The effectiveness of increasing the volume of training load on the period of overcompensation and its effect on "breaking" in the training session after stopping for young boxers in some physical and functional variables

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Introduction and research problem:

It is known that the individual not only has the ability to carry out training loads, adapt to them, but also compensate for the excess by reaching a better level after the recovery phase according to the Law of increasing training load (.(١٧-١٠ :١٢)

During the past few years, the training volumes for elite and international players have doubled, reaching between ١٤٠٠-١٠٠٠training hours, and the volume of training for competitions has also increased in the training year(٤٥-٢٢:١٠) .

Accordingly, increasing the size of the training load as one of the components of the pregnancy during the training periods that range from -١ ٣weeks contributes to early reaching the required physical level, changing the components of the body, and enhancing achievement. ((٥٠-٣٥:٢٢)

There is also a tendency that increasing the volume of the training load for more than two weeks during the training periods produces manifestations of excessive training load, which causes stress and a decrease in the level of achievement because it does not allow recovery to be restored, and they suggest returning to the normal training volume gradually for a period of ٥-٢weeks(٧٩-٧٤:٢١) .

In order to benefit from the quantitative and qualitative training loads, the contents of the training load must be directed to achieve specific goals with gradation and diversity in the implementation of the training load from multi-directional to bi-directional and then to a single or single direction so that the player can adapt and overcompensate by reaching a better level after the recovery period according to the law of return or yield (١٧ :١٤) .

And since the optimal training case “sports format” passes through three stages, the first stage is building,

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shaping, and developing the training case, which is matched by the training course with three preparatory “preparatory” periods represented by general preparation and special preparation, and they constitute about ٪٥٠of the time The training course and the preparation period for competitions, which constitutes ٪٢٥of the training course time. The second stage is the stage of stabilizing and maintaining the optimal training situation, and it corresponds to the competitions period, which constitutes about ٪١٥of the training course time, and then the third stage, which is the temporary decline of the training state, and Represented by the transitional "recovery" period of the training course and constitute about ٪١٠of the time of the training course. ((٥٩-٥٨:٢٦)

Given that one of the most important obstacles facing us in reaching the optimal training situation, “training format”, and achieving the best possible level of achievement during its second phase is the presence of relatively long pauses as a result of the exams for the first and second semesters, which precede the competitions period in the training course, which is represented by In the “winter” shield competitions and the “summer” cup, which are organized by the Egyptian Athletics Federation and its branches in the regions, which impedes the gradual, sequential, and regular progression of the contents of the training load, and training hours over the timeframe necessary to download and reach the optimal training state and achieve The best possible level of achievement in the allotted time(٢٦-١٤:٣) .

Accordingly, fitness and achievement improve as a result of the correct relationships between the training load and adapting to it according to the Law of Reversibility. Therefore, it is necessary to be aware of the problems that obstruct this, and to solve them creatively so that we can take decisions and actions that achieve the goals set in their specific times. . ((٣٠:١١)

Through the researcher’s work as a boxing coach, and during the players’ pause and interruption of training in order to study and exams, especially starting from the month of June, he noticed the low level of performance of young boxers, which may be due to their lack of some physical and functional qualities. Undoubtedly, there is more than one way to achieve this. But the question

comes, what are the best ways to overcome these problems with a great deal of success to reach the best possible level of achievement during the competition period, and accordingly the research problem crystallized in the need to identify how to “double” the size of the training load during the period following the period of cessation of training, and Until the competitions period, and its effect on some physical and functional variables.

research aims-:

1- Develop an appropriate planning for the formation of the contents of the training load cycle with an increase in the size of the training load that can be used during the time available for download after the breaks and until the date of the main competitions.

2-To identify the effect of using an increase in the size of the training load on some physical and functional variables of young boxers

Research hypotheses :-

1- There are statistically significant differences between the tribal and remote measurements in favor of the post measurement in the physical variables of young boxers

2- There are statistically significant differences between the pre and post measurements in favor of the post measurement in the functional variables of young boxers

Search terms:-

1- Increasing the training load: It is to increase the levels of loading until reaching the outer limit of the player's ability (affective fatigue), which leads to increased adaptation and overcompensation to a more advanced level. (١٢-٣٢:٧)

Search procedures :-

The experimental method was used using the experimental design of two groups, one experimental and the other control.

The research sample

The research sample was chosen by the intentional method of youth boxing players from above 17: less than 19 years old from clubs and centers (Al-Nujoum Sports Club - Al-Salam Club - Sadat City Youth Center) in Al-Menoufia region. The number of the research sample members was ١٧ young boxers, including ٦ boxers who were subjected to the exploratory study, ١١ boxers for the basic experience as shown in the table

Table (1)
Classification of the total population of the research sample

م	sports institutions	he statement		
		Experimental group	Experimental	group Total
١	Al-Nujoom Sports Club	٣	٢	٥
٢	Peace Club	٥	٢	٨
٣	Sadat City Youth Center	٣	٢	٥
٥	the total	١١	٦	١٧

Reasons for choosing the research sample

• Regular players in terms of commitment and training dates.

• The willingness of all players to attend training to participate in the research group.

• Convergence of time, training, physical and technical capabilities of the sample, as well as the educational and social level.

The homogeneity of the research sample

The researcher performed homogeneity on the basic research sample before applying the training program in growth rates (age - height - weight - training age) and Table No. illustrates this (2)

Table (2)
The arithmetic mean, median, standard deviation, and skewness coefficient for an individual .The research sample in the variables (age, height, weight, training time) n = 17

	Variables		mean	median	deviation	skew
١	Age	year	١٧,٨٧	١٨	٠,٦٤٠	١,٤٨-
٢	Height	Centimeter	١٧٥,٣٦	١٧٥,٥	٥,٣٩٠	٠,٠٨٠-
٣	Weight	Kg	٦٦,٢٧	٦٤	١٠,٦٦	٠,٦٤٠
٤	training age	Month	٣,٥٤	٣	١,٢٦	١,٣٠

It is clear from Table No. ٢ that all the torsion coefficients of the research sample ranged between (-١.٤٨٠, ١.٣٠) and that these values were limited to between +٣, which confirms the homogeneity of the research sample in the variables (age - height - weight - training age).

Data collection methods

The researcher used a variety of methods to collect data in line with the nature of the research and the data to be obtained, which are as follows:

The player's personal data registration form and physical and physiological tests.

Tests used:

By reviewing the scientific references and previous studies, tests that measure physical characteristics and physiological variables were extracted

Selection of assistants:

- Six assistants were selected from the graduates of the Faculty of Physical Education, who were prepared for this by the researcher's knowledge.
- Survey Studies

The exploratory study was conducted from ٢٠٢١/٩/٢ to ٢٠٢١/١٨/٩ on a representative sample of the indigenous community and from outside the basic research sample, which consisted of ١٢ boxers, including ٦ distinguished youth boxers from among the heroes of the republic, ٦ undistinguished youth boxers of the same age group and targeted the following Finding validity and reliability coefficients for physical and physiological tests.

The results of the second survey:

- The stability coefficient of physical and physiological tests was found by applying the test and reapplying it with a time difference of ٣٠ minutes as shown in Table No. ١٠. The stability coefficient was found for it over three days, where the researcher divided the boxers into three groups according to weight (first day light weights - today The second day (medium weights, then the third day, heavy weights).

The validity coefficient (discrimination validity) was found for the physical and physiological tests by using the second measure of the reliability coefficient and comparing it with the results of ٦ distinguished young boxers of the same age group. Table No. ٣ shows the validity coefficient

(٣) Table

The reliability coefficient of the tests in question n = n2 = 6

م	Test name	First application		Second application		application Correlation coefficient
		mean	deviation	mean	deviation	
١	Throw a 3 kg medicine ball to the farthest distance with the right hand	٧,٥	٠,٩٣٩	٧,٣٧	٠,٦٨١	*٠,٦٦٤
٢	Throw a 3 kg medicine ball to the farthest distance with the right hand	٦,٩٤	١,٦٥٤	٦,٤٨٤	١,٣٦٨	*٠,٨٢٨

٣	Left and right straight shot on the punching bag within (20 seconds)	٤٤,٣	٥,٢٩٢	٤٢,٩	٤,٢٥٤	*٠,٨٧٥
٤	Straight left and right shot on the punching bag within (1 s)	٨٩,٣	٨,٩٢٠	٨٩,١	١٠,١١٥	*٠,٨٥٥
٥	Moving forward and backward between the flags with straight punches left and right to the head	١١,٣٤	١,١٢٧	١١,٤٩	١,٠٦٣	*٠,٨٢٠
٦	Maximum oxygen consumption	٣,٢٤٦	٠,١١٥	٣,١٩٠	٠,١٣١	*٠,٧١٠
٧	physical efficiency	٧٧,١١	٣,٤٨٤	٧٩,١٧٢	٦,٠٧٥	*٠,٨٦١
٨	anaerobic capacity	٣٨٩,١٤	٤٤,٠٣٤	٣٩٠,٥٢	٤٣,٣٥	*٠,٨٩٠

(t) tabular value at the level of 0.05 = 0.602

It is clear from Table No. 3 that the correlation coefficients for the tests were limited to (0.644, 0.890) and that all correlation coefficients are significant at the 0.05 level, which confirms the stability of the tests.

table(4)

The differentiation validity coefficient of the tests under study n1 = n2 = 6

م	Test name	Distinguished group		A less group		distinguishes	teams value
		Mean	deviation	mean	deviation		
١	Throw a 3 kg medicine ball to the farthest distance with the right hand	٩,٦٥	١,٧٦٦	٧,٣٧٣	٠,٦٨١	٢,٢٨٠	*٣,٦١٠
٢	Throw a 3 kg medicine ball to the farthest distance with the right hand	٨,٢٥	١,٣٨٨	٦,٤٨٤	١,٣٦٨	١,٧٦٦	*٢,٧٢٠
٣	Left and right straight shot on the punching bag within (20 seconds)	٦٥	١٢,٦٨	٤٢,٩	٤,٢٥٤	٢٢,١	*٤,٩٦٠
٤	Straight left and right shot on the punching bag within (1 s)	٩٩,٩	٧,٩٠٨	٨٩,١	١٠,١١٥	١٠,٨	*٢,٥٢
٥	Moving forward and backward between the flags with straight punches left and right to the head	١٠,٠٧	٠,٣٦٦	١١,٤٩	١,٠٦٣	١,٤٢	*٣,٧٠
٦	Maximum oxygen consumption	٤,٠٧٤	٠,٣٧٨	٣,١٩	٠,١٣١	٠,٨٨٤	*٦,٦١٠
٧	physical efficiency	٩٣,٨١٢	٦,٨٤١	٧٩,١٧٢	٦,٠٧٥	١٤,٦٤	*٤,٨٠

T-table value at the level of 0.05 = 2.101

It is clear from Table No.4 that the validity coefficient is highly significant between the privileged and undistinguished group, where the degree of honesty is between (٢.٥٢, ٦.٦١) and that all of them are significant at the ٠.٠٥level, which confirms the validity of these tests in what they were designed for, and that it can differentiate between distinguished and non-distinguished boxers. Distinguished in the same age group.

Basic study :

Tribal measurements:

Tribal measurements were carried out for the members of the research sample (the experimental group) in the period from ٢٠٢١/٢٤/٩to ٢٠٢١/٢٩/٩at the Boxing Hall at the Faculty of Physical Education in Sadat City. These measurements took (٥) days and included: (age - height - weight - age Training - physical tests - physiological tests)

Executing the experiment:

The training program was implemented on the experimental group for a period of one and a half months, from ٢٠٢١/١٠/١to ٢٠٢١/١٥/١١, with ٨ training units per week.

training program:

The aim of the program:

The training aims to increase the size of the training load on the period of overcompensation and its effect on the "fracture" in the training session after stopping for young boxers in some physical and functional variables.

Program foundations:

The researcher laid the foundations of the program after reviewing the scientific references specialized in boxing, training science and previous studies as follows:

-The duration of the training program is 6 weeks.

-The number of weekly training units has been set at 8 training units.

-The time of the training unit was limited to the week with medium load between (١٠٥-٧٥s), in the week with high load by (٩٠- ١٢٠s), and in the week with maximum load by (١١٥-١٣٥s), provided that the inter-rest periods are large, which leads to an increase training unit time.

The load degrees were distributed over the training weeks during the training program, provided that the average load is between (-٥٠ ٪٧٤), the high load is between (-٧٥ ٪٨٤) and the maximum load is between (٨٥: to the limits of the player's amount ٪١٠٠).

-The researcher took into account the distribution of the degree of pregnancy between weeks and levels of training intensity in a ratio of (١:١) in line with the requirements of competition in boxing and what it requires from the necessity of performance in tournaments over the course of the championship days in succession.

The researcher relied on calculating pulse rates to determine the intensity of the training load, through the following physiological trends

Table (5)

Pregnancy types and training trends used in the research

Pregnancy types / Measurements	Average	High	Maximum
heart rate	z/min ١٥٠ - ١٣٠	z/min ١٧٠ - ١٥٠	z/min ٢٠٠ - ١٧٠
What is the equivalent in ?degrees	to 2 degrees ١	to 4 degrees ٢	ie 10 degrees ٤
	from 30 - 60%	from 60 - 90%	٪١٠٠ - ٨٠

Pulse rates can be calculated using the maximum heart rate reserve (HRR) method, which is the difference between the athlete's maximum heart rate during exercise and his resting pulse rate. This can be calculated as follows:

-Maximum heart rate: ٢٢٠(average age).

Reserve max heart rate = max resting heart rate - max resting heart rate (reserve maximum pulse rate) HRR = max HR – rest HR

Required intensity × pulse reserve Average heart rate = + resting heart rate ١٠٠

The gradual upgrading of the solution level was taken into account through the systematic change of its components.

This does not mean increasing the training load daily, and in general, regulating the times of the loads

The training courses and their distribution on the training weeks and the appropriate degrees of pregnancy during the duration of the program according to Table No. 15

Table (6)

Training times and pregnancy degrees during the weeks of the program

the week		١	٢	٣	٤	٥	٦	٧	**the total**	pregnancy degree
the first	by level	٩٠	١٢٠	٩٠	١٢٠	١٠٥	١٣٥	٩٠	750	Average
Second	for the first ٪١٥ +	١٠٥	١١٥	١٠٥	١١٥	١٢٠	١٢٥	١٠٠	785	high
Third	for the second ٪١٥+	٧٥	٧٥	٧٥	٧٥	٧٥	١٠٥	٧٥	555	Maximum
the fourth	for the third ٪١٥ +	١٠٥	١١٥	١٠٥	١١٥	١٢٠	١٢٥	١٠٠	785	Maximum
Fifth	High load for boxing	١٢٠	٩٠	١٢٠	١٠٥	١٣٥	١٢٠	١٢٠	810	high
VI	like the fifth	٧٥	٩٠	٩٠	٩٠	١٠٥	٩٠	٧٥	615	high
	Total time in minutes								4300	
	Total time in hours								**71.66**	

I forced the fractions into a whole number in favor of the training program

The researcher took into account the principles and foundations of developing physical attributes, the most important of which is the gradual development.

The form of performance in the exercises is similar to the nature of performance in the sport of boxing.

-The researcher took into account the individual differences between the players, as he divided them into three groups according to weight (light - medium - heavy) during the development of physical characteristics.

Program content:

The training program includes a set of exercises directed to the development of the physical characteristics selected according to the reference survey and expert opinion poll during general and private physical preparation and preparation for matches, which were included in the training stages for the experimental group.

The program included training on straight punches in the head and linking them in the form of two and three sets, as well as some defenses for straight punches as well as the counter-attack of those punches. The program also included some tactical aspects

of the ring art, with the aim of improving all the selected research variables (physical - physiological).

Program setting steps:

1-The researcher conducted a reference survey of some scientific references specialized in the sport of boxing and the science of sports training, in addition to the related studies, in order to determine the physical characteristics of the boxing players.

2- The researcher designed an opinion poll form to determine the relative importance of the composite physical characteristics for the age group under study.

3- The researcher chose the general and private physical preparation exercises that were included in the training program as a training content and applied to the boxers in the research sample.

4- The time period of the program was divided into three phases:

-The first phase of the program lasts for (١) weeks: it aims to prepare the general and push the pregnancy before the refraction

The second phase of the program lasts for two weeks:

This stage aims to develop and develop the special physical qualities and mastery of the boxer's motor skills, which helps to improve the skillful and tactical performance, which determines the level of the boxer's training status and the level of his progress. At the end of this stage, the boxer usually reaches the sports form.

The third phase of the program lasts for 4 weeks:

It aims to maintain the level in the pre-match period.

- The researcher distributed the total training times and degrees of pregnancy during the weeks of the program and the percentages on the three stages of preparation (general physical - special - skill and planning) during the preparation period for the training program according to what was mentioned in the scientific references and previous studies related to boxing training programs and table No. (١٦) and figure Figure (٤, ٥) shows the distribution of pregnancy during the weeks of preparation and the percentages on the three stages of preparation (physical - general - special - skill - planning) during the preparation period for the program.

Presentation and discussion of the results:

Table (7)
The significance of the differences between the mean of the tribal and dimensional measurements of the experimental group In physical and physiological tests n = 11

م	Variables	Test name	edian tribal	median dimensional	Positive ranks		Negative ranks		alue (z)
					Average Rank	Total Rank	Average Rank	Total Rank	
١	The power of speed	Throwing a 3 kg medicine ball with the right hand to the farthest distance	٨,٢٥٤	١١,٥	٦,٠٠	٦٦,٠٠	-	-	٢,٩٤٦
		Throwing a 3 kg medicine ball with the left hand to the farthest distance	٦,٩٠٩	٩,٣٦	٦,٠٠	٦٦,٠٠	-	-	٢,٩٥٠
٢	bearing speed	Left and right straight shot on punching bag (20 seconds)	٤٤,٩٠	٩٦,٠٠	٦,٠٠	٦٦,٠٠	-	-	٢,٩٤٣
٣	endurance force	Shooting at the punching bag for (1 min)	٨٧,٠٠	١٦٨,١٨	٦,٠٠	٦٦,٠	-	-	٢,٩٣٦
٤	performance endurance	Punching the left and right straight punches to the head on different punching devices	٢,٣٥٧	١,١١٠	-	-	٦,٠٠	٦٦,٠٠	٢,٩٣٦
٥	Compatibility	Throwing straight punches to the left and right on the numbered circles on the boxing sign	١٤,٧٨٢	٨,٥١٢	-	-	٦,٠٠	٦٦,٠٠	٢,٩٣٤
٦	agility	Moving forward and backward between the flags while hitting the left and right punches to the head	١٢,٨٠٤	٩,٤٣٩	-	-	٦,٠٠	٦٦,٠٠	٢,٩٣٤
٧	physiological variables	Maximum oxygen consumption	٣,٤٠٧	٤,١٩١	٦,٠٠	٦٦,٠٠	-	-	٢,٩٣٤
٨		physical aptitude	٧٩,١٣٢	١١٤,٦٦	٦,٠٠	٦٦,٠٠	-	-	٢,٩٣٤
٩		anaerobic capacity	٤٢٨,٤	٥٢٤,٩٤	٦,٠٠	٦٦,٠٠	-	-	٢,٩٣٤
١٠		Anaerobic capacity	٣٧٨,٥	٥٢٠,٠٦	٦,٠٠	٦٦,٠٠	-	-	٢,٩٣٤
١١		lactic acid	٩,١٥٤	٤,٩٤٥	١,٠٠	١,٠٠	٦,٥	٦٥,٠٠	٢,٨٤٧

(y) tabular value at the level of 0.05 = + 1.96

It is clear from Table No. ٧that there are statistically significant differences between the mean of the tribal and dimensional measurements of the experimental group in favor of the post-measurement at the level (٠,٠٥) in the tests of physical traits and physiological variables

Table (8)

The percentage of improvement in the experimental group in the traits tests physical and physiological variables

م	physical character	test name	measurement	measurement Difference	of the averages	Improvement percent % age
			س	س		
1	The power of speed	Throwing a 3 kg medicine ball with the right hand to the farthest distance	٨,٢٥٤	١١,٥	٣,٢٤٦	٣٩,٣
		Throwing a 3 kg medicine ball with the left hand to the farthest distance	٦,٩٠٩	٩,٣٦	٢,٤٥١	٣٥,٥
٢	bearing speed	Left and right straight shot on punching bag (20 seconds)	٤٤,٩٠	٩٦,٠٠	٥١,١	١١٣,٧
٣	endurance force	Shooting at the punching bag for (1 min)	٨٧,٠٠	١٦٨,١٨	٨١,١٨	٩٣,٣
٤	performance endurance	Punching the left and right straight punches to the head on different punching devices	٢,٣٥٧	١,١١٠	١,٢٤٧	٥٢,٩
٥	Compatibility	Throwing straight punches to the left and right on the numbered circles on the boxing sign	١٤,٧٨٢	٨,٥١٢	٦,٢٧	٤٢,٤
٦	agility	Moving forward and backward between the flags while hitting the left and right punches to the head	١٢,٨٠٤	٩,٤٣٩	٣,٣٦٥	٢٦,٣
٧	physiological variables	Maximum oxygen consumption	٣,٤٠٧	٤,١٩١	٠,٧٨٤	٢٣,٠٠
٨		physical efficiency	٧٩,١٣٢	١١٤,٦٦	٣٥,٥٢٨	٤٤,٩
٩		anaerobic capacity	٤٢٨,٤	٥٢٤,٩٤	٩٦,٥٤	٢٢,٥
١٠		Anaerobic capacity	٣٧٨,٥	٥٢٠,٠٦	١٤١,٥٦	٣٧,٤
١١		lactic acid	٩,١٥٤	٤,٩٤٥	٤,٢٠٩	٥٤,٦

It is evident from Table ٨that the highest percentage of improvement was for the velocity endurance component of the test (straight left and right shooting on the punching bag during " ٢٠seconds") and its amount (٪١١٣,٧), and the lowest percentage of improvement was for the anaerobic capacity variable and its amount (٪٢٢,٥).

It is clear from Table No. (٣١), (٣٢) and Figure (١١), (١٢) that there are

statistically significant differences at the level (٠,٠٥) between the tribal and remote measurements of the experimental group in favor of the post-measurement in the choices of the composite physical characteristics under study, where the value of (Z) favoritism between (٢,٩٣٤, ٢,٩٥٠) while the tabular (Z) was (+١,٩٦), as well as the percentage of increase ranging between (٪٢٦,٣, ٪١١٣,٧), which indicates the progress of the level of the experimental group players in the complex physical characteristics under study, and the researcher may refer This progress is due to the effect of the training program, which depends on regular training, as well as the number of training units for this group, which amounted to (٤) training units per week, and the continuation of the training period.

It is clear from Table (٨) that there is a discrepancy in the percentage of improvement from one component to another, so we find that the highest percentage of improvement was for speed endurance and was (٪١١٣,٧), followed by endurance of force and it was (٪٩٣,٣), then performance tolerance by (٪٥٢,٩), followed by compatibility with (٪٤٢,٤), then the speed advantage of the "right arm" by (٪٣٩,٣), then the left arm by (٪٣٥,٥), and the lowest percentage of improvement for agility was.(٪٢٦,٣)

The researcher may attribute the progression of the experimental group's player level in the composite physical attributes in question to the effect of the training program that contained different training groups aimed at developing the compound physical attributes, whether it was individual exercises based on body weight or marital based on the weight of a colleague or exercises using medical balls and exercises Weights, as well as training on devices and tools that are similar to playing situations, taking into account the individual differences of the loads, as well as the selection of muscle exercises according to muscle contraction, which led to an increase in the strength of working muscles, which contributed significantly to the improvement of the complex physical characteristics of the study sample.

The researcher attributed the result of the significance of the differences in the choice of endurance speed that modern boxing is the use of the computer depends heavily on speed more than any other element and this is consistent with what was indicated by Ismail Hamed et al. Second, third and

fourth in the same area and in sight, as well as the superiority of the Cuban players in the element of endurance of speed.(٧:١٣٤)

The researcher also attributed the high level of speed endurance due to the increase in the efficiency of the player's devices through regular training and the inclusion of the training program on playing exercises on light devices such as (dancing ball, hanging ball, bouncing ball, speed ball) as well as individual exercises to develop speed endurance during the preparation stage The general and private physical, and confirmed by Thomason and others, W et all ١٩٩٢AD, Abdel Fattah Khader ١٩٩٦AD, that light boxing exercises affect the vital organs of the boxer in a positive way in relation to the direction of physiological work. ((٨٣:٤٩) (٣١:٤٧٢٤٦)

The results of this study agree with the results of the studies of Sameh Abdel Raouf ١٩٩٢AD (١٩) Stoletki ١٩٨٩AD (٨١) Ahmed Amin ١٩٩٥AD (٤) Arafa al-Sayed ١٩٩٧AD (٣٣) Ahmed Salah ٢٠٠٠AD (٥) Kamal Abdel-Jaber ٢٠٠٠AD (٣٦), Mustafa Nasr ٢٠٠٢AD (٥١) Yassin Ahmed ٢٠٠٢AD (٥٧), Saeed Jamil ٢٠٠٤AD (٢٢), Mustafa Amin ٢٠٠٦AD (٥٠) that the proposed training programs as well as weight programs using forms of resistance less than the maximum, as well as special exercises, whether using boxing devices and tools or without tools leads To develop the special physical qualities of boxers.

It also appears from Table (٧) that there are statistically significant differences at the level (٠,٠٥) between the pre- and post-measurement of the experimental group in favor of the post-measurement in the physiological variables under research, where the value of (Z) favoritism was limited to (٢,٨٤٧, ٢,٩٣٤) while (Z) was tabular (+١,٩٦), as well as the percentage increase ranging between ,٪٢٢,٥) .(٪٥٤,٦

It is clear from Table No. (٧) that there is a discrepancy in the percentage of improvement from one variable to another, so we find that the highest percentage of improvement was for the lactic acid variable by (٪٥٤,٦), followed by the physical efficiency by (٪٤٤,٩), then the anaerobic capacity by (٪٣٧,٤), followed by the maximum For oxygen consumption (٪٢٣,٠), the lowest percentage of variable improvement was anaerobic capacity by.(٪٢٢,٥)

The researcher attributed the improvement in the physiological

variables under study to the high level of efficiency of the circulatory and respiratory systems, as the training program for the compound physical characteristics contributed to the improvement of these variables. Increasing its ability to contract, so the expansion of the chest increased, and this led to an improvement in vital capacity, rapid exhaled air volume, as well as maximum air volume, and this is consistent with what was indicated by Go Forte et al. Al-Fattah ٢٠٠٠AD indicated that the improvement that occurs in the physiological variables is due to the quality of the training load used according to the physiological trends as well as the training methods used.
(٧٠:٢٦)

The researcher also attributes the significance of the differences to the percentage of lactic acid concentration in the blood after the performance of the experimental group to the program applied to this group and the proper rationing, especially in the inter-rest periods during the time period of the program. Rest periods between each exercise and another and a group and another, as the rest period is important to extract a large amount of blood accents(١٠:١١٦) .

The researcher also indicates that this significant increase in the measurement of lactic acid is due to the fact that the training program for the compound physical characteristics applied to the experimental group led to an improvement in the efficiency of the circulatory and respiratory systems in providing oxygen to delay the accumulation of lactic, as well as the improvement of the work of the enzyme lactan dihydrogenins, which stimulates the reaction of lactic acid to Peruvage, because any disturbances in this enzyme affect this transformation process, as well as the use of active rest after completing free boxing with a colleague through light walking exercises, relaxation exercises, as well as flexibility exercises, which affected the speed of lactic elimination as well as recovery recovery and this is what Confirmed by Ehab Sabri in ٢٠٠٠, citing Merle and Stephen.

This is also in agreement with what Abu El-Ala Abdel-Fattah and Ahmed Nasr El-Din ١٩٩٣m (٢) stated that the applied program led to the availability of oxygen, which led to the oxidation of hydrogen ions and brine and ferric acid to carbon dioxide and water, thus

delaying the accumulation and formation of lactic acid.

The models of this study agree with the results of the studies of Wei & Len ١٩٩٧AD, Jamal Ismail ١٩٩٨AD, Ihab Sabry ٢٠٠٠AD (١٠) quoting from Reborn, Mackinnon, Rozenek, and Burke Pierce that the program Training affects the concentration of lactic acid through an improvement in the enzyme dehydrogenase in the blood, and this contributed to an increase in the ability of boxers to quickly get rid of lactic acid and delay the phenomenon of fatigue and speed recovery recovery

The results of this study are also in agreement with the results of the studies of Sameh Abdel-Raouf ١٩٩٢ (١٨), Cahoon & Bollard ١٩٩٥(٦٨), Abadi Rand et al. ١٩٩٦(٥٩), Ehab Sabry ٢٠٠٠(١٠), Ashraf Mustafa ٢٠٠٣ (٩) Saeed Jamil ٢٠٠٤(٢٢) that the training program leads to an improvement in (maximum oxygen consumption, physical efficiency, anaerobic capacity, anaerobic capacity)
Conclusions and recommendations:
Abstracts:

Within the limits of the objectives, hypotheses and results of the study under study, the researcher reached the following conclusions:

1-The application of the training program by increasing the size of the training load under study led to an improvement in the physical and functional variables of young boxers.
2-The application of the training program by increasing the size of the training load under study led to overcoming the “breaking” pause period in the training session, speeding up the return to the optimal training state “sports formatting” and achieving a better level than the players were before the stopping period.
3-The training program, by increasing the size of the training load, led to the identification of the period necessary for adaptation and overcompensation after the pause period, which is six weeks of training.

Recommendations:

- Based on the results of the study and the resulting conclusions, the researcher recommends the following:

1-The necessity of using the same method of forming training load cycles to design similar programs with an increase in the volume of the training load under the same variables under study "training cycle refraction - the available time range."
2-Benefiting from the use of increasing the size of the training load over the

need for early access to the best sports case "sports format" with the modification of practical applications to match the current study.

3-Not to prolong the cycle of increasing the size of the training load at a week for young women, with a return to the usual training load for a period of two weeks to avoid stress and injury to bring about the required adaptation.

4-Conducting similar studies on samples and other competitions.

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