



# The Effect of High-Intensity Interval Training on The Average Recovery Period for Football Players Under (19) Years

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## Abstract

The aims of this study is to identifying the effect of high-intensity interval training on the average recovery period and some basic skills for football players under 19 years of age, identifying the superiority of the effect and between the control and experimental groups in the average recovery period and some complex skills of football players under 19 years old. Experimentation is a deliberate and controlled change of the specific conditions of an event, and the observation and interpretation of the resulting changes in the event itself. the research community was determined for the players of Al-Qasim Club football for the sports season (2022), which numbered (26) players, where (18) players were taken in a random way for the main experiment with a percentage of (69.23%) representing the best representation of the community, where they were divided randomly into two groups equally (9 players in the control group) and (9 players in the experimental group). One of the most important results reached by the researcher is that: High-intensity interval training developed an average recovery period as a result of increased performance intensity and shorter performance time the special exercises developed some of the complex skills of football players under the age of (19) years, the curriculum approved by the coach, the development of the average recovery period and some complex skills of football players under the age of (19) years. One of the most important recommendations recommended by the researchers is that: The researcher recommends taking advantage of special exercises by the Iraqi Central Football Association on the coaches of the national teams and coaches of the teams in the clubs participating in the football league championship and the researcher recommends that coaches use high intensity interval training to improve the recovery period and some complex skills for football players under 19 years old.

4357

**Key Words:** Effect, Period, Average, Football.

**DOI Number:** 10.14704/nq.2022.20.6.NQ22432

**NeuroQuantology 2022; 20(6):4357-4362**

## Introduction

The science of training has developed rapidly in general as a result of serious scientific research that helped advance in all games, as sports training aims to develop the capabilities and capabilities of the athlete and bring them to the highest level to achieve high achievement. The appropriate training load path on the one hand, and on the other hand, sports training is one of the main factors on which the preparation and preparation of sports teams is built and raise their capacity because sports training has a significant impact in all areas, as sports training requires the preparation of players physically and skillfully, as well as a comprehensive view of the

performance Training duties, as the science of training in football is one of the important sciences in the sports field on which it depends in the organization of the team. At the level of the player's performance and improving the player's ability in the field of fatigue because of their great impact on the development of players effectively, as well as the high-intensity interval training with a training load my high is reflected in their skillful and physical performance.

The recovery rate period is a factor in high intensity interval training because of the high physical load on the body.

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Fatigue occurs and begins to disappear gradually and also causes high pressure on the organs, muscles and nerves. This training achieves the goals set by the trainer to reach the best level of performance. Fatigue is one of the most physiological factors Importance of its connection to sports training

### Research problem

Sports training in general is an organized process that aims to reach the best possible level, and high-intensity interval training has a significant impact on the player's performance and level during matches, as training in football is a planned process aimed at developing the player's performance to reach advanced stages in order to achieve Winning competitions, including young players, as they represent the basic base for age groups and club teams.

Through the researcher being a former football player and practicing the game at the present time and watching some scientific lectures on football lessons, he noticed that fatigue affects the level of playing in matches and negatively affects during high physical effort as a result of the high percentage of lactic acid in the body, so periodic training is high Intensity in the average recovery period and then the development of some complex skills. It is from this logic in the field of sports training, especially high intensity interval training, that the research problem appeared.

### Research Objectives

Identifying the effect of high-intensity interval training on the average recovery period and some basic skills for football players under 19 years of age. Identifying the superiority of the effect and between the control and experimental groups in the average recovery period and some complex skills of football players under 19 years old.

### 1-4 hypothesis research

There is an effect of high-intensity interval training on the average recovery period and some basic compound skills for football players under 19 years old.

There is a preference for the effect between the control and experimental groups in the average recovery period and some complex skills of football players under 19 years old.

### Research field

Human field: Al-Qasim club players under (19) in football for the sports season 2021-2022 AD.

Time field: from 2/2/2022 to 7/15/2022

Spatial field: Al-Qasim Club Stadium (Babylon Governorate) in football.

### Research methodology and field procedures

#### Research Methodology

After choosing the appropriate approach with the nature of the research problem and its objectives among the necessary requirements in scientific research, the researcher used the experimental method to suit the nature of the problem to be developed, since this problem determines the method used to obtain information and accurate results. Dependent changes in the experiment, except for one factor that the researcher controls and changes in a certain way with the intention of identifying, measuring, and affecting the dependent variable or variables.

Experimentation is a deliberate and controlled change of the specific conditions of an event, and the observation and interpretation of the resulting changes in the event itself.

4358

### Research community and sample

The objectives set by the researcher and the procedures used in the research determine the nature of the sample that is being tested, "the sample selection process is closely related to the nature of the research taken from the sample as it represents the part that represents the original community or the model that the researcher conducts as a whole and the focus of his work on it" ((Hasan Hadi Saleh, Radhi, and Abdullah 2021)) . On this basis, the research community was determined for the players of Al-Qasim Club football for the sports season (2022), which numbered (26) players, where (18) players were taken in a random way for the main experiment with a percentage of (69.23%) representing the best representation of the community, where they were divided randomly into two groups equally (9 players in the control group) and (9 players in the experimental group).

In order to return the differences to the experimental factor, the researcher processed the results of the tribal and dimensional tests by conducting homogeneity and equivalence for the individuals of the research sample in terms of (height, weight, training age, maximum speed, explosive ability, force characteristic of speed, skill



of rolling with the ball, skill of dribbling and handling (and passing between the characters) and skill of short-rebound handling, as well as the rate of recovery period and some complex skills).

### **Determining the validity of the complex skills in football**

In order to complete the procedures for research and achieving goals, there must be skills to measure the variables related to the phenomenon to be measured, as it became necessary to choose some complex skills in football for players under (19) years, where the researcher, after reviewing the sources and scientific references, prepared an expert opinion poll form And (9) specialists in sports training and football in order to collect information and data.

### **Characterization of the tests**

The name of the test: Choosing to run with the ball between the cones at a distance of 15 m, then dribbling, then scoring on the goal from a distance of 15 m .

The purpose of the test: average recovery period and some complex skills.

The tools used: a soccer field, 10 legal soccer balls, a tape measure, a stopwatch, a whistle, six (6) signs, and other signs to determine the start and end.

Procedures: (6) poles shall be placed, each person at a distance of (1) m from the other, and the first one shall be away from the starting line (5) m, and the last one shall be away from the finish line (5) m.

Performance specifications: The player stands at the starting line with the ball and at a distance of (5) m from the first pole. When the signal is given to start, the player rolls the ball and then passes between the poles. When he reaches the last pole, he runs with the ball to dribble the players and then score on the goal from a distance (15) M .

Recording: The player is given two attempts, and the time is counted for a distance of (15) m for the best attempt.

Note: Retry if the player fails.

### **Apply the main experience**

#### **Special exercises**

The researcher designed training units using special exercises based on the method of high-intensity interval training, and after obtaining the necessary modifications by the supervising doctor, the training units were put in its final form, and there are some scientific notes about the training units, which are:

The duration of the training units for the experimental group is (8) weeks and three training units per week.

The ripple of the pregnancy is in one average cycle (1:3) and according to the intensity of the hard work. The training method used in the training units is the high intensity interval training method.

The number of repetitions of compound exercises from (3-4) repetitions.

The researcher took into account that in each training unit there should be speed in the first and second exercises and strength in the third and fourth exercises.

The training units were performed during the days (Sunday, Tuesday, Thursday).

The difference between the two research groups when applying is in the use of special exercises, the experimental group performs the exercises, while the control group performs the approach followed by the trainer.

### **Implementation of special exercises**

After reviewing the scientific sources related to the science of training and the game of football, in addition to consulting some of the opinions of experts and specialists, the researcher prepared exercises for the high intensity intervals for the members of the research sample, the duration of which was (8) weeks. 4359

Where a set of special exercises was built after analyzing the content of scientific sources and scientific studies as well as seeking the assistance of the supervisor. (30) exercises were adopted after making some modifications to them. The exercises were carried out on the experimental group on (05/26/2022) until (15/7) In order to return the differences to the experimental factor, the researcher processed the results of the tribal tests to conduct homogeneity and equivalence for the members of the research sample in terms of (height, weight, training age, maximum speed, explosive power, speed characteristic, rolling skill, evasive skill, short rebound handling skill, average recovery period and some compound skills ).

### **Post-tests**

The researcher conducted the post tests after completing the training curriculum on the experimental and control sample, which numbered (18) players, on (15/7/2022), taking into consideration all the circumstances, conditions and procedures of the tribal tests



Statistical mean: The researcher used the appropriate statistical means to process the data using the (spss) system .

Arithmetic mean .

standard deviation .

Levonen (F) test.

Chi-2test.

Simple correlation coefficient (Pearson).

T-test for independent (unrelated) samples of equal number.

T-test for non-independent (linked) samples.

### **Presentation, analysis and discussion of the results of the research**

Presentation, analysis and discussion of the results of the pre- and post-tests of the complex soccer skills of the control group

It turns out that there are significant differences between the pre- and post-tests of the control group and in favor of the post-test in the basic skills of football players, as the calculated t-values were (9,33), (2,13), (2,09), ( 3.10), (9,22) and at a level of significance (sig) whose amount is respectively (0.000), (0,001), (0.002), (0.000), (0.002) which is less than the level of the function of (0.005), and the researcher attributes the reason Evolution to the coach's exercises, as his training was based on physical exercises to develop physical abilities as well as training basic football skills and the orderly repetition of the skill exercises used in the training units "as the repetition of exercises in the training units made the players less mistake in losing the ball or more in control It is a result of increasing the player's sense of the ball, which makes the player take the correct position to perform the skill and then avoid the mistakes that he makes, and it also gives him a good compatibility to perform the skill.

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player's sense of the ball, which makes the player take the correct position to perform the skill and then avoid the mistakes that he makes, and it also gives him a good compatibility to perform the skill.

### **Presentation, analysis and discussion of the results of the pre and post-tests of the average soccer recovery period for the experimental group**

It turns out that there are significant differences between the pre and post-tests of the experimental group and in favor of the post-test in the average recovery period for football players, as the calculated (t) values were (9.45), and the level of significance (sig) was (0.000) respectively. It is less than the significance level of (0.05) .

The researcher attributes this moral difference to the effective positive effects of the exercises used and prepared according to correct scientific controls and foundations within the first region of the Fox and Matthews table, which includes harmony and exchange between the main components of pregnancy (high and ideal intensity in performance and repetition of exercise for a number of times with the presence of rest times between repetition and another and between phase and others), because <sup>4360</sup> "the basis for phased (interval) training is when the time of high effort goes hand in hand with a short rest period".

Youssef Lazem Kammash states that "in order to work on raising the level of players in football, there must be a main condition, which is to increase the requirements of the training load in quantity and quality. When discussing each skill, the researcher attributes the moral differences in the skill of passing the ball to the specificity of the special exercises used and the different formations and spaces, which include the exchange of passing the short, medium and long ball in different playing conditions and positions, as it occupied a very large percentage in the main section, which is one of the most important skills and most used to reach To the opponent's goal in the least possible time, and to the frequent repetition of this skill in the exercises used, and almost no exercise is free of this skill and under conditions similar to what happens in the match, and that the repetition of the passing skill in the exercises helps the player to estimate the distance and type of pass he uses with accuracy in performance, Thamer Mohsen and Muwaffaq Majid Al-Mawla pointed out that "training on applying scrolling in training and finding special exercises for it is an urgent necessity that should not be lost on





the coach's mind during the training unit"

### **Presentation, analysis and discussion of the results of the post-tests of the average recovery period and the composite skills of the control and experimental groups**

It is evident from Table (11) that there are significant differences between the control and experimental groups and in favor of the experimental in all the compound skills in football in the post tests, as the calculated (t) value was (2.60), (2.43), and (6.97) ), (2,24), (4,32) and at a significance level (sig) of (0.000), (0,001), (0.000), (0.000), (0,001), which is less than the significance level of (0,05).

The researcher attributes the reasons for these differences to the overall complex skills and the interest of the experimental group to the special exercises and the included exercises directed towards developing the recovery period and some complex skills. According to a scientific method and sound planning (Hassan Hadi Saleh, Radi, and Hashem 2020).

### **Conclusions and recommendations**

#### **5-1 Conclusions**

According to the results that have been reached, the researcher reached the following conclusions:

High-intensity interval training developed an average recovery period as a result of increased performance intensity and shorter performance time.

The special exercises developed some of the complex skills of football players under the age of (19) years.

The curriculum approved by the coach, the development of the average recovery period and some complex skills of football players under the age of (19) years.

High intensity interval training exercises are more effective and better in developing the average recovery period and some complex skills for football players under the age of (19) years.

### **Recommendations**

The researcher recommends the following:-

The researcher recommends taking advantage of special exercises by the Iraqi Central Football Association on the coaches of the national teams and coaches of the teams in the clubs participating in the football league championship.

The researcher recommends that coaches use high intensity interval training to improve the recovery period and some complex skills for football players under 19 years old.

Emphasis on improving the recovery period rate by using the playing tool (football) in most of the duties performed by the players that must be accomplished during the match using the football.

The researcher recommends taking advantage of the exercises followed by research within the components of the training load (intensity - Hajj - comfort) when training the average recovery period and some complex skills that participated in the development of the variables (under research).

4361

### **References**

- Saleh, Hasan Hadi, Mahmoud Nasser Radhi, and Ali Wafaa Abdullah. 2021. "The Effect of Combined High-Intensity Interval Training Exercises on Some of the Technical Skills and Endurance of Performance for Advanced Futsal Players." *Indian Journal of Forensic Medicine & Toxicology* 15(3).
- Saleh, Hassan Hadi, Lect Mahmoud Nasser Radi, and Zaid Ali Hashem. 2020. "The Effects of Side Small Games (SSG) on Some Motor Abilities and Learning the Skills of Put down and Scoring in Futsal among Players of Najaf Education Team." *Sciences Journal Of Physical Education* 13(8).



**Table 1: A list of the names of the experts and specialists approved by the researcher regarding the average tests of the recovery period and some complex skills.**

SE	The scientific title	Names	of the place	of work
1	A. Dr	Rafid Abdul Amir Naji	Training - Football	College of Physical Education / University of Babylon
2	A. Dr	Ahmed Abdel Amir	Training - Football	College of Physical Education / University of Babylon
3	A.M. Dr	AUJED MDLLOL Abbas	Learn - Square and Square	College of Physical Education / Al-Qasim University
4	A. Dr	Haitham Muhammed Kazem	Psychology - Foot	College of Physical Education / University of Babylon
5	A. Dr	Amer Saeed Al-Khikani	Psychology - Foot	College of Physical Education / University of Babylon