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# The Effect of a Training Programme with Metered Loads of Varying Intensity on Some Physical and Biochemical Variables and Digital Level In The 100 Hurdles Race

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**Abstract:** The aim of the research was to develop a training curriculum with a standardized load of varying intensity, to identify the effect of the training curriculum with varying intensity on the development of some physical abilities and biochemical indicators of 100m steeplechase athletes, and to determine the rate of development in the level of physical abilities and biochemical indicators of 100m steeplechase athletes. Due to the nature of the issue to be investigated, the researcher decided to use the experimental method with a two equivalent groups design as it is suitable for the nature of the issue to be investigated. The researcher chose the research population by the random method, represented by the players of the sports academy in the 100m steeplechase for the season (2025) for the youth category, and the researcher chose this sample because it represents the main base of talented players, and the research population reached (16) players In order to select a representative sample of the community, (4) of them were selected to conduct the exploratory experiment, thus the research sample consisted of (12) players who were divided into two groups in a random manner, the experimental group consisted of (6) players, while the control group consisted of (6) players. The researcher selected the appropriate physical ability tests and biochemical indicators for her research. The researcher used the SPSS statistical package. She concluded from her research that developing a training curriculum with standardized loads of varying intensity for 100m hurdlers showed that the use of Training methods with metered loads of varying intensities that these abilities, whether physical or chemical, play a major role in the development of these different abilities, agility and flexibility training has contributed to the development of anaerobic capacity and increase muscle stock, training with metered loads of varying intensities increases the adaptability of the nervous system to high training loads and increases its resistance to fatigue.

**Keywords:** Training Programme, Biochemical Variables, 100 Hurdles Race

## Introduction

### Research Introduction

The athlete's access to high achievement in individual games was not purely coincidental, but came as a result of multiple factors that came together to achieve outstanding results and achievements, the most prominent of which was the adoption of the best methods and scientific methods and multiple scientific methods and metered loads and varying intensities in sports training, and the regularity of the training process and implementation of the curriculum and legalization on correct scientific bases to lead to the emergence of biochemical responses as well as significant physical effects to lead to the level

of adequacy of high training to reach the desired goals of achieving high achievement. Therefore, training according to the loads One of the most important modern scientific methods and methods used in sports training, so the preparation for the training of short race players, especially the game of 100 m obstacle course, should be based on the development of this game.

**Research Problem**

The research issue crystallized through the researcher's continuous follow-ups and observation of track and field games and as one of the subject teachers and trainers of the game, she noticed that there is a especially young players, who represent the basis on which the development of the game depends, as building and legalizing training curricula for any game according to the correct practical principles with high knowledge. As well as the lack of availability of training based on systems with regulated loads of varying intensity as the basis on which to raise the level of players' abilities and reach him to achieve the goals of the training process, as well as the lack of scientific expertise and knowledge to link modern training theories, so the researcher wanted to prepare a training curriculum with regulated loads of varying intensity to develop some physical abilities and raise the capabilities of biochemical indicators to contribute to improving the level of performance of racing players and implementing their motor duties in the best way.

**Research Objectives**

1. To determine the effect of a training method with varying intensities of loads on the development of some physical abilities and biochemical indicators in 100m steeplechase athletes.
2. To know the rate of development of the level of physical abilities and biochemical indicators in the 100m steeplechase athletes.

**Research hypotheses**

1) Existence of significant differences between the pre and post tests of the two groups in some physical abilities and biochemical indicators of 100m hurdlers.
2) The existence of significant differences in the post-test between the two groups in the variables under study.

**Research Fields**

- **Human domain:** - Youth sports academy players.
- **temporal domain: -** from (20/11/2024) to (20/2/2025).
- **Spatial domain:** - Field and field courts in the sports academy.

## Methodology

The nature of the current research issue determines the research methodology, as the empirical research method is considered one of the "sufficient means of reaching reliable knowledge" (Diebold, 1985, 407). Therefore.

### Population and research sample

The research community was deliberately intended, represented by the players in the sports academy for 100m steeplechase for the season (2025) for the youth category, and their selection came because they represent a basic base for talented players and the research community reached (16) players, and to choose a sample representing their community, where (4) of them were selected to conduct the exploratory experiment, so the original sample consisted of (12) players divided into 2 groups by random method to represent one group (6) players.

### Means to collect information

(references, Arabic and foreign sources, observation and experimentation, personal interviews, tests and measurement).

### Research equipment and tools

**1. Physical Ability Tests and Biochemical Indicators**

**Physical Ability Tests :- Trunk uplift test in prone position**

- General purpose: To measure the flexibility of the posterior spine.
- Tools : Measuring tape divided into centimeters.
- Performance specifications: From the prone position of the player, the palms interlocked, slowly bend the torso backwards to the maximum extent he can for (2 seconds), the distance below the chin to the ground level is measured by the tape measure where the tape is in a vertical position on the ground, with the number zero touching the ground during the measurement to give two attempts for each tester and the best of all attempts is selected.
- Recording: The distance from the floor to the bottom of the chin in centimetres is recorded for the better of the two permitted attempts (Hassanian, Abdel-Moneim, 1988, 148).

**II: 9 m shuttle run test**

**(electronic scales for measuring weight and length, Casio timing watches (4), adhesive tapes, a box with a height (40 cm, 50 cm) for measuring biochemical indicators).**

- Its purpose: Measurement of running and axial rotational speed (agility).
- Tools: Draw 2 parallel lines with a distance between them (9 m), a stopwatch, (4) balls placed at the beginning of the line.
- Specifications: The tester stands directly behind the starting line and upon hearing the signal, start running to the opposite line to pick up one of the three balls placed behind this line, provided that the tester reverses the direction of running towards the starting line while holding the ball to place it with both hands behind the starting line, and then reverses the direction of running again He then reverses the direction of running to the opposite line to pick up the second ball with the same method of picking up the first ball

to put it with both hands behind the starting line, and then performs this action a third time to bring the third ball to put it next to the previous two, i.e. the tester runs a distance (9 m x 6 times), i.e. 54 m back and forth.

- Recording: The time in which the tester covers a specific distance is calculated from the moment to start until reaching and exceeding the starting line in any part of the body after the third cycle (Mohammed Subhi Hassanian; 1988, 42).

**2. Non-laboratory biochemical indicator tests**

**Vertical jump test to measure phosphate oxygenation capacity**

- Purpose: To measure the phosphagenic oxygenation capacity.
- Tools: A wooden blackboard (1.5 cm) on which horizontal lines are drawn so that the distance between the lines is (2 cm), and marks can be placed directly on the wall and dispense with the blackboard according to the conditions, a height measuring device, a medical scale.
- Performance specifications: A tester extends his/her arm upwards to make a mark on the board or wall, then swings his/her arms back and bends his/her knees to a right angle position only, after pushing off with the feet to jump upwards to reach the maximum height possible, the tester is given three attempts to score the highest score.
- Scoring: The phosphagenic anaerobic capacity in the vertical jump test is calculated according to the following formula:- (Gene, M. Adums, 1990, p.P.P. 91-94).

**Phosphagenic anaerobic capacity = 2.21 x body weight x√Distance between the two marks**

**Secondly, the Harvard Pneumatic Step Test.**

Purpose of the test: Measurement of oxygen capacity.

- Tools: A wooden box with a height (51 cm), length (40 cm) and width (35 cm), electronic watch, metronome to regulate the rhythm of the step or alternatively use the rhythm recorded on the cassette for (5 d.) at a rate of (30) steps per minute (a step is equal to 4 repetitions).
- Performance specifications: The tester stands facing the box, and when the signal is given to start, he performs the ascent and descent on a box at a rate of (30) steps per minute for (5 d.) In case of inability to continue the performance due to fatigue, we calculate the time for the tester who takes to perform it in seconds, noting that the total test time is (300 s), equivalent to (5 d.).
- Scoring: Immediately after the end of the test, the tester sits on a chair and then calculates his pulse during a period of (30 seconds) from (1 d. - 1.5 d.) After completing the test, the aerobic capacity is calculated on his physical efficiency index method and according to the following formula:- (Abdel Fattah Ahmed; 1997, 97).

**Physical Adequacy Index (pei) = number of all seconds taken x100 /** 5.5 **x In half a minute, the number of pulses**

**Scientific bases for the tests**

**1) Firstly: Content validity**

Content validity was adopted as it depends mainly on the extent to which the tests, situations and aspects it measures can be represented honestly and homogeneously to achieve the goal for which it was developed (Marwan Abdul Hamid Ibrahim; 1999: 20), as the objectives of the tests were defined in clear and detailed forms, and to make sure that the test achieves the goal for which it was developed, the research tests were presented to a group of experts and specialists and they agreed that the tests have a standard capacity for the thing for which they were prepared.

**2) Secondly: Stability of the tests**

We reached the stability coefficient of the tests by performing and repeating the test, as the tests were applied to a sample outside the original research sample of four players, where the retest was seven days apart from the first test, then the researcher used the coefficient of simple correlation Pearson and showed a high correlation value, as all calculated (t) values were greater than their tabulated value (0. 878) and at the degree of freedom (0. (878) at the degree of freedom (4) and below the level of error (0.05), which confirms that all tests enjoyed a high degree of acceptance, and Table (1) shows this.

**Table 1.** Coefficient of Research Variables Objective Stability

| Objective | Persistence | Tests | t |
|---|---|---|---|
| 0.958 | 0.922 | Vertical jump from a stationary position | 1 |
| 0.979 | 0.942 | Throwing a medical ball (2kg) with both hands from Overhead seated on a chair | 2 |
| 0.959 | 0.914 | Raising the torso up from a prone position | 3 |
| 0.997 | 0.982 | (Shuttle Run (9m | 4 |

**3) Third: Objectivity of the tests**

The most important features of good tests are high degrees of objectivity and the clarity of the instructions achieve high objectivity in terms of administering the tests and giving them their scores, and it is often assumed that the judges conducting the test are equally competent and qualified, and because the tests used in most of the research are easy and characterised by clarity and understanding and away from self-assessment and do not depend on interpretation and the judges were trainers of the field and field, so the researcher considers his tests highly objective as all calculated (t) values were greater than their table value of (0. 878) at the degree of freedom (5-2=3) and under the level of error (0.05), as shown in Table (1).

**Research Procedures**

**Survey experiment**

The reconnaissance experiment was conducted on Friday (27/11/2024) in the presence of (4) players selected from the research community and from outside the research sample, and the reconnaissance experiment showed the ability and willingness of all testers to conduct research tests, identify the time taken for each test and the number of attempts,.

**Pre-tests**

The pre-tests for Thursday (2/12/2024) at ten in the morning at the Sports Academy for Track and Field Games. The pre-tests were attended by all the sample members, and the research tests were conducted according to the following sequence: -

1) **First:** calculated by measuring age, weight, height and training age, and Table (2) shows this, and the value of the coefficient of variation was between (+3).

**Table 2.** The homogeneity of the sample for the use of the torsion coefficient between (±3)

| Torsion coefficient | Standard deviation | Intermediary | My Account Center | Variants |
|---|---|---|---|---|
| 1.051 - | 0.60 | 16.33 | 16.22 | Chronological age |
| 0.068 - | 4.11 | 175 | 175.13 | Length |
| 0.035 | 4.20 | 61.30 | 62.20 | Weight |
| 0.308 | 0.56 | 4 | 4.07 | Training age |

2) **Secondly:** The equivalence was calculated for the two groups for the research variables and as shown in Table (1), when comparing the calculated t-value with the tabular t-value of (2.145) at the degree of freedom (4) and under the error level (0.05), it turned out to be less than the tabular t-value, which indicates the existence of equivalence

**Table 3.** The equivalence of the experimental and control group in physical abilities and biochemical indicators using (t) value.

| Result | Value (T)* calculated | A group of officers | | Experimental group | | Alone Measure | Measurements and tests | t |
|---|---|---|---|---|---|---|---|---|
| | | Standard Deviation | The arithmetic mean | Standard Deviation | The arithmetic mean | | | |
| **Random** | 0.33 | 4.66 | 54.61 | 3.90 | 54.90 | **cm** | **Vertical jumping from a stationary position** | **1** |
| **Random** | 0.061 | 0.14 | 2.14 | 0.42 | 2.15 | **second** | **Transitional motor response spee** | **2** |
| **Random** | 0.259 | 6.40 | 48.66 | 5.32 | 47.90 | **cm** | **Raising the torso up from the prone position** | **3** |
| **Random** | 1.96 | 1.00 | 16.05 | 0.51 | 15.31 | **second** | **(Shuttle Run (9m** | **4** |

* The tabulated t-value (2.145) was calculated at the degree of freedom (4) and under the error (0.05) for all tests.

**Training curriculum used**.

The researcher prepared its standardized curriculum according to varying loads, based on the existing exploratory experiment based on scientific sources and references, as well as the opinions and suggestions of experts and specialists in the (100)m obstacle race, and the researcher analyzed the game of races (100)m obstacle in terms of physical abilities, functional and biochemical indicators, and in the light of this analysis he developed the training curriculum on the day of (6/12/2024) Friday (6/12/2024) and the researcher codified the training curriculum according to the physical and functional capabilities of the research

sample, the tools used, the training method, the research tools used and the economic conditions surrounding the players as stated (Ismail 1996) 'any training programme inevitably leads to development and achievement if built on scientific foundations from the programming and organization of the training process' (Saad Mohsen; 1996): 98).

**The training methodology consisted of standardized loads of varying intensity as follows:-.**

On Tuesday (10/12/2024), the training curriculum was applied until Monday (10/2/2025) on the experimental research group of (4) players of the sports academy field and field (100 m obstacle course), while the control group of (4) players of the sports academy field and field (100 m obstacle course) and were training with exercises prepared by their own coach.

**Post hoc tests**

The post-tests for the research sample were conducted on (Sunday, Monday) corresponding to (16-17/2/2025) in the sports academy for the players of the arena and field and after the completion of the specified period of application of the training programme that took (8) weeks.

**Statistical methods**

The researcher used the SPSS statistical package.

**Chapter three**

**3- Analyze and discuss the research results :-**

**3.1 Presenting, analyzing and discussing the results of the physical tests**

**3.1.1 Presentation and analysis of the results of the prone trunk lift test.**

**Table 4.** Arithmetic mean, standard deviation, calculated and tabulated t-values for the experimental and control groups in the pre and post tests of the prone trunk lift test (flexibility).

| Result | Value of (t) * tabular | Calculated (value (T | A group of officers | | Experimental group | | The test |
|---|---|---|---|---|---|---|---|
| | | | Standard Deviation | The arithmetic mean | Standard Deviation | The arithmetic mean | |
| **Random** | 2.142 | 0.233 | 4.44 | 38.44 | 4.33 | 34.88 | **Tribal** |
| **Moral** | 2.141 | 2.641 | 4.36 | 32.22 | 4.32 | 41.79 | **Dimensional** |
| | | | %9.66 | | %32.22 | | **Rate of development** |

* Table (t) value (2.145) at the degree of freedom (4) and under the error level (0.05).

The previous arithmetic the pre-test was (34.88) cm and standard deviation (4.33) for while the arithmetic mean was (38.44) cm and (4.44) for the control group.( 44) for the control group, and when extracting the calculated t-value of (0.233), it turned out to be smaller of (2.142) at (4) under the error level (0.05),.

As for the results of the research sample for the dimensional tests, the arithmetic mean (41.79) cm and standard deviation (4.32) group, while the arithmetic mean (32.22) and standard deviation (4. 36 for the control group and extracting the calculated (t) value of (2.641) showed that it is greater than the tabular (t) value of (2.141) at the degree of freedom

(4) under the level of error (0.05) and this indicates that there is a difference between the level of the two groups and in favor of the experimental group.

## Result and Discussion

The presentation of the results in table (4) for this test showed that there was a difference in the percentage of development between the control and experimental groups, as the percentage of development for the experimental group was (32.22%) and the percentage of development for the control group was (9.66%). This indicates that the development rate of the experimental group is very large compared to the control group, and this confirms that the training used in flexibility training has a great impact on the development of the experimental group, as it relied on a correct methodology based on scientific foundations and according to loads of varying intensity based on the total intensity that the athlete can perform and gradually with the components of a training load.

The reason for this is explained by the researcher as the use of stretching exercises in the training curriculum aimed at stretching the muscles, ligaments, tendons and increasing the duration of joint movement, as it is one of the most important means of developing flexibility (Adel Abdelbasir; 1999, 195), and it is known that the use of the principle of gradual increase in loads and the principle of specificity of training for flexibility, according to the requirements of the specialized activity helped to develop flexibility.

## Presentation of the test results (9m shuttle run back and forth (agility)), analysis and discussion.

**Table 5.** Shows the arithmetic mean, standard deviation, calculated and tabulated t-values for the experimental and control groups in the pre- and post-tests of the 9m shuttle run test.

| Result | Value of (t) * tabular | Calculated (value (T | A group of officers | | Experimental group | | The test |
|---|---|---|---|---|---|---|---|
| | | | Standard Deviation | The arithmetic mean | Standard Deviation | The arithmetic mean | |
| **Random** | 2.145 | 1.964 | 1.00 | 15.03 | 0.41 | 14.11 | **Tribal** |
| **Moral** | 2.145 | 8.106 | 0.69 | 15.22 | 0.41 | 11.84 | **Dimensional** |
| | | | %2.80 | | %15.80 | | **Rate of development** |

* Table (t) value (2.145) at the degree of freedom (4) and under the error level (0.05).

The previous table that the arithmetic mean value in the pre-test was (14.11) tha and standard deviation (0.41) for the experimental group while the arithmetic mean was (15.03) tha and standard deviation (1.00) for the control group. (00) for the control group, and when extracting the calculated t value of (1.964), it is smaller than the tabular t value of (2.145) at the degree of freedom (4) under the error level (0.05), indicating that there is no significant difference between the two groups.

As for the results of the research sample in its post-test, its arithmetic mean was (11.84) tha and its standard deviation (0.41) for the experimental group, while the arithmetic mean was (15.22) tha and its standard deviation (0.69) for the control group. (69) for the control group and extracted the calculated t-value (8.106), it turned out to be the largest tabular t-value (2.145) at a degree of freedom (4) under the level of error (0.05) and this

indicates that there are differences between the level of the two groups and in favor of the experimental group.

**Discussion of the results of the 9 m shuttle run test**.

The results of table (5) for this test showed a difference in the percentage of development between the two groups, as the percentage of development for the experimental group was (15.80%) while the percentage of development for the control group was (2.80%). This indicates that the percentage of development in the experimental group was greater than the percentage of development for the control group, which confirms that the training used by the researcher to develop agility was effective in developing agility for the experimental research group.

The researcher attributes the main reason for the development of the experimental research group, but these trainings were metered training loads of varying intensity that serves the development of this ability as well as the impact of other physical abilities training in its development as agility is related to many physical abilities, as well as the nervous system had a distinctive role in the development of agility in terms of its efficiency in receiving information through the atmosphere of training and competitions through its sensory and visual receptors and sensor motor organs, as well as flexibility training, explosive ability, strength tolerance, speed and continuity of performance had a great impact. In addition to training flexibility, explosive ability, strength tolerance, speed and continuity of performance had a great impact on the development of agility, as the weakness of these abilities will negatively affect the level of balance and compatibility of the player and not maintain a good position when performing skills or when performing movement, which affects agility (Bastawisi Ahmed; 1999, 157- 159). 159).

**Presentation of the results of laboratory and non-laboratory biochemical indicators, analysis and discussion.**

**Phosphagenic anaerobic capacity test results (non-laboratory) were presented and analyzed**

**Table 6.** Shows the arithmetic mean, standard deviation, calculated and tabulated t-values for the experimental and control groups in the pre and post tests of the phosphagenic anaerobic capacity test.

| Result | Value of (t) * tabular | Calculated (value (T | A group of officers | | Experimental group | | The test |
|---|---|---|---|---|---|---|---|
| | | | Standard Deviation | The arithmetic mean | Standard Deviation | The arithmetic mean | |
| **Random** | 2.145 | 0.340 | 80.70 | 1103.81 | 34.33 | 1113.24 | **Tribal** |
| **Moral** | 2.145 | 2.566 | 88.55 | 1147.82 | 31.91 | 1222.56 | **Dimensional** |
| | | | %4.98 | | %10.25 | | **Rate of development** |

* Table (t) value (2.145) at the degree of freedom (4) and under the error level (0.05).

The previous arithmetic mean value in the pre-test was (1113.24) kg/m/s and standard deviation (34.33) for the experimental group while its arithmetic mean was (1103.81) kg/m/s and standard deviation (80) for the control group. 70) for the control group

and extracting the calculated t-value of (0.340) shows that it is smaller than the tabular t-value of (2.145) at the degree of freedom (4) under the error level (0.05), which indicates that there is no significant difference between the two groups.
As for the results of the research sample in its post-test, its arithmetic mean was (1222.56) kg.m/s and standard deviation (31.91) for the experimental group while its mean was (1147.82) kg.m/s with standard deviation (88. (2.566) for the control group, and when extracting the calculated t value (2.566), it turned out.

**Discussion of the results of the laboratory and non-laboratory phosphagenic anaerobic capacity tests**

The results presented in table (6) for the laboratory and non-laboratory phosphagenic anaerobic capacity tests showed that there was a difference in the percentage of development for the two groups, as the percentage of development laboratory test was (72.23%) and non-laboratory (10.25%), while the percentage of development for the control group in the laboratory test was (29.64%) and non-laboratory (4.98%), which indicates that the percentage of development for the experimental group was greater than the percentage of development for the control group This confirms that the exercises used in the training curriculum prepared according to the measured loads of varying intensity had a great impact on the development of the experimental group, as it develops the training in the polymeric method and the methods of repetitive and high intensity training for explosive capacity and strength characterized by speed, agility and flexibility helped to develop the phosphagenic energy system significantly as it is regulated according to this system that contributes to increasing these chemical compounds used by the player to perform short and fast skills, as confirmed by (Spriet, 1995). (Anaerobic, IL., 1995, p. 17-)

**Presentation of the results of the non-laboratory anaerobic capacity test, analysis and discussions**.

**Presentation of the results of the Harvard Aerobic Step Test and analysis.**

**Table 7.** Shows the arithmetic mean, standard deviation, calculated and tabulated t-values for the two groups Experimental and control subjects in the pre and post tests of the Harvard Aerobic Step Test

| Result | Value of (t) * tabular | Calculated (value (T | A group of officers | | Experimental group | | The test |
|---|---|---|---|---|---|---|---|
| | | | Standard Deviation | The arithmetic mean | Standard Deviation | The arithmetic mean | |
| **Random** | 2.145 | 0.221 | 1.44 | 72.05 | 2.60 | 72.40 | **Tribal** |
| **Moral** | 2.145 | 5.381 | 2.21 | 79.71 | 3.88 | 99.09 | **Dimensional** |
| | | | %10.33 | | %36.32 | | **Rate of development** |

* Table (t) value (2.145) at the degree of freedom (4) and under the level of error (0.05).

The mean value of the pre-test was (72.40) z/d. With a standard deviation of (2.60) for the experimental group, while the arithmetic mean was (72.05) z/d. The calculated t-value of (0.221) was smaller than the tabular t-value of (2.145) at a degree of freedom (4) under the error level (0.05), indicating that there is no significant difference between the two groups.

As for the results of the research sample in a post-test, the arithmetic mean (99.09) z/d. and standard deviation (3.88) for the experimental group, while the arithmetic mean was (79.71) z/d. (2.21) for the control group and by extracting the calculated t-value of (5.381), it turns out that it is smaller than the tabular t-value of (2.145) at the degree of freedom (4) and under the level of error (0.05) and this indicates that.

**Discussion of the results of the aerobic capacity test.**

The results of table (7) of the Harvard aerobic step test show us that there is a difference in the percentage of development of the two groups, as the percentage of development of (36.32%) while the percentage of development of the control group was (10.33%), which indicates that the percentage of development of the experimental group is greater than that of the control group, as this confirms that the mixed anaerobic and aerobic training and special aerobic training used in the researcher's training curriculum had a significant impact on the level of.

The exercises used were standardized according to the loads of varying intensity using the interval training method of high and low intensity, which helped to develop this ability as the track and field player needs a high level of efficiency and activity due to the length of the performance of the maximum speed in the competition.

**Conclusion**

1) Developing a training curriculum with metered loads of varying intensity for 100m hurdlers.
2) It has been shown that the introduction of training methods with metered loads of varying intensities that work on physical or chemical abilities, as it has a significant impact on the development of the abilities used.
3) Agility and flexibility training contributed to the development of anaerobic capacity and increased muscle mass.
4) The training used according to metered loads of varying intensities increases the adaptability of the nervous system to high training loads and increases its resistance to fatigue.

**Recommendations:**

1) The need to legalize training curricula for different activities based on loads of varying intensity because of its importance in increasing the physical and biochemical potential of athletes.
2) The variety of training methods and techniques to raise the level of the player and his ability to develop these abilities and the acceptance of players to high intensity and high volumes of training and increase the factor of excitement and away from boredom.
3) The necessity of using exercises that approach the nature of the actual game for its great and prominent impact.
4) The need to adopt biochemical indicators as indicators to legalise training loads of varying intensity.

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