S.A.Q. STYLE TRAINING AND ITS IMPACT ON REGULATING THE MUSCLE CELLS' BASAL METABOLIC RATE AND THE TWO ANAEROBIC SCHOOL BASKETBALL SKILLS

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Abstract

A S.A.Q. Style training unit for School basketball players was the goal of the research, it is important to understand how training affects LA and sodium bicarbonate concentrations. Also, these School basketball players in Baghdad secondary schools possess two anaerobic skills. By using the experimental approach for this design, participants who were chosen at random from the Electrical Industries Club and numbered (50) players. School basketball players must consider the training pressures in the S.A.Q training that develops and enhances the various skills, as this boosts the level of their phosphagen (NaHCO3) and lactic anaerobic (LA) abilities. as well as not placing too much emphasis on training with them in order to get the necessary results at the price of the biological control of their cells. In this kind of extensive training, it's crucial to set goals that are both attainable and practical. To avoid overburdening School basketball players with heavy training loads, the training that is allotted to them must come at the start of the training unit's main part.

Keywords: S.A.Q. Efficiency. Lactic anaerobic. Basketball players. NaHCO3.

Introduction

The S.A.Q Training is one of the more contemporary sports trainings both young and experienced athletes, its can benefit from its physical and physiological impacts. S.A.Q Training is an integrated training method that attempts to enhance the explosive power and reaction time, as well as the level of acceleration and hand-eye coordination. A contemporary training approach called S.A.Q Training also produces integrated effects for a variety of physical abilities throughout a single training regimen. since both translational speed, agility, and motor speed are represented by the initial letters of the name S.A.Q. style Training. Also, one of the training methods that help to improve some unique physical characteristics is S.A.Q. style Training with speed being the most crucial one (Khaleel, 2022).

The S.A.Q. style Training is a training system based on training exercises and instructions intended to enhance basic motor abilities, build dynamic balance, and regulate body parts. When it comes to the advantages of S.A.Q training, they may be boiled down to how it addresses and benefits from the cycle of extending and shortening, which serves as the link between conventional resistance training and certain functional motions. It acts to improve motor abilities, reaction time, sensory-kinesthetic awareness, the efficacy of nerve messages from the brain, and muscular capacity in all explosive motions. It aims to achieve a stronger level of balance and balance that enables the athlete to hold their body in the proper position while completing the different fillies (Shabeb, 2021). A player's transitional speed, agility, motor speed, and transitional speed are all measures of how quickly they can perform similar, sequential motions. Agility refers to an athlete's ability to change positions in the air, whereas motor speed refers to the muscle's maximum contraction or motor reaction (EL-Shafey et al., 2022).

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The clear shows that S.A.Q. style Training is focused on improving quick, intense physical and motor skills that are a part of the first energy system and whose chemical processes take place without relying on oxygen-mediated oxidation. The quantity of acidity will be impacted by any metabolic waste that exceeds its limit because metabolic waste is a result of all interactions and because the human body is naturally alkaline. In order to meet the demands of this specialized player, basketball players' anaerobic capacity must be at a high level. In addition, when the blood's acidity is increased, the process of releasing energy is momentarily slowed down by a decrease in the activity of the energy-producing enzymes (Khaleel, 2022).

The level of the body's reaction to physical strain as expressed by LA is an honest and straightforward criterion, and as a result, the degree of weariness is made evident. which the body of the player has attained because the percentage of this acid rises with the level of exhaustion, followed by an increase in training load, particularly the double anaerobic load, which depends on the endurance of the circulatory and respiratory systems, as well as during the recovery period following endurance exercise. Oxidative muscle fibers oxidize lactate, just like how sugar is oxidized. According to the rule of mass action, when a chemical reaction's byproducts build up amid it, the reaction speed almost ceases (Vanhees et al., 2005).

When a strong acid, such as hydrochloric acid, is present, the phosphate buffer system, which is composed of phosphate and phosphoric acid, causes the pH to return to normal. The blood's pH drops when the LA threshold is exceeded, which can be problematic if the body's important organs can no longer balance the blood's pH and the body's internal organs and systems can no longer eliminate LA (Perrin, 2012). Also, the muscles can produce through the LA system, and cells that undergo fast contractions become more adaptive in their ability to produce at all levels of activity, from acute to maximum (Wang et al., 2021). In order for throwers to create anaerobic effort fast, the development of the two anaerobic talents that rely on the cellular metabolic system must be accelerated (Moselhy, 2020). The researcher assumed that S.A.Q. style Training would have a good impact on the development of both the concentration of LA and sodium bicarbonate for basal sufficiency, as well as the two abilities the two anaerobes of these players in this category (Diswar et al., 2016). both research sample's two anaerobic capabilities (AL KITANI et al., 2018).

Methodology and Materials

I adopted the experimental research methodology, which is defined as the method in which we treat and control an independent variable to see its effect on a dependent variable, while observing the resulting changes and making an interpretation. The two groups (experimental and control) in the experiment were precisely controlled using the pre- and post-tests. The participants in the study, which included (70) players from each high school in Baghdad, are displayed. Following a random selection of (50) players at a rate of (71%), participants were split into two equal-sized experimental and control groups in accordance with the experimental design parameters.

The Results

In order to measure the school basketball players' anaerobic capacity for the gas NaHCO3, the tests that were accepted required them to quickly exert high amounts of physical effort while stationary, complete the LA ability test for 60 seconds, and then complete the second lactic test. Blood will be taken for a lab test immediately after this attempt, after (10) minutes have passed. Throughout the course of ten consecutive training weeks, the training unit was used for a total of (20) minutes of training at a pace of (6 programming), in accordance with the parameters affecting the anaerobic energy system. The training units' intensity ranges from (70 to 98%) due to their high intensity or constant rate of loading. Hence, these workouts do not contravene the gradualness and variability of the training load principles of high-intensity interval training. According to the rules of the research setting, the players in the comparison group only practice with them once the study is over (Tables 1 & 2).

The findings in tables 1 and 2 show that training in the S.A.Q. style has a clear advantage in reducing the stress on the cells caused by rapid movements with applied Training for these Training, which the researcher took into consideration in rationing the training load to be suitable to the specifications of the players, their age, and gender, which were the reactions of the body interior in reducing the accumulation of acid. Cell homeostasis alters when the

Table 1: Summarizes the outcomes for the study and control groups' pretests.

test		LA	$NaHCO_3$	NaHCO3	LA
Experimental Group	Mean	12.24	12.54	30.96	23.65
	SD	0.31	0.84	1.96	1.75
Control Group	Mean	12.27	12.7	30.57	24.17
	SD	0.91	0.36	1.36	1.96
Sig.		0.71	0.58	0.81	0.37

Table 2: Summarizes the study's findings for the control groups in the pretest and posttest.

test		LA	$NaHCO_3$	NaHCO3	LA
Experimental Group	Mean	12.24	12.54	12.27	30.96
	SD	0.31	0.91	0.84	1.96
Control Group	Mean	10.21	0.18	16.2	15.26
	SD	0.06		0.06	0.36
Sig.		0.00**	0.00**	0.00**	0.00**

concentration of sodium bicarbonate rises.

This demonstrates that distributing training stresses and exercise durations effectively. This positive effect led to a rise in the amount of NaHCO3 and LA capacities, two of the most important physiological indicators needed by a basketball player. Given that the tournament demands high maximal efforts in transitional speed and jumping, it shows how effective his physical effort was in fending off fatigue.

The school basketball team that underwent the S.A.Q training surpassed their colleagues who were trained using the trainings prescribed by their coach, according to the data shown in Table 2. Which was the preferred S.A.Q training that raised their capacity to enhance internal physiological responses in the laboratory analysis results, which demonstrated the components that contributed to raising the level of the two NaHCO3 and LA capabilities. This is because rapid growth and progress to the required level are made possible by this type of intensive instruction. Because of the physiological and morphological changes brought on by sports training, athletes are better able to adapt to the unique demands of their sport and practice with high efficacy while putting forth less effort.

Anaerobes' presence and the athlete's ability to keep performing effectively under intense training loads show that muscle cells can still regulate their acid-alkaline balance and are still doing so. In this process, the presence of bicarbonate is crucial. as greater anaerobic training results in an increase in the capacity of muscular systems. A decline in LA levels in the blood reflects an improvement in athletes' functional status and their ability to continue engaging in physical activity. High levels of muscle efficiency are made possible by this, as well as improved LA levels, which allow oxygen to be electronically released from LA and work to lessen fatigue.

Also, ongoing study has shown that an athlete's success depends on maintaining the concentration of bicarbonate in their blood and cells. Also, maintaining the same level of intensity during training does not allow for the development of the acquired adaptations, therefore a new and appropriate overload is required. This rise in training loads is a real-world illustration of how the principle of progressive progress can be achieved. Strength training increases the stock of energy chemical sources like (ATP) and (PC), as well as hormonal reactions and the activity of enzymes that release energy. The aggregate of these biochemical impacts is an increase in the anaerobic energy production pathways. Although some of them suggest that in order to increase anaerobic endurance in motorsports activities, the exercise intensity should be 91% and the number of weekly training sessions shouldn't be more than three or four.

Conclusions

Basketball players in high school should think about the demands of S.A.Q. style Training. training programs that enhance various skills. Considering the length of each workout in a way that ensures the fundamental sufficiency of muscle cells, as well as not placing too much emphasis on training with them to get the necessary results at the price of the biological control of their cells. Using the S.A.Q. style Training during the period of preparation for School basketball players aids in improving the control of the basal efficiency of muscle cells, which is necessary to balance the low level of LA concentration at the expense of an increase in the level of sodium NaHCO3 in the blood, which raises the level of the two abilities. They have NaHCO3 and lactic anaerobes, making them superior to athletes who train without them. Setting reachable and useful goals is crucial during this type of intensive training. To prevent adding to the already demanding training schedules of high school basketball players, they must receive their instruction at the beginning of the major section of the training unit.

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