



*The effect of weight training according to the interval method on endurance of strength and speed and some offensive skills among fencing players with shish weapons*

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**ABSTRACT**

The importance of the research lies in the importance of endurance of force and speed and its impact on offensive skills, which may give a positive result in the development of the attack skill of the players, using the interval training method and its impact on the offensive side in the game of fencing, hence the problem of research in finding modern and new training methods to raise levels to help coaches stand on the shortcomings and weaknesses of players when performing the effectiveness of offensive skills in fencing and finding training solutions that in turn contribute to the development of the extent of reflection The physical aspect on the offensive skills in fencing through the results that will be reached in solving the problem of physical performance and providing some scientific solutions, and the research aims to identify the impact of weight training according to the interval method in endurance of force, speed and some offensive skills of the research sample, and the researcher assumed that there are statistically significant differences between the pre- and post-measurements in bearing force, speed and some offensive skills of the research sample, the researcher used the training approach with one experimental group, either the research sample The research sample consisted of players clubs north of Dhi Qar Governorate (Shatra / Graph / Rifai / Castle) in the game of fencing number (8) and deliberately in order to implement the study and achieve its objectives, and the researcher concluded that the development of speed endurance and force endurance had an impact on the development of physical and skill capabilities of the research sample for the better and their acquisition of a great ability to resist fatigue and their continuation of the technical performance of offensive skills with high efficiency, as for the recommendations of the research, the most important of which was the need to use weight training in a wide manner to develop capabilities All physical and motor.

Keywords:

-offensive skills,  
-endurance of strength Scouting,  
-weapon of shish in fencing.

1. Continuous development of the effectiveness of performance through training for each player because of its importance in scoring points and achieving victory.
2. Follow up the statistical form by a coach after the match and work to develop the team and players through the results of the form variables.
3. Urging all coaches to follow up the statistical form at each match and know the levels of performance and weaknesses to work on developing them.
4. Activating the statistical form by the Federation through the work of special courses that explain the importance of this form and its effective role in changing the level of basketball sports teams .

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## **1- Definition of the research:**

### **1-1 Research Introduction and Importance:**

The methods and methods varied to raise the level of players in general and the game of fencing in particular, and that each method of training has its goals and its impact on the fencer, which distinguishes it from other methods, the appropriate method that works to achieve the goals for which it was developed works to raise the training status of the athlete, through which it affects the levels of players towards positivity and achieves advanced and distinguished results.

Standardized training, which is carried out on a regular basis, brings about rapid and regular developments in the physical and skill efficiency of fencing players, and what the player achieves in the accuracy of the performance of offensive skills against the opponent.

Therefore, special endurance is an important physical element in the completion of offensive skills or the performance of training efficiently and highly susceptibility, including speed and strength, as well as endurance, and as a result of the association of these elements with each other as it is a complex physical characteristic needed by the requirements of the game of fencing in order to continue to perform motor as much as possible muscular effort throughout the duration of what that activity takes, and thus contributes to mastering the stabbing movement as a result of the hard and continuous training carried out by the player.

The importance of the research lies in the importance of endurance of force and speed and its impact on offensive skills, which may give a positive result in the development of the attack skill of the players, using the interval training method and its impact on the offensive side in the game of fencing.

### **1-2 Search problem:**

Sports training, as it is known, aims to reach the player to integrate in each of the physical, skill, functional, tactical, psychological, mental, moral and cognitive state, which enables him to perform perfectly during the competition and work to continue it for as long as possible, and this is done by relying on scientific foundations and principles in the sports training process.

The researcher is keen to find new and modern means, he worked to develop exercises using weights and weights in a period training method, relying on time as foundations in developing the qualities of bearing speed and strength with a change in the sizes and weights of weights used in these exercises and making them more difficult and knowing their impact on the players' physical abilities.

Hence, the problem of research was manifested in finding modern and new training methods to raise the levels to help coaches identify the shortcomings and weaknesses of players when performing the effectiveness of offensive skills in fencing and finding training solutions, which in turn contribute to the development of the extent to which the physical side reflects on offensive skills in fencing through the results that will be reached in solving the problem of physical performance and providing some scientific solutions.

### **1.3 Research Objectives:**

- 1- Preparing and designing the effect of weight training according to the interval method of endurance of strength, speed and some offensive skills for fencing.
- 2- Identify the effect of weight training according to the interval method in endurance of force, speed and some offensive skills of the research sample.

### **1-3 Force Search:**

- 1- There is a positive effect of weight training according to the interval method of endurance of strength, speed and some offensive skills of fencing.
- 3- There are statistically significant differences between the pre- and post-measurements in the endurance of force, speed and some offensive skills of the research sample.

### **2- 1.5 Research Areas:**

- 1- Human field: Young players in the game of fencing in the southern region.
- 2- Time Range: The time period from 1/12/2024 to 20/2/2025.
- 3- Spatial field: The National Center for Gifted Care in Dhi Qar Governorate / Shatrah District.

## **2- Research Methodology and Field Procedures:**

### **2.1 Research Methodology:**

The researcher used the experimental method, with one experimental group appropriate to the nature of the research.

### **2.2 Research sample:**

The research sample consisted of players clubs north of Dhi Qar Governorate (Shatrah / Gharraf / Rifai / Castle) in the game of fencing number (8) and deliberately in order to implement the study and achieve its objectives, and table (1) shows the characteristics of the research sample.

Shows the homogeneity of the sample in the variables of height, age, training age, apparent weight and achievement

Coefficient of variation	Standard deviation	Arithmetic mean	characteristics	t
20.359	0.34	1.67	Length (cm)	1
0.717	0.13	18.11	lifetime	2
6.027	0.49	8.13	Training Age ( Year )	3
0.421	0.33	78.23	Bulk weight	4

### 2-3 Devices and tools used:

The researcher used the following tools and means of collecting information:

- Analysis of references and previous studies
- Physical tests under consideration
- Digital Level Tests
- Measurement & Training Instruments

Table (2)

Measurement and training tools used in research

audition	t
Restameter to measure length in centimeters	1
I saw an iron	2
Hand dumbbells	3
Hexagonal dumbbell	4

### 3.5.3 Exploratory experiments:

#### 3.5.3.1 First exploratory experiment:

The researcher conducted the first exploratory experiment on 10- 9/12/2024, on a sample other than the original research sample, and it was on a sample other than the research sample, the young fencing players, numbering (5) players from Al-Nasr Sports Club, and the goal of the exploratory experiment was as follows:

- Ensure the scientific foundations of the tests used.
- Identify the efficiency of the assistant staff
- Ensure that the sample members understand the test items.
- Identify all the difficulties that the researcher may face during his main experience (Kadhim & Jabbar, 2020).

#### 3.5.3.2 Second exploratory experiment:

The researcher repeated the experiment on the same sample in the first exploratory experiment after a week on 17-18/12/2024, and the researcher took into account when re-testing the same conditions available in the first experiment " Kadhim et al., 2020)) In terms of the assistant staff as well as the time of

performing the tests for the purpose of finding the stability of the tests" As shown in Table 3.

### 3.5.4 Scientific foundations of tests:

#### First: Authenticity of the test:

The researcher found the truthfulness of the content after the tests were presented to a group of experienced and specialists, where they confirmed that these tests are honest in their content and the goal for which they were developed.

#### Second: Stability of the test:

It means "an evaluative criterion for knowledge that is characterized by certainty as well as based on evidence that others can verify its validity" when conducting the second test (second attempt) conducted on the research sample for the purpose of extracting the stability of the test. Where the value of the simple correlation coefficient (Pearson) was extracted to indicate the objectivity of this test, as objectivity means the agreement of the opinions of the arbitrators, and the results came with indicators indicating that all tests are highly objective. (Kadhim & Jabbar, 2020)).

#### Third: Objectivity:

The test must have a high degree of objectivity, and it is intended to give the test the same results, no matter how different the correctors with the assumption that the arbitrators in charge of the test are equally competent and qualified, and the test is objective, being constant" that "the higher the stability coefficient." (Kadhim et al., 2020)) This led to a rise in the coefficient of objectivity and vice versa.

**Table (3)**

#### **Coefficient of honesty, consistency and objectivity of the tests**

<b>Objectivity</b>	<b>constancy</b>	<b>Honesty</b>	<b>auditions</b>	<b>t</b>
0.89	0.90	0.91	Straight Attack	1
0.89	0.91	0.96	Attack by changing direction	2
0.91	0.94	0.96	The categorical attack	3
0.87	0.93	0.87	Numerical Attack	4

### 2.5 Pre-testing and measurement:

The researcher conducted the pre-tests of the research group on 19/12/2024 at the Talent Center Stadium in Al-Shatra district, and all members of the research sample (8) players attended, and the following tests were conducted:

A rest period of (8 d) was given between one test and another, as the researcher proved all the other conditions of the test in terms of place, time, method and climate so that the same or similar conditions could be created when conducting the post-tests.

## 2-6 Weight training according to the interval method applied by the research group:

The researcher prepared the proposed training program according to the scientific foundations by reviewing some specialized scientific references and previous studies, and the exercises were carried out according to the following:

Table 5

### Planning and implementation of functional strength training

8 weeks	Number of training weeks
35 – 45 minutes	Objective of the period
Three training modules	Unit time
Light Load - Medium Load - High Load	Number of units per week
% 90 - 80	Training loads
Low and high intensity	Training method
(6 - 4)	Number of groups

The exercises used in this method are characterized by high intensity, up to about 80-90% of the maximum level of the individual, and in the strengthening exercises, up to 75% of the maximum level of the individual, the duration of the exercises was within the period of special preparation and 8 weeks, and by three training units per week, the time of one training unit is from (35-45 minutes), and below is a summary of how to use intensity for exercises Different:

- For weight training, the intensity was determined relative to the maximum weight that the player lifts once for the body part assigned to the training.(Kadhim & Jabbar, 2020).

## 2-7 Testing and telemetry:

The researcher conducted the post-tests for his research sample on 20/2/2025 and followed the same method that he followed in the pre-tests, after completing the prescribed period of the experiment, which lasted 8 weeks, and the researcher was keen to find all the conditions for the pre-tests and their requirements when conducting the post-tests in terms of time, place and test methods.

## 2.8 Statistical means:

The researcher used the statistical program (SPSS) to process the results.

## 1- Presentation, discussion and analysis of results:

### 3-1 Presentation and discussion of the results of the differences in speed and strength tolerance for the pre- and post-test of the research group:

Table (6)

Shows the values of the differences of arithmetic means, standard deviations, and the Wolcoxen (z) value calculated to withstand the speed and force of the pre- and post-tests of the research group

Total	Significance level 0.05	Z value	Post-Test		Pre-test		Unit of measurement	Processors Variables	t
			±	Going to	±	Going to			
Moral	0.010	2.548	0.517	45.625	0.744	43.625	degree	Bearing speed of the arm-bearing arm	1
Moral	0.011	2.536	1.407	142.625	4.779	101.375	degree	Bearing force of the armed arm	2

Note that the value of (z) calculated function under the real error level capacity (05.0) This means the differences are significant and in favor of the post-test and the researcher attributes this to the exercises applied by the research sample using weights in the development of speed endurance and strength endurance as a result of the ideal relationship between the components of the training load, which continued throughout the training period according to the principle of gradation by increasing the load, which leads to an increase in the speed of contraction of the muscle group as a result of the muscular work of the exercises for a certain period of time and under the influence of the training methods used under research. (Alsaed et al., 2024)) , The principle of increasing the intensity of the training principles that rely on it a lot in the development of strength endurance and speed endurance and that is done through stress different from the training stimuli that the muscle groups have adapted to constantly, "The continuous increase in the volume and intensity of training as well as the resort to upward exercises is the way to improve endurance by identifying the skill capabilities of the fencer players" (Kadhim et al., 2020)). **So the** Devices and tools (weights) using the interval training method contribute to the progress of the educational training process by performing the duties that the coach and the player want to reach, for their clear impact on achieving the highest possible level in the performance of appeals, "It is to serve motor skills through economy with effort and time and to

enable the player to reach the mechanism of movement without thinking about the technical performance of the movement, but rather thinking about creativity and development, as well as focusing on the variables that occur during competitions." Kharkan et al., 2019)).

### 3-1 Presentation and discussion of the results of differences in offensive skills for the pre- and post-test of the research group:

Table (6)

Shows the values of the differences of arithmetic means, standard deviations and the value of Wilcoxon (z) calculated for the offensive skills of the pre- and post-tests of the research group

Total	Significance level 0.05	Z value	Post-Test		Pre-test		Unit of measurement	Processors Variables	t
			±	Going to	±	Going to			
Moral	0.013	2.460	0.517	5.625	0.834	4.125	degree	Straight Attack	1
Moral	0.006	2.713	0.353	5.875	0.462	4.750	degree	Attack by changing direction	2
Moral	0.025	2.232	0.517	5.625	0.916	4.375	degree	The categorical attack	3
Moral	0.015	2.427	0.517	6.625	0.462	5.250	degree	Numerical Attack	4

Note that the value of (z) calculated function under the real error level capacity (05.0) This means the differences are moral and in favor of the post-test, and the researcher attributes these differences between the pre- and post-tests, contributed to the development of muscular strength endurance and speed in accordance with the requirements of the types of offensive skills in the game of fencing, which reflected positively on the nature of the technical performance of the swordsman in proportion to the accuracy of the performance of the ton, "Therefore, the fencer must possess the strength throughout the performance of the fencing rounds in order to be able to perform the motor duty with high efficiency" Kharkan et al., 2019))The development is also a result of the method of designing the proposed exercises, which resembled the technical performance of the basic skills of fencing, which was adopted during the periods of implementation of the exercises, as the development of those abilities needed by the sport of fencing requires the work of certain muscles without others with motor paths and special

angles for the joints of the body, and based on that, these exercises were designed according to the high-intensity interval method, which was reflected in the direct impact of the development of those muscles and thus achieving moral results, which helped the player to perform offensive skills. With perfect style and technique, the motor and physical development in these tracks has served in the skill of stabbing accuracy. "Which reflected on the moral results on this ability in addition to the physical development that earned the body a state of balance during performance, which enables it to perform the skills of that sport in a stable manner" (Kadhim & Jabbar, 2020)) This is reflected in the precision ability that requires the achievement of a touch in a specific area of the body.

#### **4 - Conclusions and recommendations:**

##### **4.1 Conclusions:**

- Weight training according to the interval method directly contributed to the development of speed endurance, strength and accuracy of stabbing performance for offensive skills in fencing with a shish weapon.
- High-intensity interval training positively affected the strength and speed endurance of the arm carrying the shish weapon.
- The development of speed endurance and strength endurance had an impact on the development of the physical and skill capabilities of the research sample for the better and their acquisition of a great ability to resist fatigue and their continuation of the technical performance of offensive skills with high efficiency.
- The research group achieved positive results in the offensive skills of the shish weapon in the post-test than in the pre-test.

##### **4.2 Recommendations:**

1. The need to use weight training in the interval training method widely to develop all physical and motor abilities.
2. The research group achieved good results in tests of offensive skills for some shish weapon skills.
3. Conducting similar studies on other physical and motor abilities in fencing and on other age groups and for both sexes.
4. Conducting similar research and studies on different age groups.

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