

The Effect of a Training Curriculum Using High-Intensity Functional Training (HIFT) on Some Physical Abilities and Scoring Accuracy for Futsal Football Players

Dr. Saleh Chuaied Hilaiel, Mohammed Shbrm Alwan Alsulan

College of Physical Education and sports Sciences, DhiQar University, Iraq

DhiQar Education Directorate, Iraq

Emails: salih.chuaied@utq.edu.iq mqmhshal@utq.edu.iq

Abstract

The importance of the research is manifested in preparing a training curriculum using high-intensity functional training (HIFT), which is very recent in the world to determine its impact on some physical abilities and scoring accuracy for futsal players.

The aim of the research is to prepare a training curriculum using high-intensity functional training (HIFT) to develop some physical abilities and scoring accuracy for futsal players, as well as to identify the effect of the training curriculum using high-intensity functional training (HIFT) on some physical abilities and scoring accuracy for futsal players. And the research sample was selected represented by the futsal players in the municipality of Nasiriyah Sports Club for the sports season 2020/2021 AD, which numbered (14) players, and the researchers used the experimental method by designing one group with a pre and posttest to suit the nature of the problem. The most important conclusions were that the training curriculum using high-intensity functional training (HIFT) had a positive effect on some physical abilities (strength endurance, speed endurance, performance endurance) and the accuracy of scoring for futsal players, as well as the period of application of the training curriculum (24) training units according to the training High-intensity functional (HIFT) is sufficient to show positive changes in some physical abilities and scoring accuracy of futsal players.

Keywords: High Intensity Functional Training (HIFT), Physical Abilities, Futsal Soccer Scoring Accuracy

Introduction

Sports' training is the important pillar on which all sports are based, because it is the main source that works on building the athlete in a comprehensive building in all physical, physiological and skill aspects, as the world is now concerned with small training matters because of their significant impact on achieving achievements in terms of time or distance. Or weight and all of those exercises are also affected by human race and age because the training method and what is used in it depends on the age and gender of individuals in a very large way.

Specializing in training has the largest share at the present time, especially in developed countries in the field of sports, where sports activities have attracted the attention of many researchers and scholars because they have become a slogan in the progress of countries and specialized institutions, and they have taken upon themselves the task of adopting studies and research to reach the prestigious level that aspires to all those working in this field.

And the study of any sports activity that passes through many sciences such as biomechanics, physiology and other sciences, because the different parts of the body are an integrated unit, as any type of sports activities leads to changes in physical and skill abilities as a result of the development of training factors (physical skill, tactical and even Psychological), which means the change in the quality and quantity of the athlete's performance and achievement, which has become the difference based on the few parts of a second or meter. Therefore, modern training programs depend largely on increasing the concentration of training in this technical field, i.e. the principle of size and comfort, which plays a major role in the success of Or the failure of the training curriculum, as all events need the elements of physical fitness in general, especially strength, speed and endurance that the player needs in performance or the natural individual who does not specialize in any field of sports.

Accordingly, the researchers worked to find the latest training methods and methods that can be used to achieve the best results, since training is an integrated process that is not limited to developing one part without the other or a physical characteristic without the other, but rather deals with the athletic body as a single mass, so it is necessary to deal with the elements of physical fitness being The primary responsible for the form of motor performance in order to reach the desired goal in the shortest way and the least effort by preparing a training curriculum in the entire training process, in order to raise the level of integrated construction, so the importance of the research lies in preparing a training curriculum using high intensity functional training (HIFT), which It is considered very recent in the world to determine its impact on some physical abilities and the accuracy of scoring for futsal players.

Research Problem:

The exercises for the components of physical fitness in the scientific, programmed form are of great importance to the physical, skill and motor abilities of the athlete's body. The purposeful and programmed scientific training to reach the specific goals earns the body a great development in all its capabilities. Significant in the development of skills, and then a decline in the level of skill performance, in addition to the possibility of injuries that threaten the future of players.

The two researchers have noticed through their experience in the sports field that most of the football players for the futsal and at all levels are not at the required level of physical fitness, which suffers a decline in its levels, which in turn affects the skillful and tactical performance, especially the accuracy of scoring, and this appears clearly in the last third of the matches. And since the process of upgrading the physical and skill capabilities, and bringing them to the best level is what the coach seeks, this requires finding alternatives and modern training methods that are compatible with modern training in futsal and keeping pace with the great development in the global sports field using modern methods, hence the importance of Research in harmony with the modern directives for training that call for renewal in training methods and methods. The current study came to select from among the many training methods, high-intensity functional training (HIFT), which the researchers believe has a positive impact on some physical abilities, and this in turn leads to Advance the skillful and tactical performance, especially the scoring accuracy of futsal players, in a better and faster manner, saving time and effort.

Research Objectives

1. Preparing a training curriculum using high-intensity functional training (HIFT) to develop some physical abilities and accuracy of registration for futsal players.

2. Recognizing the impact of the training curriculum using high-intensity functional training. HIFT) in some physical abilities and scoring accuracy of futsal players.

Research Hypothesis

For the training curriculum using high intensity functional training (HIFT) a positive effect on some physical abilities and scoring accuracy for futsal players.

Research Areas

- The human field: Municipal Sports and Sports Players Club and Nasiriyah Football Halls for applicants for the 2020/2021 sports season.
- Date range: from 1/3/2020 AD to 1/6/2021 AD.
- The spatial domain: the gymnasium in the municipality sports club.

Define the terms

High-intensity functional training (HIFT): “is a functional, multimodal, training method that is conducted at a relatively high intensity, and designed to improve the components of general fitness and performance” (76:9)

Research methodology and field procedures

Research Methodology

Using the experimental method by designing one group with a pre and posttest in proportion to the nature of the problem

The research community and the particular

The search was determined for the players of the futsal community in the municipality of Nasiriyah, Nasiriyah Sports Club, for the sports season 2020/2021 AD, with a total of 28 players. The sample (50%) is from the research community. As for the players of the Nasiriyah Sports Club for futsal, the researcher conducted exploratory experiments on them.

Homogeneity

In order to reach the validity and accuracy of the results, the researcher conducted homogeneity among the members of the main research sample according to the variables (height - mass - chronological age - training age - endurance strength - speed endurance - performance endurance - registration accuracy.) as shown in Table No. (1)

Table (1)It shows the homogeneity of the research sample in the research variables.

Variation coefficient %	standard deviation	Arithmetic mean	measuring unit	Variables	No
1.468	2.593	176.571	cm	Length	1
4.961	3.455	69.642	kg	Mass	2
9.184	2.224	24.214	Year	Chronological age	3
16,618	451 . 1	731. 8	Year	training age	4

6.617	2.33	35.21	Number	endurance force	5
4.458	1.61	36.11	a second	bearing speed	6
7.505	4.52	60.22	a second	performance endurance	7
8.472	18.2	25.73	Degree	Scoring accuracy	10

* All values of the coefficient of variation were less than 30%, which indicates the homogeneity of the sample in the above variables

Means the collection of information, equipment and tools used in the search

Means of gathering information

Absorbing Arabic and foreign references, personal interviews, special questionnaires, testing and measurement, network information

Devices and tools used in the research

Football halls legal, whistle, medical tape measure, wide transparent adhesive tape, multiple weights, elastic ropes 2 m long, pointers, electronic stopwatch, hp computer, tape measure (2.5) cm yellow.

Field Research Procedures

After reviewing many scientific sources, as well as some personal interviews with experts and specialists, the physical skills and skills under study were determined, and they were as follows: Durability, speed endurance, endurance performance, recording accuracy.

Determination tests for research variables: Physical and technical skills

After determining the physical skills and skills studied in the research, the research did not require tests for each physical ability and accuracy skill of futsal, which were selected by utilizing the literature of previous studies and presenting them to a number of experienced and specialists, and obtained their approval with 100% and this is what It achieves the apparent validity of the tests, and despite the fact that the tests are used in the Arab and Iraqi environment and that their scientific transactions are documented and reliable, the researchers conducted an exploratory experiment on a sample other than the main research sample and from the original community, and they are (10) players from the Nasiriyah club. The futsal athlete checks the stability of the tests through the application and re-application of the tests, as well as to ensure their objectivity by placing two arbitrators to record the test scores and then find the correlation coefficient between them, and the correlation coefficients were high, which achieves stability and objectivity. Through the exploratory experiment, the difficulties encountered by the researcher during the main experiment, the validity of the devices and tools used, the times and times of the training units, and the validity of the available tools were determined.

Physical characterization and scoring tests for football halls

Holds the force

- Exam Name: Sitting - Jumping to the highest sitting position (136:3)
- Purpose of the test: To measure the bearing force.
- Tools used: stopwatch, registration form.

- Performance description: From a long sitting position with knees extended, legs touching the ground and hands touching the ground as well. The player gets up from this position and jumps into the air, then returns to the initial position and so on... Correct attempts count only up to (90) seconds.
- Logging: The logger records the successful attempts (number of hops)

Endurance Speed

- Test name: 180m rebound run from a standing position (134:4)
- The purpose of the test: To measure the speed tolerance.
- Tools used: Measuring tape - Manual stopwatch - Four (4) columns the distance between one column and another (15) m Whistle.
- Performance description: After giving the start signal (the whistle), the player starts from the first (start) to the second, goes back to the start, then runs to the third, back to the start, then runs to the fourth, and returns to the start, so the player has completed the test.
- Recording: The recorder makes a note of the time taken in a second not close to 1% of a second, each player tries one success, and a retry is made if the player fails to perform (the player falls while bouncing).

Withstand performance

- Third test: Rolling (30) m and taping - five times and continuously (134:6)
- Purpose of the test: To measure performance tolerance.
- Tools used: Number of football halls (5) tape measure - whistle - number (3) - manual stopwatch.
- Description of the performance: the use of three sticks, the first is placed on the penalty line, the second is on the penalty arc, the third is after (30) meters from the penalty line and 5 balls are placed near it, where the player starts. to roll. And when he gets to the first person to score and then runs fast to repeat the process...and so on with the five balls.
- Record: The coordination logger makes a note of how long the Om takes, and returns it if the player fails to perform (falling while turning, for example)

Precision Football Scoring Halls

- Test name: Recording accuracy (54:1)
- Objective of the test: to score accuracy by rolling
- Tools needed: football fairs, football halls goal drawn on a wall or stadium, whistle.
- Description of performance: The futsal goal is drawn on a wall divided longitudinally from top to bottom into three equal rectangles, the first and third divided into two transverse sections in degrees, and at a distance of (12) meters with a length of 1 meter. , scoring line, another line at a distance of 5 meters.
- Performance method: When the signal is heard, the player rolls for a distance of (5) meters, then scores from the mark designated for recording, and the player is given (10) attempts.
- Test conditions: The ball must be rolled a distance of (5) meters before scoring - Use his preferred foot when rolling and scoring - If he crosses the scoring line and the goal is not awarded - If the ball does not roll the required distance and the goal is not scored for him.

- Scoring: The player is awarded (4) points if the ball enters the upper square on both sides - the player is awarded (3) points if the ball enters the lower square on both sides - the player is awarded (2) a score if the ball enters the middle rectangle - the player is awarded (1) Score if the ball enters the lower square from both sides - no score is given if the ball goes away from the goal.

Preliminary exams

The tribal tests were conducted for two days on 1-2/6/2020 AD for research tests, and the purpose of the tests is over two days so that the results are not affected by the test and the player who is tired of the big one. Someone gets hurt. The number of tests and therefore no real test results are obtained, as the recording accuracy and performance endurance test was conducted on the first day, while the strength and speed endurance test was conducted on the second day. The tests were conducted at five o'clock in the evening under the supervision of the researcher, the trainer and the assistant work team. All conditions related to the tests in terms of time, place and instruments were taken into account. The method of implementation in order to work as much as possible to provide the same conditions in subsequent tests.

Curriculum

He referred to a plan to develop the training curriculum after studying the sources of specialized scientific references, in addition to personal interviews with experts and specialists in sports training and fitness, as well as the researcher's experience, with plans for training by (24) training. And by (3) training units per week. Sunday, Tuesday, and Thursday, and the training unit with a time (35-45 minutes), which was adopted by the researcher in the formation of the basis of training including:

- Shaping the training load in terms of intensity, volume and intensity.
- Gradual increase in the intensity and volume of pregnancy.
- The training loads were divided into three grades of load which are (85% - 90% - 95% - 100%) of the maximum that the individual can tolerate.
- The exercises were performed during the period of general physical preparation.
- Calculate the exercise time that players can perform so that the time does not exceed 30 seconds for all exercises.

An exercise was applied to the players under the supervision of the team coach, and (volume, intensity, and comfort interfaces) was determined in light of the pretests conducted on a sample. The researcher used (load ripple) as ripple (1-2) using high intensity functional training (HIFT). Moonh A C training started on Sunday, 06/14/2020 AD, and all vocabulary training curricula were completed and implemented on Thursday, 08/6/2020 AD. For all units with year numbers.

Tests posteriori

The researcher conducted subsequent tests for the research sample on Friday and Saturday 7-8/8/2020 AD and the same method was followed, followed by corresponding pre-tests. In terms of time, place and means of testing.

Statistical Methods

The researchers used the statistical program (SPSS) to extract statistical results according to the following statistical laws: arithmetic mean - standard deviation - coefficient of variation - correlation coefficient (Pearson) - law (t) for the relevant samples.

Presentation, analysis and discussion of the results

Presentation and analysis of the results of some physical abilities tests and the accuracy of scoring for football halls (tribal - after) the research and discussion sample:

Table (2) The central arithmetic mean and standard deviation of the (t) value calculated for the correlated samples and the level of statistical significance for the results of the pre-test data for the post-test of the study variables appear.

Type indication	Indication level sig	(t) Values calculated	dimensional tests		tribal exams		measuring unit	Statistical processors Variables
			±p	s	±p	s		
moral	0.000	32 . 11	88 .1	83 . 38	2.33	21 . 35	Number	endurance force
moral	0.000	21 . 10	28 .1	79 . 34	1.61	36.11	a second	bearing speed
moral	0.000	4.11	2.91	54.71	4.52	60.22	a second	performance endurance
moral	0.000	8.46	2.62	34.25	18 . 4	73 . 25	Degree	Scoring accuracy

*Significant at the significance level $< (0.05)$ and before the degree of freedom (13)

Table No. (2) Shows the arithmetic averages, standard deviations and the (T) value calculated between the results of the tribal and remote tests in the study variables (endurance, speed tolerance, performance tolerance, registration accuracy) for the research sample. The results presented in the table showed that the value of the significance level calculated in all tests is less than the value of the significance level (0.05), which indicates the existence of statistically significant differences between the pre and posttests in favor of the test. Subsequent tests. The researcher attributes the development of the research sample to the endurance of force in the post-test of the effectiveness of exercises using high-intensity functional training (HIFT), which was prepared by the researcher and which is based on scientific thinking. In order to improve physical variables, High Intensity Functional Exercise Training (HIFT) plays a major role in the development of Endoran CE that bears strength and this was confirmed by Mark Jones 2014) that "Repetitive high-intensity training develops endurance increases work capacity, i.e. ability to withstand a high degree of intensity for a longer period" (52:12) as confirms (2015). Glassman) showed that high-intensity functional training (HIFT) leads to significant improvements in leg strength, general strength, and cardiovascular endurance, even though the training time was less than half that of conventional training" (10:41). To develop a research sample in speed endurance In the post-test, the researchers attribute this to the fact that the training method that was used had a significant impact on the high level of the research sample, as High Intensity Functional Training (HIFT) made a difference in development, a study (2017) indicated in the dark) " This high-intensity functional training (HIFT) (has great potential for an individual's ability to perform physical work with high levels of physical fitness" (111:13), and the researcher believes that HIFT-style exercises) was instrumental in developing speed load, since the preparation of exercises And applying them according to the foundations of training, he tried for minutes to exceed the players' fatigue threshold and many repetitions that made the players' physical level rise to high levels, and this in turn is due to performance skills as well, and this was confirmed

by Basil Abdel Aal. - Mahdi (2008) that “the exercises should be multiple iterations at maximum speeds or Less than maximum resistance to appearances. From fatigue that leads to a decrease in the speed of movements required in sports activities that require a high level of performance” (97:2). The researchers tested the effectiveness of the HIFT training method after testing the effectiveness of the training method that used training factors in a balanced and comprehensive manner for all aspects of the exercise in terms of intensity, volume, comfort and the use of high pressures that force players to reach the threshold of fatigue during training to overcome it during competitions so that skill performance is not affected in the absence of performance physical, and this was pointed out by Hashem Yasser (2010). “The endurance of performance in general is one of the characteristics that reflects the player’s ability to resist fatigue during motor performance or skill that depends on the intensity of the work to be performed and to be achieved in conjunction with the implementation of the performance in the least possible time” (13:8).

The performance of the loads is one of the important matters based on the performance skills, and therefore directly affects the outcome of the matches. We must focus on the performance load in any training platform that tries to raise the efficiency of the physical players as indicated (Jack 2008). Developing the level of physical abilities and delaying the onset of fatigue is one of the important matters that every coach resorts to, and every player tries to achieve, as the emergence of the problem of fatigue negatively affects physical skills and performance” (2:11). The researchers attributed the reasons for this to taking into account training High Intensity Functional Intensity (HIFT) associated with the skilled performance of this skill, which seeks to provide an appropriate opportunity for its development, “a high skill level contributions to reducing this loss of ability on the one hand, and on the other hand, the stability of the technical level at a higher level throughout the duration of the match is related to the physical condition Good, as if the physical construction is insufficient, the player's strength, the ability to start and endurance during the match, accompanied by intelligent kneeling in technical performance, and as a result of poor physical fitness, increases and rises with the progression of the match time, and the more tired the player, the lower his level of movement . Skills, especially those that must be compatible in performance” (81:7), and this is what the researcher worked on. By linking the physical aspect to the skill aspect, the sample is a research as the results of physical tests showed, and this confirms the link between physical abilities and performance Skilled The physical factor should include the strength of the player who helps him About the strength of the scoring, the speed of the player who can take the correct position when scoring, and based on the foregoing, the exercises were carried out, creating a state of parity between training and the development of the player's vital carrying devices ., And determining those sizes and rest periods as well as the state of repetition and focus on correcting errors related to the performance of the recipe, so the accuracy of performance lied by estimating the distance that led to the development of this skill. Who is armed by the player for injury is the goal of the opposing team because the final goal in the game of football is to enter the ball In the opponent’s goal and a player who is good at scoring from various positions and in all cases the opposing team. He follows him, so he must have high skills, field intelligence, ability to focus with high confidence, strong will and responsibility” (72: 5).

Conclusions and recommendations

Conclusions

1. The training curriculum using High Intensity Functional Training (HIFT) has a positive effect on some physical abilities (endurance strength, speed endurance, endurance performance) in football players' halls.
2. The training curriculum using High Intensity Functional Training (HIFT) has a positive effect on the accuracy of scoring in football players' halls.
3. The duration of the application of the training curriculum (24) and the training unit according to the intensity of functional training (HIFT) is sufficient for the emergence of positive changes in some physical abilities and the accuracy of registration for futsal players.

Recommendations

1. Utilizing the C training prepared by the researcher according to High Intensity Functional Training (HIFT) in building similar approaches to develop some of the physical and skill abilities of futsal players.
1. The need for coaches to pay attention to developing the level of fitness and skill components for futsal players.
2. The necessity of the participation of indoor football coaches in development training courses to get acquainted with the latest developments in training, especially the image of high-intensity functional training (HIFT).
3. Conducting similar and complementary applied research according to high-intensity functional training (HIFT) for players of other age groups in futsal in order to raise the level of some components of fitness and skills of futsal players.

References

1. Ahmed FahimNaghish Al-Zamili: Determining the standard levels of the most important physical and skill determinants as an indicator for selecting advanced pentathlon players in the Middle Euphrates region, Master's thesis, University of Qadisiyah, College of Physical Education, 2009. .
2. Basil Abdul-Mahdi: Selected Concepts and Topics in Sports Training and Allied Science, Second Edition, Baghdad, Justice Group Press, 2008.
3. Thamer Mohsen et al.: Football Testing and Analysis, Mosul, University Press, 1991.
4. Zuhair al-Khashab and others: Football, the second round, Mosul, Dar al-Kutub for printing, 1999.
5. Qasim Hassan Al-Mandalawi: An Introduction to the Science of Sports Training, Second Edition, Baghdad, Baghdad University Press, 1992.
6. Kazem Abdel Rabie and MuwaffaqMajed Al Mawla: Physical preparation for football, Baghdad, Dar Al-Hikma for printing and publishing, 1988.
7. MoatasemGhatouk: Modern Trends in Football Training, Syria, Executive Office of the General Sports Federation, 1995.
8. Hashem Yasser Hassan: A permanent performance of football players, with a counter, Arab Union Library for Publishing and Distribution, 2010.
9. Feito Y, Heinrich KM, Butcher SJ, Poston WSC (2018) High-intensity functional training (HIFT): definitions and research implications for fitness improvement. Sport 6 (3): 76.
10. GlassmanG: CrossFitViability Test. CrossFit J 2006 (41) library.crossfit.com/free/pdf/41_06_CF_Validity_Tested. PDF; Accessed October 5, 2015.

11. Jack Willmore, A.L. Sport and Exercise Physiology, Fourth Edition, Human Kinetics, USA 2008.
12. Mark Jones. : How to lose weight, gets shredded muscles, and improves your health with a height (Createspace Independent Pub, 2014).
13. Drake, NB; Smid, J.; Carper, M.J.; Crawford, DA Effects of short-term CrossFit training: a magnetism-based approach. J exercise. Physiol. Online 2017, 20.