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The effect of exercises specific to the ballistic training method in developing some of the harmonic and physical abilities of young football players

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Abstract---From the table, it appeared to us that there were significant differences in favor of the experimental group. The researcher attributed the development of the experimental group in the harmonic abilities tests to the training method that the researcher used according to scientific foundations according to the components of the training load, taking into account the individual differences between the members of the research sample as well as the significant differences in the physical tests in favor of the experimental group. Abul-Ela points out that there is a direct correlation between the level of capabilities in any sports activity and the extent to which the physical and motor requirements for that activity improve, and the level of differences is due to the effectiveness of the exercises prepared by the researcher, which brought about this development in the harmonic and kinetic abilities, and therefore this development will undoubtedly be reflected in the performance. The skills of the football player confirms the researcher through the level of development of the post-test of the experimental group as in Table (5). In all the results, there was a development as a result of using exercises in a ballistic style that led to an increase in the players' performance level, which was reflected in the development of skill integration and performance upgrade for the players, as indicated by the mechanism (Thamer Mohsen) "When the training vocabulary is similar to what happens in the matches, the player imagines making these movements during matches.() "

Keywords---exercises, physical abilities, undoubtedly.

Introduction

Introduction and importance of research

The scientific progress that we see today is different in the fields of life and is the result of experiences, experiments and research that were inferred through the many results they obtained to serve all humanity. Football Therefore, football has received the highest attention compared to other sporting events. Today, we note the progress and development witnessed by the world in football, and the great speed and accuracy in the application of the various and varied harmonious skills that need to be organized and the close relationship between physical abilities and basic skills. High technique and tactics are at the top. The elements of physical fitness are a strong bridge between them in various skills, and the selection of appropriate and appropriate exercises that are commensurate with the abilities and capabilities of the players within the field of play and which can be controlled through the upgrading of the skill's harmonic performance, of course, according to the terms and conditions of the match, in addition to the new methods used in training to develop capabilities Offensive soccer players, skills Offensive skills are very important in the effectiveness of football as well as physical fitness and harmonious, planning, psychological, educational and cognitive skills, which work to develop the level of skill and harmonic football the largest share of the development witnessed by the individual and team game, which is the first in the world and the coaches in this game raced against time In order to improve all aspects of the development that exceeded expectations in terms of preparing the players, so the coaches were looking for everything that develops and develops these aspects, especially the physical aspect and the skill and tactical compatibility. It was found that the exercises performed by the player play an important role in the development of those periods.

Research Problem

The training process requires knowledge and practice, and that relying on field experience without resorting to science that violates one of the basic rules for developing that experience and working on its growth. There is a weakness in the level of player management, which negatively affects the skill performance of the team in the field of football for many years, so the researcher decided to study the research problem in order to advance in the reality of the football game by accessing facts that help specialists in setting the appropriate training curricula for them working on Develop their capabilities by using harmonic exercises in a ballistic training style to develop the players' potential

Research Objectives

1. Preparing exercises for the ballistic training method in developing some of the harmonic and physical abilities of young football players
2. Recognizing the impact of exercises, especially the ballistic training method, in developing some of the harmonic and physical abilities of young football players

Research Hypotheses

In light of the research objectives, the researcher assumes:

1. There are statistically significant differences between the kiss and the post test for the experimental and control groups, and in favor of the post test.
2. There are statistically significant differences between the post tests of the experimental and control groups and in favor of the experimental group.

Research Areas

- The human field: Al-Sina'a Sports Club players aged (17-19 years)
- Time range: from 1/15/2022 to 6/15/2022
- Spatial domain: Al-Sina'a Sports Club stadium located on Palestine Street.

Research methodology and field procedures

Research Methodology

The method is the method that the researcher follows in his study of the problem to discover the truth, and that the research problem is the one that imposes the method that can be followed, as emphasized (Hassan Ahmed and Suzan Ali 1999). Experimentation examines the cause and how it occurs and reveals the causal relationships between phenomena. It is a change approved by the researcher for certain elements in order to know the immediate and chronic changes that the preparation aspects of skills and abilities require appropriate teaching methods that help the player to develop in the harmonic and physical aspects.

The research community and its sample

The research community is represented by the young players of Al-Sina'a Sports Club, which number (25) players for the football season for the youth category 2021/2022 who will participate in the Iraqi Youth Football League. In the exploratory experiment, (20) players were relied upon, divided by the researcher into (10) players as an experimental group and (10) players as a control group. The selection of the sample is one of the pillars of the task in the scientific research process, as it represents the community of origin or the model on which the researcher conducts the whole and the axis of his work (Wajih Mahjoub 1993)

Means, devices and tools used in the research

Means of collecting information: (International Information Network (Internet), Arab and foreign sources, personal interviews, the assistant work team.

Devices and tools used in the research: (laptop, manual electronic stopwatch, canon camera, 12 footballs, various plastic cones Number 25 heights, small target

70/70 number 2, whistle number 2, colored ribbons of different lengths, (8) spray dye, Burke planning powder)

Field research procedures

Determining the research variables

The research carried out a set of procedures to implement its research and after reviewing many previous studies related to the topic of the research, the researcher prepared a questionnaire to determine the most important physical abilities and compatibility skills that have the most impact on the players and by presenting them to experts and specialists in the field of sports in the science of training, tests, measurement and learning Kinetic in football) and this was confirmed by (Abu Ela 2008)

Choosing the variables and tests used

(compatibility tests) Control then scroll test

The purpose of the test: to measure control and then scroll

Tools used: soccer balls, stopwatch, Swedish stool, tape measure, cones, mini goals

Test specifications: The tested player stands behind the starting line 2 m and when he hears the signal, he runs quickly to control the ball passed to him from the coach from the movement inside the drawn circle - radius 1 m and then passes it diagonally in the direction of the Swedish seat in the specified area for receipt, then passes it with the preferred foot and bye Part of it is on the goal that is 10 m away from the Tamir line

Recording method (time – score)

- Calculates the performance time of each attempt for a single goal from the moment the ball is received until the ball crosses the goal line per second.
- Recording the accuracy of passing on each goal (goal) in degrees
- One attempt is to perform the test on three goals and take the average.
- The final (time - score) for the best attempt from the two will be withdrawn
- Test control, then running with the ball, then passing
- The purpose of the test: to measure control of the ball, then running and then passing
- Tools used: soccer balls, stopwatch, Swedish stool, tape measure, cones, mini goals

Test Specifications

- The tested player stands behind the starting line 2 m and when he hears the signal he runs quickly to control the ball passed to him by the coach from the movement inside the drawn circle – radius 1 m
- Then running with the ball at maximum speed for a distance of 15 m, then passing with the preferred foot and any part of it on the goal, which is 12 m away from the passing line
- The tested player makes two full attempts on both goals (both goals)

Registration method (time – grade)

- The performance time of each attempt for a single goal is withdrawn from the moment the ball is received until the ball is cut towards the goal
- Record passing accuracy on each goal (goal)
- One attempt is to perform the test on both goals and take the average
- The final (time - score) for the best attempt from the two will be withdrawn

(physical exams)

- running test between medical balls:
- The purpose of the test: to measure agility
- Test equipment: ten medicine balls – stopwatch
- Test Specifications:
- Ten balls are placed, the distance between each of them is 1 m, and at a distance of 10 m from the start, the player, when he hears the signal to start, runs the ball zigzag between the balls until he reaches the last ball

Test conditions

1. If the ball is flown from the player, he returns to the point from which it was taken to complete the performance
2. Each player is given two attempts

Recording method: the time is recorded to the lowest and calculated to the nearest / second

Vertical jump test of stability

The purpose of the test: To measure the strength of the muscles of the legs.

Test tools

1. A wooden panel that is objective or fixed to the wall, inscribed in centimeters or not less than 4 m in height
2. A piece of chalk

Specifications of the tests: Holds the piece of chalk, then extends the arm high to the fullest extent of the wall, then stands on the line drawn on the ground and the side facing the wall is fixed behind the body and the other is holding (free) Bend the knee to reach the highest point of the chalk mark on the wall and jump with the feet from stability

Test conditions

1. The gradient is left after a meter from the ground and a line perpendicular to the wall, 25 m long
2. Each player is given three attempts and scored the best.
3. Recording method: The player records the distance between the line that reaches him from the standing position and the arm reached as a result of the jump to the nearest centimeter.

Exploratory Experience

The researcher conducted an exploratory experiment, tests for the harmonic and physical abilities on (5) players from outside the main sample, on 20/1/2022, which is a preliminary experiment. A second survey on the same members of the first survey sample after 7 days have passed since the date of the first experiment on 27/1/2022. Through this experiment, it is possible to identify the following:

1. Knowing the appropriateness of tests of physical harmonic abilities and stationary states of the sample level
2. Knowing the difficulties and problems facing the researcher when carrying out the tests in question
3. Recognize the time taken to carry out tests and measurements

Scientific conditions for exams**The validity of the test**

In order to ascertain the results, it was presented to a group of experts, and they unanimously agreed on the validity of the measurement of the characteristic to be measured, because the tests nominated for work, and thus the tests that were accepted and nominated for the final work, are considered to have the validity of the content of self-calculation by calculating the reliability coefficient.

Test Stability

On 20/1/2022, the researcher applied tests and re-tested after seven days 27/1/2022 on a sample of the research community consisting of a group of players who were excluded from the main experiment by calculating Pearson's simple correlation coefficient between the scores of the first and second tests as shown in Table No. (1) It was concluded that all tests are statistically significant due to the fact that all their calculated values are greater than the tabular value of 0.576 at a degree of freedom of 3 with a level of significance of 0.05, which indicates that they enjoy a high degree of stability. The results showed that there is a correlation between them.

Objectivity of the test

Baller Despite the ease of the devices used in the tests conducted on it, and the presence of a working team specialized in physical education and sports sciences, the researcher recorded the results of the test from two judges at the same time. The results of the simple correlation coefficient showed that there is a high correlation in the test, which confirms the objectivity of the tests.

Table(1)Shows The Stability And Objectivity Of Tests For Physical Harmonic Abilities

Indication	Objectivity	indication	constancy	the exams	No
Moral	0.90	moral	0.89	control then scroll	1
Moral	0.88	moral	0.86	Controlling, running with the ball, then passing	2
Moral	0.86	moral	0.84	Running 25m between medical balls	3
moral	0.91	moral	0.90	Vertical jump from stability	4

Main field research procedures

Tribal tests

The pre-test was conducted for all individuals of the research sample before starting to implement special exercises in the ballistic training method, in order to determine the level of harmonious and physical abilities. The results are according to the specifications and conditions specified for each test, and after completing the tests, the equivalence of the control and experimental groups was extracted in the tribal tests of the research sample for a period of one day 30/1/2017 using the T-test for uncorrelated samples, and it was concluded that all the calculated significance level values (Sig) is greater than the approved level of significance set at (0.05), which indicates that there is no significant significance between the two groups, which here means the equivalence of the two groups in the study variables, as shown in Table (2)

Table (2) Arithmetic means, standard deviations, and (t) value calculated for the pre-test and for the control and experimental groups in the (consensual) tests

indication	Sig	No	Control		Experimental		unit of measure	Variables	No
			p	S	p	s			
not significant	0,959	0,349	0.349	0.472	0.037	0,455	d/th	control then scroll	1
not significant	0,388	0,669	0.0335	0.225	0.019	0,232	d/th	Controlling, running with the ball, then passing	2
not significant	0,850	0,190	0,812	10,031	0,832	10,130	d/th	Running 25 m between medical balls	3
not D	4,22	3,30	4,000	38,79	3,67	37,6	m/cm	Vertical jump from stability	4

P-Value $\leq$ 0.05

Preparing exercises for the ballistic training method

The researcher prepared exercises for the physical harmonic abilities and took into account in the exercises the development of all compatibility and physical aspects by using a large group of exercises that achieve the desired goals according to the harmonic exercises. Sufficient duration to make changes in the implementation of movements and body positions towards the type of exercises applied by the sample members, as (Abu El-Ala Ahmed 1996), quoting (Costel Willmore 1994), "Most of the changes resulting from training usually occur during the first period of the program within 6-8 weeks Since the duration is 10 weeks, it was sufficient in the emergence of development, at a rate of (3) training units per week, carried out on Sunday, Tuesday and Thursday through the main section of the training unit in agreement with the team coach, allocating (30_35) minutes of the training unit to implement the exercises, and the duration of the unit was (30 minutes distributed over (3) exercises during the unit. The duration of each exercise is (10) minutes and is repeated for one period. A period of (2) minutes is allocated between an exercise and the adoption of time, since the players carry out special exercises in the ballistic training method, and there is a pause in them. The time allotted is specific to the researcher, as well as the use of the principle Repeating the same exercises through the three units per week for conditioning events on their performance in continuing to repeat the same exercises to move to other exercises with the same goal in the second week and repeating the same method in the rest of the weeks. The offensive performance of the young players The researcher conducted the tests that carried out these exercises through the first part of the main section of the training unit by the researcher and reached Add training units (30) units during (10) weeks and in the special preparation stage

Post-tests of the research sample

The researcher conducted the tests after preparing the test requirements and tools and the assistant work team and under the direct supervision of the researcher on 4/17/2022 post-tests for all individuals of the research sample after the completion of the implementation of exercises for the ballistic training method in order to determine the level of harmonic and physical abilities of the research sample

Statistical means

The researcher used the spss statistical bag to calculate the following laws: (arithmetic mean, standard deviation, skew coefficient, simple correlation coefficient (Pearson), t-test for independent samples, t-test for non-independent samples, percentage)

Presentation, analysis and discussion of the results

- Presenting the results of the consensual and physical tests, before and after, for the experimental and control groups.
- Presentation, analysis and discussion of the results of the consensual and physical tests before and after the experimental group.

table(3) Arithmetic means, standard deviations, and the calculated t-value for the two tests (pre and post) in the harmonic and physical tests of the experimental group

indication	Sig	value (t)	Magh ^{2h}	Mf	post test		pretest		the exams	No
					p	s	p	s		
moral	0.000	16,18	0,41	0,730	0,119	1,187	0.037	0,455	control then scroll	1
moral	0.000	20,50	0.012	0,292	0.033	0,533	0.018	0,231	Control then run then scroll	2
moral	0.000	6,782	0,863	2,620	0,441	9,512	0,830	12,130	Run 2m between medical balls agility	3
moral	2,26	9,83	0,818	8,4	5,64	45,8	3,67	37,6	Column jump explosive power	4

P-Value $\leq$ 0.05

Discuss

It is clear from Table No. (3) that there is a significant effect in the results of the tests and in favor of the post test, and the researcher attributes this development in the results of the harmonic and physical tests to the result of the application of exercises related to the ballistic training method that are scientifically codified and studied according to a high level of accuracy in their use. Khouribet) pointed

out that the exercises used do not enrich scientific planning and cannot lead to the desired results. Therefore, successful exercises require possession of scientific knowledge in addition to field experience. Therefore, the method used in the ballistic training method according to the components of the training load had a qualitative effect in the experimental group for each of the harmonic and physical abilities are placed in the research. Returning to the tests, the researcher sees that the importance of the tests of all kinds lies in the fact that the ball moves from one player to another, while other skills guarantee the player to move the ball from one place to another, and then he has to resort to handling, hence the development and accuracy of handling is The great guarantee of investing the team's possession of the ball as well as its importance for a well-positioned charge player It is in the field of play, which is in a better position than other players to do it, as its safety, accuracy and arrival at the right time and place provide the best opportunity for the player to do the scoring, as "Exquisite handling is one of the most important qualities of a good player that the team must practice, because it is that means Or the technical method by which the ball is transferred and delivered to the teammate or the opponent's goal as quickly as possible during the match.

Presentation, analysis and discussion of the results of the harmonic and physical tests before and after the group and the control group.

Table (4) Arithmetic means, standard deviations, and the calculated t-value for the two tests (pre and post) in the consensual and physical tests of the control group.

indication	Sig	value (t)	Magh ^{2h}	Mf	post test		pretest		the exams	No
					p	s	p	s		
moral	0.000	0.078	0.026	0.126	0.064	0,601	0,040	0,472	control then scroll	1
moral	0.0003	3,764	0.008	0.035	0.021	0,262	0.032	0.126	Control then run then scroll	2
moral	0.047	2,845	1,064	1,353	0,977	9,077	0,812	12,31	Run 2m between medical balls agility	3
moral	0,202	2,19	3,35	6,41	3,01	39,09	4,000	38,79	Column jump explosive power	4

P-Value ≤ 0.05

Discuss

It turns out that there is a significant effect between the results of the pre and post tests and in favor of the post test, but the development of the control group was not at the required level compared to the experimental group. (3) Persistence in the exercises and attendance at the training units makes the player less mistake in order to increase the player's sense of the ball, which makes him take the appropriate and correct position to perform the skill and avoid the mistakes that occur in it, as it earns him good compatibility. The researcher believes that the group's pre and post tests are simple for the control group compared to the

experimental group, and confirms that the team coach's failure to use exercises according to a scientific and studied level and his reliance on practical experiences had a slight impact on the results of the group that the control group underwent did not contribute to the development of the performance of its members and here loses the training One of its most important characteristics, advantages and objectives is to develop the performance of the players, as there is no point in training units as long as the level of the players is constant

Presentation of the results of the combinatorial and physical tests, before and after, for the experimental and control groups:

Table No. (5)

The significance of the differences	sig	calculated	Dimensional tests		tribal tests		measuring unit	the exams	No
			P	s	p	s			
Moral	0.000	10,313	0.015	0,110	0.022	0,200	d/ th	control then scroll	1
moral	0.000	19,948	0.022	0.263	0.034	0,523	d/ th	Control then run then scroll	2
moral	0.000	6,577	0,201	8,802	0.164	8,174	d/ th	Running 2m between medical balls agility	3
moral	0.000	2,09	3,19	40,01	4,64	46.8	m/cm	Column jump explosive power	4

P-Value ≤ 0.05

Discuss

From the table, it appeared to us that there were significant differences in favor of the experimental group. The researcher attributed the development of the experimental group in the harmonic abilities tests to the training method that the researcher used according to scientific foundations according to the components of the training load, taking into account the individual differences between the members of the research sample as well as the significant differences in the physical tests in favor of the experimental group. Abul-Ela points out that there is a direct correlation between the level of capabilities in any sports activity and the extent to which the physical and motor requirements for that activity improve, and the level of differences is due to the effectiveness of the exercises prepared by the researcher, which brought about this development in the harmonic and kinetic abilities, and therefore this development will undoubtedly be reflected in the performance The skills of the football player confirms the researcher through the level of development of the post-test of the experimental group as in Table (5). In all the results, there was a development as a result of using exercises in a ballistic style that led to an increase in the players' performance level, which was reflected in the development of skill integration and performance upgrade for the players, as indicated by the mechanism (Thamer Mohsen) "When the training

vocabulary is similar to what happens in the matches, the player imagines making these movements during matches.() ”

Conclusions and recommendations

Conclusions

1. Training according to the ballistic method works to develop the physical and motor abilities of young football players
2. The ballistic training has worked to develop the harmonic abilities in football.
3. The effect of ballistic training in the dimensional tests of the experimental group on the development of explosive power and agility, as well as on the harmonic capabilities under study.

Recommendations

1. Emphasis on the use of the ballistic method in developing different physical abilities.
2. Emphasis on the use of exercises according to the ballistic method in the development of harmonious motor and skill abilities.
3. Conducting similar studies and research on other samples, such as juniors and applicants.
4. Take advantage of this study and make it curricula for training in the Football Association.

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