

The Effect of Using Resistance and Medical Ozone Training on Testosterone and Some Physiological Variables in Swimmers

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Abstract--- *This research aims to identify "their training to resist the use of the medical hormone testosterone with ozone and some physiological variables on swimmers", and the researcher used the experimental method, and a number of (10) specimens were chosen from the basic research swimmers, and the researcher concluded that the resistors exercise multiple forms of medical weights. Weights showed a positive effect on physiological variables between the experimental research sample of swimmers, polymorphic resistance exercises and medical ozone positively affecting the growth hormone biochemical variables and testosterone in the experimental research sample for swimmers.*

Keywords--- *Medical Ozone Testosterone Training.*

I. INTRODUCTION PROBLEM AND RESEARCH

Sports activity is one of the best methods that help an individual to maintain his health and meet the requirements of daily life, in addition to working to reduce the chances of disease, as it is considered a method of physical therapy encouraged by many doctors, and even considered it away to prevent diseases before it was a way to treat some Diseases.

The strategic goal that targeted the training process is to reach peak performance during competitions and sports science. Tartar is one of the major sciences invested in achieving my business with response rates and physiological adjustments so that the player can reach the ideal performance in the key to competitions and achieve records.

Where modern sports training depends mainly on modern scientific knowledge and information, and on taking into account individual differences between players in physical, psychological, motor and physiological abilities, in addition to the importance of subjecting sports training programs according to different levels of athletes. In order to achieve optimal development for players. (71: 16).

Mufti Ibrahim (2000) explains the importance of using resistors in developing the elements of physical fitness, especially in the preparatory stage, where studies have shown that the use of resistance training through scientific training leads to raising physical, muscular, and physical fitness in particular, and it also helps to prevent injuries. (10:20, 21)

According to Scott Robert, Widder Scott Roberts & Ben Weider (1994), resistance training helps develop different aspects of players during the preparation period for players. Training season various studies and scientific

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references have shown an improvement in the level of physical fitness and physiological and chemical aspects of players by following the correct steps and instructions for programs Resistance training. (18: 43).

Adel Abdel-Basir Ali, Ehab Adel Abdel-Basir (2004), and Essam El-Din Abdel-Khalek Mostafa (2005) agreed that the use of resistors has a role in developing the elements of physical fitness and various physiological aspects. Bonquia in general and motor skills in particular (6: 42-46) (7: 129-132). And the progress of sports levels depends on several factors, including the improvement of the functional level of the sports body's organs, and this is achieved through developing training methods and methods that aim to improve results and reach the highest levels of achievement where training methods play an important role towards achieving this goal. And that one of the most important advantages of resistance training is its diversity and multiplicity of methods ,Essam El-Din Abdel-Khalek Mustafa (2005 AD) notes that there is a kind of resistance that ranges from little or no resistance and then begins to increase and difficulty, and this means that the resistance here is related to the upward force curve, where A person can continue to increase the strength generated during each range of movement, and that the resistance includes central and decentralized components of repetition, but to ensure that this occurs ideally during the entire range of movement the resistance must be properly prepared in order to be used to raise the level of athletic achievement in football.(26 : 7 .

Hussein Ahmed Heshmat and Nader Muhammad Shalaby (2003) explain that hormones play an important role in affecting muscle size growth as growth hormones play an important role in muscle growth and the rest of the body's tissues as a result of these hormones helping to stimulate growth orders, but there are many The hormones that affect growth, the most important of which are testosterone ,as it stimulates the transfer of amino acids and protein formation and prevents its dissolution (89 : 4) . Abu Al-Ella No Abdel-Fattah (2003) states that hormones are linked to all the functions of the body and the work of any organization, and most studies have focused on any relationship of testosterone and growth of an enlarged biting hormone and gaining strength, and the results of these studies indicate the observation of an increase in testosterone after weight lifting training, especially for men (1: 94, 95).

Testosterone contributes too many different functions in the body, including building strong muscles and bones, maintaining the distribution of body fat, and maintaining red blood cell production. (11). Exercise improves the ability of the heart and improves blood circulation to the body. Also, the exercise leads to the release of chemicals known as endorphins that stimulate hormones that increase blood flow and high levels of testosterone.

The disadvantages of Fathi Abdel-Rahman (2000) that must be codified physiological and chemical, which leads to an increase or decrease in the level of hormones from natural only in response to the load of the external organizer that the player plays, even the negative effects of this training load do not occur, a positive change occurs on the organs of the body and its functions As a result of its adaptation (8: 2).

Therefore, studies and research in the mathematical field are considered important aspects that help in achieving high mathematical achievements, which are only achieved through the application of the results of modern scientific

theories reached by the research, in order to learn about the different biochemistry. Physiological changes at the level of different cells and tissues in the body, to which they are linked and are influenced by the genetic makeup of the cell, which varies from athlete to athlete (19:40).

Swimming is one of the sports that require special specifications and varying levels of physical and functional efficiency due to what the swimmer (emerging - advanced) makes a great effort and this represents a burden on the vital devices for him, which requires the availability of appropriate fitness rates and different biochemical responses to ensure production and energy saving on High level, therefore, the trainer must familiarize yourself with the best training methods by which training loads can be configured and adjusted in order to properly influence the internal systems of the body. And the swimming is one of the most complicated sports and formation not only in terms of skill but also in its physiological and physiological requirements, and to reach high levels in swimming we need to press Ali to see all the biochemical and physiological aspects that the coach managed from the level of player development.

Through the researcher's briefing on previous studies and scientific references, the researcher concluded that the scientific research that dealt with resistance training did not take into account the hormonal nutrition of the rat resulting from these exercises, which in some cases leads to stress and increased training as a result. From increased cortisol secretion, some studies have confirmed that testosterone activity is P for Z in particular, early in the morning, which may have an impact on the level of digital player in progress. Hence the research problem arises in the researcher's attempt to legalize resistance training and the use of medical ozone and know its effect on testosterone and some physiological variables among swimmers.

Research Aims

This research aims to identify "the effect of using resistance training and medical ozone on testosterone and some physiological variables among swimmers"

Research Assumes

There are statistically significant differences "between the previous and subsequent measurements of the experimental group in (some physiological variables) in favor of posterior measurement.

There are statistically significant differences between previous and posterior measurements of the experimental group (testosterone) in favor of posterior measurement.

Research Terms

Resistors: are the effect of heaviness or burden imposed on a player's muscle groups during physical work. (2:16)

Biochemical compounds: These are compounds secreted by the endocrine glands and transported directly to the blood. It is characterized by a high ability to control body functions (3: 148).

Testosterone (testosterone) (T) is the main hormone responsible for the emergence of male traits in men, and testosterone is produced mainly from the testes by cells called interstitial Lidig cells, and the brain organizes the

production of testosterone and the pituitary, and hormone ratios vary constantly throughout the day. Where testosterone levels rise in the morning and decrease in the evening, as the percentage of testosterone varies with the human's age, as the highest percentage of the hormone ranges between twenty and thirty years, then begins to decrease gradually with age, and you find a Testosterone is also present in women, but at low levels, high levels of the hormone in women may lead to some health problems. (15th)

Medical Ozone: Medical Ozone (O₃) is a mixture of pure ozone gas and medical oxygen at a rate between 0.05% to 5% of the ozone in the oxygen. The medical ozone source is the medical ozone generator connected to the medical oxygen cylinder (5: 12).

Previous Studies

1. Study Jamal Ismail Mohamed Mutawa (2013) entitled "The effect of using resistance training on some physical variables and growth hormone GH and thyroid gland T₃ and T₄ for children under 14 years of age in football", the aim of the study to Determine the impact of the proposed resistance training program; Variables on some somatic and some biological variables (growth hormone GH and thyroid gland T₃ and T₄) were football players, and the research sample consisted of 28 players. The researcher used the experimental method, and the researcher concluded that there are statistically significant differences in the physical variables (speed - compatibility - ability - strength). The biological (GH and thyroid hormone T₃ and T₄) under study between the previous and subsequent measurements in favor of the posterior measurement.
2. Karen made Karen 2000 studies aimed at knowing the effect of running a marathon on the concentration of estrogen hormones, testosterone, and progesterone for marathon players, and used a descriptive approach on a sample of 8 players for marathon practices and 6-practices. The results resulted in an increase in hormones, progesterone, and estrogen by 28%, while testosterone increased by 93% in practices. As for other practices, it was only 40% increase in testosterone.
3. Kaiser applied Keizer A and others in 2007 AD, with a study aimed at determining the effect of a training program on the wheel of work on non-practicing sports activity on estrogen, progesterone, testosterone, and prolactin, and the experimental approach was used on two groups of the first sample of the number of 8 players and the number Second of the 13 non-exercise programs continued 3 months 3 times a week and the results resulted in an increase in the proportion of prolactin, estrogen, testosterone, and progesterone.

II. RESEARCH METHODS AND PROCEDURES

Research Methodology

The researcher used the experimental approach as it relates to the nature of the research using the experimental design of one experimental group and the use of the two measurements (pre-dimensional).

Research and Sample Community

This study was conducted on a sample of the intentional nature of the short distances and recorded the Iraqi Swimming Federation, and they were selected (10) swimmers as softcore research, and (5) swimmers as a soft

bottom.

Table 1: Description of the Research Sample

Total	The ratio	Number	Search community ranking
15th	%33.33	5	Exploratory study
	%66.67	10	Experimental group

Table (1) shows the numerical distribution of the research community from swimmers to short distances. The survey sample included (5) swimmers with a rate (33.33%), and the main research sample included (10) swimmers with a (66.67%).

Homogeneity of the Research Sample

The researcher conducted a homogeneity sample among the research members before applying for the program in the variables that may affect the results of the research as shown in the tables below:

Table 2: The Homogeneity of the Research Sample in the Basic Variables of the Under-17 Footballer (P = 10)

Coefficient of torsion	standard deviation	Mediator	SMA	Variables
-0.790	0.770	15,500	14.375	Age
-0.551	4.604	169,500	169.375	Length
-0.139	9.259	57,000	59.083	the weight
0.553	0.751	4,000	3.708	Training age

It is clear from Table (2) for the consistency of the data of the research sample in the basic primary measurements, that the coefficients of torsion range from (-0.790 to 0.553), which indicates that the extracted measurements are close to the equinox, and the values were limited to ± 3 .

Table 3: Homogeneity of the Research Sample in Physiological Variables (N = 10)

Labs skewness	deviation The normative	Mediator	The average Arithmetic	Variables	measuring unit
0.010	19.05	187	187.20	After measuring 100 m free	Beats / min
0.015	17.20	191.75	192	After measuring an anaerobic group 6 x 50	Beats / min
-0.224	0.713	3,500	3.34		L / min
0.027	1.88	9.00	9.05		Mmol / l

It can be seen from table (3) and your homogeneous research sample in physiological variables before the experiment that the coefficients of wrapping range from (-0.224 to 0.027) which indicates that the obtained measurements are close to where this is a variable. Limited between ± 3 .

Table 4: Homogeneity of the Research Sample in Biochemical Variables (P = 10)

Labs skewness	deviation The normative	Mediator	Variables	The average Arithmetic
0.596-	0.214	2,000	Nanomol / liter	2.384
0.446-	0.183	1.500	ng / dL	1.549

It is clear from Table (4) for the consistency of the data of the research sample in (biochemical variables) before the experiment that the torsional coefficients ranged between (-0.596 to -0.446), which indicates that the extracted measurements are close to the equinox, where the values were limited to ± 3 .

III. DATA COLLECTION TOOLS AND MEANS

Hardware and Tools

- Medical scales for measuring weight - a scale for measuring height
- Centrifuge blood centrifugation

Plastic syringes

Ozone Generator. Attachments 1

Methods of Data Collection

1. Biochemical measurements: testosterone and the measurement was as follows.

Draw blood samples at a distance of 5 cm² by a specialized medical team from the vein in the area. Place the arm of the ligament compressing the bandage on the ulnar area while they are in a position on the chair and extend the hand forward comfortably with the handgrip firmly. The compressed ligament opens in the ulna with an open fist and draws blood.

Each sample was transferred from the syringe to a glass tube with heparin (anticoagulant) by pouring blood onto the tube walls after removing the needle.

The special tubes were numbered after Noun All Player was written on them and put them in Portfolio medical, especially the cooler, and transferred to the laboratory to measure the biochemical variables under consideration.

Physiological Measurements

- Pulse measurement by direct palpation of the fingers on one of the superficial arteries (carotid artery) on the side of the neck, unit of measurement (pulse/minute).
- Measuring the vital capacity of the lungs using a dry spherometer to measure the vital capacity of the lungs, unit of measurement (l / min). Attachment (2)
- Measurement of lactic acid accumulation rate using Accosport Accusport (unit of measurement, mmol / l attached) (3)

The Proposed Program

Medical Ozone Program

1. The medical ozone dose was given by a doctor in a specialized center for ozone treatment and the drinking water method was chosen after passing the ozone gas in it, as it is a non-invasive method, that is, not using acupuncture to withdraw the amount of blood and detect it arising for a period of about 30 minutes between drawing and re-giving, so Difficult to repeat.
2. The proposed training program is attached using resistance exercises (4):

The Goal of the Program

The training program aims to improve the variables (physiological and some biochemical variables) by swimmers by designing a training program using exercises with resistance data in multiple forms.

The Foundations for Developing the Proposed Training Program

The researcher took into consideration the following scientific principles when designing the proposed training program:

1. The suitability of the program for the Sunni phase (the research sample) and subject to the overall goal.
2. Defining the goal of the program and the goals of each stage of its implementation.
3. Determine the most important duties of training and the availability of capabilities, tools, and equipment used.
4. Taking into account the individual differences between the study samples.
5. Observe the clear rest periods to get the individuals of the sample to the normal state.
6. The gradient ranges from easy to steel, and from simple to compound.

Determining the Training Unit Time

Musaad Mahmoud, Muhammad Shawqi Booth, Omar Allah Al-Bassat J (2003) (9) agreed that the unit's training time ranges between 65: 100 minutes at a rate of 2: 4 training units per week.

Based on the foregoing, the number of training units (2) was determined by two training units per week for the experimental group.

Determining the Time of Parts of the Training Unit

The training unit time for the experimental group was determined from 65 BC to 75 BC based on previous references, studies and scientific research.

In light of the training unit time and the time specified in (65-75 BC), the researcher distributed the time of the training unit parts as shown in Table (5).

Table 5: Time Distribution of Parts and Content of the Training Unit

The content of the training unit parts	Time	Parts of the unit	No.
General exercises for internal body systems	15BC	Warm up	1
Various resistance exercises	50 - 40BC	The main part	2
Relaxation and calming exercises	10BC	The final part	3
75-65BC		Total	

Determining the Resistors Used in the Training Program

Through the scientific references and previous studies, the most important resistors used in the sports field in general and in the field of the sport were swimming. The sport of swimming, in particular, using medical inhalation devices that were accessed from the most important resistors:

Fellow body resistance. Resist the medical balls. * Resistant to rubber strips.

Resist using heavyweight.

Dynamics of creating training loads for physical preparation (independent variable) during the special preparation phase.

The researcher used during the different stages of the program the basic configuration 1: 2, where the degree of

pregnancy was classified by using the average pregnancy during the first stage and then the high load during the second stage and then the maximum load during the third stage as shown in table No. (6).

Table 6: Dynamics of Training Intensity Formation Training for Physical Preparation (Independent Variable) During the Special Preparation Stage

Stages of special numbers			Degrees of pregnancy
The third period	The second period	The first period	
x			Maximum
	x		high
		x	Average

The researcher also used formations 1: 1, 1: 2, 1: 3 during the pregnancy cycle for daily units in proportion to the stages of special numbers.

Exploratory studies:

The researcher conducted a number of exploratory studies in the period from 1/23/2017 to 11/27/2017, based on an exploratory sample drawn from the original research community and from outside the main research sample with the aim of achieving the following:

First Survey

This first pilot study was conducted with the aim of achieving the following:

Ensuring the validity of the applied pool is a research experience in terms of:

Legal Bath. Verify the correctness and calibration of the devices and tools used in the question. Training of assistant gentlemen on methods of testing procedures for measuring variables under discussion. The results of this study resulted in ensuring that all its objectives are achieved. The second survey:

The second poll was conducted with the aim of achieving the following:

- Experience of training resistors under investigation and knowing their suitability for the age stage under investigation.

Resistor training technicians are under investigation.

The Results of this Study Resulted In

- It was confirmed that the proposed resistance exercises under the age are appropriate for the nature of the stage, whereby the survey sample conducted the suggested resistance exercises without any difficulties, which made the researcher provide the possibility of applying them to the core sample members.

IV. PROCEDURES FOR IMPLEMENTING THE EXPERIMENT

Tribal Measurements

Tribal measurements of total trials were performed in all variables used in Lbh w during the time period from 2/13/2017 to 2/18/2017.

Experiment Application

1. Ozone doses were taken to the medical swimmers three times a week by the specialist doctor before determining the daily training unit according to the target focus and research according to the weight of the player.
2. Implementing the resistance training program presented to the experimental group during the period 21/2/2017 to 4/14/2017.

Dimensions measurements:

Dimensional measurements of the total experiments were made in all variables used in the research, and with the same terms and conditions for the arrangement of tribal measurements during the period from 16/4/2017 to 4/21/2017.

Statistical treatments:

In light of the research goal and hypotheses, the SPSS statistical program was used to obtain the following statistical treatments: -

- SMA. Mediator.
- Standard deviation. Coefficient of torsion.

Test (T). The percentage of improvement.

Correlation Coefficient

Presentation and Discussion of the Results

Present the results of the first hypothesis which states "the presence of statistically significant differences" between the previous and subsequent measurements of the experimental group in (some physiological variables) in favor of the posterior measurement.

Table 7: Explain the Differences between the Pre and Posterior Measurement of the Experimental Group in Physiological Variables Number = 10

Percentage of change	Value of t	Dimensional measurement		Tribal measurement		Variables	
		deviation The normative	The average Arithmetic	deviation The normative	The average Arithmetic		
4.446%	11.471	1.453	179.111	5 19.0	187.20	After measuring 100 m free	Pulse rate
3.819%	9.381	1,000	184.667	17.20	192.00	After measuring a set No antenna 6 x50	
26.027%	14.559	0.237	4.089	0.713	3.34	Vital capacity	
%15.55	* 5.735	3.00	7.64	1.88	9.05	Lactic acid accumulation rate after training	

Attachment value "T" at the significance level 0.05 = 1.833

It is clear from Table (7) that there are statistically significant differences between the pre and post-measurement

levels of the experimental group in physiological variables where the calculated "T" values exceeded the tabular value at the degree of freedom (9) and a significant level of 0.05 in these variables in favor of the subsequent measurement where Rates of change in these variables are between (3.819%: 26.027%).

The researcher attributes these results to the fact that the proposed program of resistance and use of ozone was reflected in the results of applied tests and showed a relative change in the post-tribal measurement, indicating the positive effect of the physiological variables program.

Sharkey's participation (2006) confirms that the athlete has a good level of oxygen, pulse, and vital consumption, as well as low levels of lactic, which means delaying fatigue and improving player performance. (20: 239)

Which indicates resistance training and medical ozone removes lactic acid from the muscles, and also improves the pulse rate in which I swim.

Present the results of the second hypothesis, which states that "there are statistically significant differences" between the previous and subsequent measurements of the experimental group in (testosterone) in favor of posterior measurement.

Table 8: Explain the Differences between Pre and Post Measurement of the Experimental Group in Biochemical Variables Number = 10

Percentage of change	T value	Dimensional measurement		Tribal measurement		measuring unit	Variables
		deviation The normative	The average Arithmetic	deviation The normative	The average Arithmetic		
%36.242	* 5.450	0.346	3.248	0.214	2.384	Nanomol / liter	Growth hormone
%31.633	* 2,300	0.544	2.039	0.183	1.549	ng / dL	Testosterone

Attachment value "T" at the significance level 0.05 = 1.833

It is clear from Table (8) that there are statistically significant differences between the measurement scores before and after the measurement of the experimental group in the biochemical variables, where the calculated "T" values exceeded the tabular value at the degree of freedom (9) and a significant level of 0.05, and rates of improvement ranged between (31.633%: 36.242%).

The researcher sees this progress achieved by the proposed training program, the contents of which included a variety of exercises using different resistances and medical weights, which contributed to the development of growth hormone and testosterone.

These findings are consistent with both Hakkinen and others saw. (2001 AD) (12) Hakkinen, A. et.al, Kramer and others (1992 CE) ((14) Kreamer et.al, However, physical exercises have a significant effect on growth hormone concentrations and testosterone and its relationship to growth Muscles and increase muscle strength, especially muscle strength in the legs.

This is in line with the results of the study of Jamal Ismail Mohamed Mutawa (2013), which indicates the appropriate experimental resistance for the experimental group, and the rapid movements have led to significant

increases in the level of the percentage of the distinct force quickly compared to other improved groups, the proposed program of the impact of resistance training on some physical variables Some biological variables (HGH, thyroid T3, and T4) have soccer beginners.

V. CONCLUSIONS

1. Exercises showed multiple forms of resistance and the positive medical effect of ozone on physiological variables with a sample of swimmers research.
2. Exercises have shown various forms of resistances and the positive medical effect of ozone on biochemical growth hormone and testosterone variables. They have a research sample of swimmers.
3. The percentage of change in the level of physiological and biochemical variables in the experimental group varied.

RECOMMENDATIONS

1. Take advantage of the proposed training program in terms of multiple forms of medical and ozone resistance to develop physiological, logistical, and biochemical variables.
2. The need to pay attention to the development of growth hormone and testosterone in swimming stages in young people through the use of multiple forms of medical resistances and weights because of their positive impact on raising the level of biochemical variables.
3. Conducting more studies similar to the nature of the current research, using other resistors that differ from the resistors used in the current study.

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