ABSTRACT

The aim of the research is knowing the effect of using a plyometric exercises on development the physical and skill abilities for the research sample and to identify how useful the proposed exercises to develop the football in generally, and the hypothesis of the research was that there were an real effect and statistically significant differences between the pre and post results for the control and experimental groups.

The researchers used the experimental method in a controlled manner for its suitability and the nature of solving the research problem, as this method is one of the most accurate, best and most efficient types of approaches in reaching accurate results, as the research sample was determined which are 26 football players, they were distributed randomly (by lottery) into two control and experimental groups, each group consisting of (13) player. The control group used the regular learning method while the experimental group used the new plyometric exercises, which it was prepared by the researchers. That shows development of doing football skills (passing and dribbling), significant differences appeared between the two research groups in the post-test. So the effect was better in results for the experimental group and that because of the exercises prepared by the researchers.

Keywords: Plyometric, Physical, Skill and Football.

I. INTRODUCTION:

The development of global sports achievement in recent decades did not come randomly, but was an inevitable result of the use of scientific research methods and proper, purposeful and codified planning and implementation of this planning, by employing the foundations and principles of modern sciences in physical education such as training science, physiology, statistics, biomechanics, sociology, sports medicine and others.

The game of football is a game of fun and suspense, and that the fun in football comes through competition and speed in the transfer of play and accurate implementation of performance, which made it one of the most popular, practiced and watched games. This pleasure is provided by the modern methods of playing in the advanced tournaments in Europe and in the developed countries of the world in the field of football, so it has become necessary for us to pay attention to the fast, accurate and advanced methods of playing and transfer what is new to Iraqi football.

Research problem:

By informing the researchers of the training of Nasiriyah Club, which plays in the first division, they noticed a defect in the training methods and the lack of attention to the physical and skill side, in addition to the fact that the curricula and exercises prepared in most of them are not based on scientific foundations in terms of the nature of the training components or gradation from easy to difficult, as well The lack of use of advanced training methods such as the plyometric method and other training methods, which prompted the researchers to make a
serious scientific and practical attempt to raise the level of football training and apply the best methods used to develop the most important physical and skill qualities and then raise them to reach the best levels.

**Research Aims:**

1. Preparing plyometric exercises to develop some of the physical and skill abilities of football players.

2. Identifying the effect of plyometric exercises in developing some of the physical and skill abilities of football players.

**Hypothesis:**

There are statistically significant differences between the Pre and Post-tests of the research groups in some of the physical and skill abilities of the football players for the selected sample.

**Research Methodology:**

The researchers used the experimental method with two equal groups, the control and the experimental in order to fit the nature of the problem and achieve the objectives of the research, and because the experimental method “is an attempt to control all the basic factors in the change or the dependent variables in the experiment with the intention of determining and measuring its effect on the variable or dependent variables” (1.59).

**The research sample:**

The research community, which represents the Nasiriyah Club of DhiQar Governorate, which plays in the Iraqi first division, was chosen, "as the intentional selection of the sample is usually used when this sample from the researchers' point of view represents the original community, and this is what gives results as close as possible to the results that can be reached. From the whole community”(2.137) and the researchers chose the research sample, which numbered (26) players from the original research community (29) players in the intentional way, as the researchers divided the research sample into two groups, the experimental group numbering (13) and the control group (13) where they were The 3 goalkeepers are excluded.

**Equipment, tools and means used in the research:**

1. Personal interviews - observation and experiment.

2. Tests and measurements.

3. The assistant team.

4. Form for collecting and unloading test results.

5. Hours stopwatch (6).

6. Footballs.

7. Laptop type Dell (1).

8. CDs.


10. Animated boxes.

11. Football field.

12. Duct tape.

13. Cones (13).


15. Camera.

16. Goal (75 X 100) cm.

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17- Barriers.

Test:
Test name: Jumping forward with one foot (3.73).
Purpose of the test: To measure the speed strength of the muscles of the legs.
Tools used: Footballs, measure tape, whistle to give the start signal.
Performance: The tester stands on the starting line with one of its feet, which performs the hops process, and the tester performs three consecutive hops for the farthest distance.
The conditions:
Push feet from a standing position.
Speed in performance.
Two attempts are given to each tester for each leg (left and right) and the best result is taken for each tester.
The number recorded by each tester shall be announced on the next tester to ensure the competition factor.
Recording: The tester score is calculated to the nearest (cm) between the starting line and the distance reached by the tester.

Test name: Run in place test for (10) seconds (4.66).
Purpose of the test: To measure the kinetic speed of the muscles of the legs.
Tools used: Footballs, an electronic stopwatch, a rubber cord with a length of (1) meter, a whistle to give the start and end signal.
Performance: The tester stands on the starting line with one of its feet, which performs the hops process, and the tester performs three consecutive hops for the farthest distance.
The conditions:
The player took the correct position (standing half) for the purpose of fixing the rubber rope in proportion to the height of the player's knee and return to the standing position.
Player must start with the right leg when giving the signal.
The player's knee must (alternately) touch the rubber cord.
Continuing and not stopping during and when the start signal is given until the end signal given.
Speed in performance.
Each player has only one attempt.
The number recorded by the player is announced to the next to ensure the competition factor.

- Recording: It is calculated and recorded for the player the number of times the right foot touches the ground for a period of (10) seconds.
- Test name: Passing test towards to a small target from a distance of 10m (5.116).
- Purpose of the test: To measure the accuracy of passing.
- Tools used: Footballs, a measure tape, and a small goal whose dimensions are (100 cm) width, (75 cm) length.
• Performance: The player stands with the ball at a distance of (10 m) from the target. When the signal is heard, the player passing the ball towards the target.

• Recording: Each player is given (3) attempts, as two marks are given for the successful attempt, one mark for the attempt that touches the bars, and zero for the failed attempt.

• Test name: The zigzag running test with the ball (dribbling) between (10) cones, the distance between one and another (1.5 m) using both feet. (6.46).

• Purpose of the test: To measure the player's ability to control the ball while running between the cones using both feet.

• Tools used: Footballs, a whistle, a stopwatch, 10 cones, a stadium where 10 cones are placed in a straight line, the distance between one cone and another (1.5 m) and the distance between the starting line and the first cone (1 m).

• Performance: The player runs between the cones using both feet, zigzag until he reaches the last cone.

The conditions:

• The player can start by passing the first cone from the right or left.

• The player's movement must not stop during the test.

• Recording: The tester calculates the time to the nearest second from the moment of giving the start signal until the last cones.

Pre-tests:
The researchers conducted pre-tests for a sample in the Nasiriyah Sports Club stadium, and all the sample members attended the pre-tests and the tests were conducted. In it, physical tests were conducted (speed strength, kinetic speed), and a sufficient recovery period was given between one test and another, after which the skill tests (passing, dribbling) were conducted and the researchers worked to establish the conditions related to the tests in terms of time, place and tools used for work. The location was estimated to create similar conditions when post-tests were conducted.

Special exercises:
The correct choice of exercises is what leads the player to the desired goal, and it is one of the positive factors to reach the highest possible level within the limits of the player’s ability, whether the choice of exercises is physical or skill and according to the desired goal, this is in addition to the fact that the exercises that fall within the training curricula must be built on scientific grounds and according to the rules of sports training, through the correct use of training intensity and gradation with this intensity through the exercises used, rest periods, which are considered as important factors in the process of functional adaptation of the player’s functional devices, so the researchers selected several exercises to develop speed strength and kinetic speed by preparing Plyometric exercises from a number of sources and references (7.200). Which deals with such a training method, the exercises focused on developing those abilities, knowing that the period of application of the exercises was in the period of special preparation for the experimental group. The three hops (left and right for determining the intensity of the plyometric method, and the intensity ratios for the speed strength were (70% - 85%), As for the kinetic speed of the muscles of the legs, the intensity ranged (75-85%), and the rest would be complete in order to allow the full recovery of the muscles working during the exercises, as plyometric exercises fall within the anaerobic capacity, giving short periods of rest (10-15) seconds between groups does not allow full recovery and restoration of the phosphate energy complexes.

Duration of the exercises set in weeks (6).

• The time allocated for plyometric exercises from the main section (30) minutes.

• The training method used: high-intensity interval training and repetition.
• The training intensity used for plyometric exercises for the speed strength (70-85%).
• The training intensity used for plyometric exercises for the kinetic speed (75-85%).

The gradation of the training intensity during the weeks of the training units was at the rate of three peaks per week 1:3 and according to the sequence of the stress peaks for the curriculum of the trainer of the experimental group. As for the rest between groups, it was (3) minutes.

Post-tests:
The post-tests of the research sample were conducted at the Nasiriyah Sports Club stadium after the completion of the training curriculum period, which lasted (6) weeks.

Statistical means:
The statisticl data was processed using the ready-made software system (SPSS).

II. RESULT

Table 1

<table>
<thead>
<tr>
<th>#No</th>
<th>Tests</th>
<th>Measuring unit</th>
<th>Group</th>
<th>Mean</th>
<th>S.D</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jumping test</td>
<td>M/Cm</td>
<td>Control</td>
<td>0.184</td>
<td>0.173</td>
<td>3.833</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Experimental</td>
<td>0.559</td>
<td>0.319</td>
<td>6.310</td>
<td>0.000</td>
</tr>
<tr>
<td>2</td>
<td>Running test</td>
<td>Numbers</td>
<td>Control</td>
<td>2.692</td>
<td>0.480</td>
<td>20.207</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Experimental</td>
<td>8.076</td>
<td>3.796</td>
<td>7.672</td>
<td>0.000</td>
</tr>
<tr>
<td>3</td>
<td>Passing test</td>
<td>Degree</td>
<td>Control</td>
<td>1.461</td>
<td>0.967</td>
<td>5.447</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Experimental</td>
<td>2.615</td>
<td>1.192</td>
<td>7.905</td>
<td>0.000</td>
</tr>
<tr>
<td>4</td>
<td>Dribbling test</td>
<td>Time</td>
<td>Control</td>
<td>1.615</td>
<td>0.767</td>
<td>7.584</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Experimental</td>
<td>3.230</td>
<td>1.589</td>
<td>7.330</td>
<td>0.000</td>
</tr>
</tbody>
</table>

III. DISCUSSION:

It is clear to us from the results of the tests of the experimental group (plyometric) in the physical tests, the emergence of differences in all tests, and the researchers attribute that plyometric exercises have affected the development of kinetic speed through the rapid contraction of the plyometric action, which was characterized by the collision that leads to a lengthening contraction followed by a shortening contraction. This was confirmed by Bastawissi Ahmed, "The development of motor speed is done through plyometric exercises with or without tools such as hops or jumping and stairs exercises as well as deep jumping, as all of these work on developing motor speed that distinguishes performance at great speed." (8.156). On the other hand, we note that "the work of kinetic speed and plyometric exercises is under one energy system, which is the anaerobic system, so the kinetic speed is through what is included in the plyometric exercises." (9.42).

The researchers attribute that the development of strength speed to plyometric exercises, has affected these exercises in the development of working muscles through stretching and lengthening with the aim of producing greater strength in the shortest time (improving the cycle of lengthening and shortening) "The physiological fact depends on showing that the muscle can produce more power if it is effectively stretched before it is allowed to be constricted, which leads to the development of muscle contraction" (10.31) The largest amount of elastic energy is stored inside the muscle. It was noted that by increasing the number of repetitions in the test of increasing the distance of the hops for both legs, the plyometric muscle work is limited to the reflex muscle tension that increases the elastic energy stores of the muscle.

The development in the results of the skill tests of the second experimental group (plyometrics) is attributed by researchers to the use of special and various plyometric exercises, which will raise the level of skill performance. The different beginnings of the exercises and the endings have an effective role in developing the skill, This was confirmed by Amr Allah Ahmad Al-Busati, "When it comes to developing the skill and tactics of the athlete, progress can be made by diversifying the beginnings and ends of the movement, changing its timing, and placing it in various combinations to increase the ability to combine performances with each other in proportion to the requirements of the situation during actual competition and training in difficult and different conditions" (11.65).
The development and improvement in the performance of skills (passing and dribbling), which were shown by the results, did not come by chance or randomly, but rather came as a result of training, which led to the previously mentioned skills to reach this stage of the level of development, which confirms the high ability of plyometric exercises in developing the level of development. performance and worked to improve the skill side of the experimental group members, in addition to the above, researchers can attribute the reasons for this to organize the training method followed with this group, as the process of organizing training gives a fundamental impact in developing the level of performance that is consistent with the players capabilities, Good place for training and the necessary supplies for it, we will get positive results in the process of understanding and developing the skill level of the players, because "the organized and studied scientific exercise has a great impact on the results of the tests" (12.25), and (Qasim Hassan Hussein) mentions that the training process is "that continuous organized process that The individual acquires knowledge, skill, ability, ideas and opinions necessary to perform a specific work or reach a specific goal, as well as a method for achieving organizational goals and adapting to work and what is provided to the individual with Certain skills, skills, or mental attitudes are necessary from the organizational point of view to achieve the goals of the institution" (13.178).

IV. CONCLUSIONS:

1. There is an effect of football skills by the experimental groups in improving and developing the performance of passing and dribbling.
2. There were significant differences between the two research groups in the post-test and for the benefit of the experimental group.

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