's.

Pre-tests

On Friday, July 7, 2023, the researcher conducted pre-tests for the research sample. The tests included measuring testosterone at ten in the morning and six in the evening, performing additional physiological tests, having blood drawn by an Indian Medical Laboratory specialist, and measuring the research sample's punch strength as specified in the test description. All of these procedures were done at Al-Rawdatain Club.

Equivalence and homogeneity of the two research groups with the variables studied

Table 1. shows the Levin value, calculated T value, and significance level for the lookup variables

Variables	Experimental Group		Control group		F-value	calculated T value	Sig	Significance
	S	P	S	P				
GOT Enzyme	40	1.5	40.32	2.41	0.638	0.199	0.85	Non-significant
GPT enzyme	38.85	2.41	39.37	3.28	0.367	0.224	0.83	Non-significant
GPX Enzyme	799.34	8.1	798.88	17.74	2.225	0.04	0.97	Non-significant
Left punch force	906.66	20.81	888.33	9.6	2.462	1.385	0.23	Non-significant
Right punch force	1016.66	30.55	1022.33	67.35	3.704	0.133	0.9	Non-significant

At a significance level (0.05) and a degree of freedom of 4.

Main Experience

The researcher used S.A.Q training with intensity ranging between 80-90% of the player's level, this is similar to the intensity used in the fight and according to the anaerobic (lactic) power system, as it used kinetic speed and punching speed training, as well as agility and motor compatibility exercises, these trainings were implemented by three training units per week and by 24 training units, while the control group used the same method used by the trainer.

Post-Tests

On Friday, November 9, 2023, the researcher administered post-tests to the study sample members. The researcher was eager to administer the tests in the same circumstances and at the same times as the pre-tests.

Results and discussions

presenting and analyzing the variations between the experimental group's pre- and post-test results

Table 2. *Show the variations in the variables examined for the experimental group between the pre- and post-tests*

Variables	Pre-tests		Post-tests		calculated T value	Sig	Significance
	-S	P	-S	P			
GOT Enzyme	39.99	1.50	45.17	1.03	12.88	0.00	significant
GPT enzyme	38.85	2.41	39.39	2.30	8.11	0.01	significant
GPX Enzyme	799.34	8.99	882.98	13.85	23.08	0.002	significant
Left punch force	906.66	20.81	992.66	11.01	10.32	0.00	significant
Right punch force	1016.66	30.55	1263	54.83	10.53	0.00	significant

Significant differences were observed between the pre- and post-test results for all tests after the experimental group's results were presented. This indicates that the S.A.Q. exercises had a clear impact on all research variables because they had an effect akin to the intensity of performance and the dominant energy system during the fight—the lactic anaerobic system—as well as on the arms' explosive ability during punching by increasing arm strength and speed of movement because the ability is multiplied by the speed of force, so the output of the ability increased clearly.

Display and examination of the variations between the control group's pre- and post-test results.

The control group's pre- and post-test results revealed no significant differences in any of the variables examined, with the exception of the enzyme glutathione peroxides (GPX), which demonstrated a significant change. This suggests that because the control group's research sample is accustomed to boxer-specific exercises, no changes in muscle or other investigated enzymes occurred, with the exception of the GPX enzyme, which is associated with unique endurance according to the lactic anaerobic energy system.

Table 3. Show the differences between the pre-posttests of the variables studied for the control group

Variables	Pre-tests		Post-tests		calculated T value	Sig	Significance
	-S	P	-S	P			
GOT Enzyme	40.32	2.41	40.77	1.91	0.819	0.4	Non-significant
GPT enzyme	39.37	3.28	40.03	2.58	1.429	0.2	Non-significant
GPX Enzyme	798.88	17.74	820.73	26.43	4.354	0.04	Non-significant
Left punch force	888.33	9.60	920	34.64	1.974	0.1	Non-significant
Right punch force	1022.33	67.35	1080	71.55	1.818	0.2	Non-significant

Presentation, analysis and discussion of the differences between the post-tests of the experimental and control groups and discuss it

Table 4. Show the differences between the post-tests - for the physical characteristics of the experimental and control groups

Variables	Pre-tests		Post-tests		calculated T value	Sig	Significance
	-S	P	-S	P			
GOT Enzyme	45.17	1.03	40.77	1.91	3.50	0.02	Significant
GPT enzyme	39.39	2.30	40.03	2.58	0.32	0.7	Non-significant
GPX Enzyme	882.98	13.85	820.73	26.43	3.61	0.03	Significant
Left punch force	992.66	11.01	920	34.64	3.46	0.05	Significant
Right punch force	1263	54.83	1080.33	71.55	3.51	0.02	Significant

With the exception of the Glutamic Pyruvit Transamase (GPT) enzyme, which did not clearly evolve between the two groups despite its higher efficacy with proteins and fats in the aerobic system, Table (4) demonstrates that the post-test significance level (sig) between the control and experimental groups is greater than the significance level (0.05) for the research variables (Muhaisen Hassan Addai, Fouad Shimon Hanna, p. 224) "GOT is the most important enzyme in the synthesis and breakdown of amino acids and prepares an important connection in binding protein, carbohydrate and lipid metabolism, as for the enzyme (GOT – GPT), the

results showed a significant change, this indicates that the intensity in the S.A.Q training helped the enzymes rise, that is, the amount of the enzyme corresponds to the intensity used, that by increasing chemical reactions in the anaerobic system (FuFh el. AP1171) (Muayad Abd Ali, p. 191), as for the variable of the force of the straight punch, the nature of the work of the S.A.Q exercises and the targeted speed training and other physical abilities, this is confirmed by (Omar Saber, p. 13 from et al, Remco Polman) that the S.A.Q training is an integrated training system aimed at improving acceleration, eye-hand compatibility, explosive ability, and speed of response, speed training contributes significantly to increasing the rate of explosive power of the straight punch, thus, the increase of one side of the equation of power resulting from the multiplicity of force in speed increases the output of power and this is what he referred to (Sareeh Al-Fadhli, p. 103).

Conclusions

- 1- The S.A.Q training contributed significantly to the high levels of enzyme (GOT-GPX).
- 2- There is no clear effect on the enzyme (GPT).
- 3- S.A.Q exercises contributed to increasing the power of the straight punch of the members of the experimental research sample.

Recommendations

- 1- The need to use S.A.Q training in boxers' training, as it works similarly to the performance of boxers in terms of stress, goals and the prevailing energy system.
- 2- Urging trainers to continuously examine the work of enzymes for their role in chemical reactions in the process of energy exchange and metabolism.

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