

The Effect Of Exercises According To The Heart Rate Index Using The (DYNA FOOT) Device In The Development Of Special Speed And Some Basic Skills Of Young Football Players

Sahar Mohammed Salman

General Directorate of Education in Baghdad / Al-Karkh

saharmohammed10@yahoo.com

Abstract: The interest of researchers and trainers in developing training curricula and using modern training methods to develop physical capabilities related to the type of activity or skill required, in addition to laying correct scientific foundations when choosing appropriate hospitalization periods according to the pulse index during repetition of training loads and through the researcher's experience and presence in the academic and field fields I noticed that most of the exercises are either the speed training in the ball during play and training without paying attention to the real special speed and what constitutes the percentage of the speed of performance that a football player has, in addition to that lack of interest in studying the anchoring operations, the position of the foot and the pressure areas with the feet of foothold on the ground during the performance distance stages Inside the stadium, which has the primary role to achieve the required increase in speed, which generated the need to use a modern device to identify these variables, which is a (DYNA FOOT) device to identify indicators of the amounts of thrust, pressure and force exerted during the pivot stages during the actual performance distance, as the researcher decided to prepare exercises To codify and diagnose weaknesses in order to develop appropriate solutions and know the appropriate means correct.

The goal of the research is to prepare and identify exercises according to the heart rate index using the (DYNA FOOT) device in developing special speed and some basic skills for the players of Al-Karkh Football Club. The researcher adopted the experimental approach of the experimental and control groups. Player, as the research sample was selected using a comprehensive inventory method, and the sample was divided into two experimental groups and the control group with (16) players for each group. Exercises were applied according to the heart rate index using a (DYNA FOOT) device on the experimental group for a period of eight weeks and by three training units in The researcher used the SPSS statistical bag to process the data and obtain results and the most important conclusions - Exercises according to the heart rate index using the (DYNA FOOT) device have a positive effect on developing the special speed and some basic skills of football players.

Key words: heart rate, DYNA FOOT device, special speed, basic soccer skills.

1. INTRODUCTION:

Modern training methods undoubtedly contribute to helping researchers, students and those in charge of the training process in the field of physical education to adopt modern

scientific methods that lead to knowledge of the impact of sports training on developing physical abilities and basic skills for all sports. The use of special speed is one of the important abilities in football. As increasing the amounts of training requires the trainer to have a correct familiarity with the training methods and methods that allow the achievement of these loads and to overcome them, and this depends on the correct choice of the length of the hospitalization period when repeating the exercises according to the indicators of pulse return to (120 n / d) or (130 n / d) and on Knowing the appropriate hospitalization period for the game to evaluate sports performance during the training stages in terms of using modern technology to assist in identifying these important factors, which is the (DYNA FOOT) device, which helps in detecting the amounts of strength and pressure during the running steps to prepare special exercises and the skills responsible for these factors for their development For the better, from this lies the importance of this research by studying exercises according to the heart rate index using the (DYNA FOOT) device and in order to put a date A standard yen for the development of this game and the control and adjustment of the required distance during the full performance of the physical, technical and skillful aspects of football.

Research problem:

The interest of researchers and trainers in developing training curricula and using modern training methods to develop physical capabilities related to the type of activity or skill required, in addition to laying correct scientific foundations when choosing appropriate hospitalization periods according to the pulse index during repetition of training loads and through the researcher's experience and presence in the academic and field fields I noticed that most of the exercises are either the speed training in the ball during play and training without paying attention to the real special speed and what constitutes the percentage of the speed of performance that a football player has, in addition to that lack of interest in studying the anchoring operations, the position of the foot and the pressure areas with the feet of foothold on the ground during the performance distance stages Inside the stadium, which has the primary role to achieve the required increase in speed, which generated the need to use a modern device to identify these variables, which is a (DYNA FOOT) device to identify indicators of the amounts of thrust, pressure and force exerted during the pivot stages during the actual performance distance, as the researcher decided to prepare exercises To codify and diagnose weaknesses in order to develop appropriate solutions and know the appropriate means correct.

research aims:

Preparing exercises according to the heart rate index using the (DYNA FOOT) device to develop special speed and some basic skills for young football players

Learn about exercises according to the heart rate index using the (DYNA FOOT) device in developing special speed and some basic skills for young football players

Force search:

Exercises according to the heart rate index using the (DYNA FOOT) device have a positive effect on developing the special speed and some basic skills of young football players

Research areas:

The human field: Players of Al-Karkh Sports Club in Baghdad governorate for the 2019 sports season.

The time frame: the period from 2/2/2019 to 11/4/2019.

Spatial Domain: Al-Karkh Sports Club Stadium in Baghdad Governorate.

Research methodology and field procedure:

Research Methodology:

The researcher used the experimental method of pre and post testing of the experimental group and the control group, to suit the nature of the research.

research community

The researcher identified the research community by the researcher as the players of Al-Karkh Sports Club, whose number was (32) players, and they were divided into two groups, the experimental group (n = 16) and the control group (n = 16).

Means, devices and tools used in the research:

- Observation.
- Personal interviews.
- Tests and measurements.
- Deny foot measuring system: Figure (1).
- 1/1 video camera at 180 s / s.
- Various measuring tools (stopwatches, tape measure, whistle).
- Korean HP laptop computer, CASIO type electronic handheld calculator.
- A legal football field.

Plastic cones of various sizes. Boxes of different heights.

- Issue (20) barriers.
- (6) flags of white and red colors.



Field research procedures:

Impact force measurement system (Deny foot)

A system for measuring the variables of the force imposed on the ground during each step of the run, and it consists of four parts: the data delivery base (which is a foot pedal that is placed in the shoe with a connecting wire to the force computer that connects to the player's leg) and the signal receiver device that connects with the laptop and receives the signal in an instant Direct, electronic watch (Watch Unit), and the system works after wearing the device with the tester's leg and fixing it on his leg and installing the step sensor on the player's foot and entering data on the player's age, height, weight and gender, and the system measures the variables of speed and distance traveled, and this data can be used as feeding information For subsequent training modules, information can be stored in the system.

- Measuring the force applied to the ground at the moment when the foot comes into contact with the ground while running:

For the purpose of determining and synchronizing the force measurement with the player's speed and the strength recording areas, the time recording was started from the moment of starting at the same time the program for measuring the force with the start time of the race time was run in order to determine the areas in which the force measurement was read.

Physical exams:

Heart Rate (Devrise: 2002: p98)

- Special Speed (Guy: 1999.p67)

Test of control, feeling and control of the ball (Asaad Lazim Ali: 2004, p. 56)

Accuracy of handling

Accuracy of aiming the ball to the goal

Exploratory experience:

The reconnaissance experiment was conducted by the researcher on Saturday 2/2/2019 on (6) football players from the research community, to apply the tests on them, and to train the assisting work team to carry out these tests and the possibility of using the device to ensure the survival of the bluetooth signal and measure the power in The moment the foot comes into contact with the ground, as well as the following:

1. The difficulties and obstacles that will arise during the implementation and the course of the tests have been identified.
2. The appropriate time for testing and how long it will take have been identified.
3. The ability of the sample members to carry out the tests and their suitability for them.
4. Identify the equipment and tools necessary to carry out the experiment and the tests.
5. The ability to measure force with the used device (Deny foot).

Pre-tests:

The researcher conducted the pre-tests at Al-Karkh Sports Club Stadium, corresponding to 4/2/2019.

The main experiment:

The exercises began on 2/7/2019 until 4/10/2019.

- The duration of the exercises set in weeks: (8) weeks.
- The total number of training units: (24) training units.
- Number of weekly training units: (3) units.
- Weekly training days: (Saturday - Monday - Wednesday).
- The training method used: the high intensity interval training and the repetitive training method.

Post-tests:

The researcher conducted the post tests at Al-Karkh Sports Club Stadium corresponding to 11/4/2019 (after completing the proposed exercises, with the same steps and conditions under which the tests were conducted.

Statistical methods: The researcher used the Statistical Package (SPSS) to find the appropriate statistical treatments.

Presentation, analysis and discussion of results:

Presentation of the results of the differences between the pre and post -tests of the experimental group in the studied variables and their analysis.

Table (1) shows the difference in arithmetic means, its standard deviation, the value of (t), and the significance of the differences between the results of the two pre and post- tests of the experimental group in the variables under investigation.								
Tests	measuring unit	Pre-test		Post-test		The value of t calculated	Error level	significance
		A	STD	A	STD			
Power	Newton	2817	0.251	3072	0.966	4.868	0.000	sign
Heart rate	B / SEC	68.01	0.175	67.22	0.982	5.743	0.001	sign
Own speed	The second and its	3.05	0,542	2.97	0.654	4,522	0,002	sign

	parts							
Precision control, feeling and control of the ball	Degree	42.26	0,338	44.65	0,718	3,496	0,001	sign
Handling accuracy	Degree	3.99	0,175	4.94	0.543	3,967	0.004	sign
Accuracy of aiming the ball to the goal	Degree	110.00	0.132	150.00	0,853	2.765	0,005	sign

Presentation of the results of the differences between the pre and post- tests of the control group in the searched variables and their analysis.

Table (2) shows the difference of the arithmetic mean, its standard deviation, the value of (t) and the significance of the differences between the results of the pre and post- tests of the control group in the variables under investigation								
Tests	measruing unit	Pre-test		Post-test		The value of t calculated	Error level	significance
		A	STD	A	STD			
Power	Newton	2464	0.115	2699	0.245	3.963	0.002	sign
Heart rate	B / SEC	70.18	0,363	69.32	0,333	2,628	0,001	sign
Own speed	The second and its parts	3.22	0,537	3.10	0,442	2,542	0.000	sign
Precision control, feeling and control of the ball	Degree	41.73	0,646	42.89	0,436	2,659	0.004	sign
Handling accuracy	Degree	3.33	0.462	3.86	0.413	3.823	0.001	sign
Accuracy of aiming the ball to the goal	Degree	105.00	0.654	120.00	0.356	3.765	0.0002	sign

Presentation of the results of the differences between the two post- tests of the experimental and control groups in the studied variables.

Table (3) shows the difference of the means, the value of (t), the level of error and the significance of the differences between the results of the post-test for the experimental and control groups in the variables under investigation								
Tests	measruing unit	Experimental group		Control group		The value of t calculated	Error level	significance
		A	STD	A	STD			

Power	Newton	3165	0.947	2887	0.213	9.226	0.001	sign
Heart rate	B / SEC	65.22	0.934	68.11	0.417	8.737	0.002	sign
Own speed	The second and its parts	2.90	0,893	3.02	0,531	7.987	0.004	sign
Precision control, feeling and control of the ball	Degree	47.87	0,656	43.43	0,765	6,874	0,005	sign
Handling accuracy	Degree	5.89	0,852	3.99	0,331	7,742	0,001	sign
Accuracy of aiming the ball to the goal	Degree	170.00	0.654	130.00	0.432	6.897	0.000	sign

2. DISCUSSION:

Table (1,2,3) results show that there are significant differences in the research variables between the pre and post tests of the two research groups and in favor of the post test, and the researcher attributes to the preparation of physical exertion exercises rated strength according to the components of the training load using the Deny Foot device () which gave a real indication of amounts The power on the ground that strengthened the positive relationship between the exerted force with increasing acceleration and speed, as the greater the force that is exerted to propel the body when running, the greater its acceleration (Frank Abdul Karim Al-Fadhli: 2010, p. 98), which the researcher attributes these moral differences to the effect of the standardized training program Which was prepared by the researcher, in terms of times of physical rest, and recovery of recovery between the repetitions carried out on the players, as the building of the sports body is characterized by the rapid adaptation of the training loads when exposed to repetitions in the training process, and the use of training loads according to the pulse index as well as The accuracy of building loads in terms of size, intensity, physical comfort, and the type of exercise used, changes in vital body systems during training, which led to the emergence of changes that occurred during the period of hospitalization, so The heart's work increases during strenuous exercises by about (four times) its work during the rest period to reach (20-22 liters) of blood per minute and the upper limit of the heart rate is about (195 beats / minute) either the pumping volume is about (103 - 113 ml) / Hit during hard training. The volume of pumping reaches its highest level when the oxygen consumption reaches (40-50%), the heart rate is (120-140 beats / minute) (Hashem Adnan Al-Kilani: 2000, p. 256) and that the special speed is important for the football player, i.e. no A place for a slow player in modern football and the speed of a soccer player is the starting point, i.e. the ability to accelerate and quickly launch from a standing position or from slow movement and in various cases the player must be fast in a short distance and a sudden shift from defense to attack (Mowafak Majeed Al-Mawla: 1999, P. 183)

The researcher believes that the football player needs all kinds of speed and according to the varied and renewed positions to play. He needs speed to run for short distances to catch the ball, occupy a vacuum or get rid of the opponent, and he needs speed to switch the ball when rolling and to speed thinking to make the appropriate decision at the appropriate time and speed Handling and also to the speed of scoring when close to the opponent's goal.

As he designed these exercises according to the style of play and the repetition of these exercises, all of this led to the development and stabilization of the manipulations among the players as they are the most used skill while playing.

The skill of controlling the ball is one of the independent skills and can be done on the field, but there are difficulties that prevent them from occurring constantly during matches, including the presence of the opponent, as well as it needs more time to move forward, and through it the ability of the player to deal with the ball, control it and control it (Saleh Radi: 1990, p. 37) Despite the difficulty of this skill, modern football performance requires in different situations to use the skill of controlling the ball, whether in the air or on the ground, so that the behavior is more accurate or safest.

And testing the accuracy of the handling of the experimental group, and the researcher attributes that to the fact that handling has an important role in building harmony and understanding between the players. The team or player is more than inaccurate handling (Charles Hughes: 1990, p. 106), meaning that the handling skill needs to make a sound and quick decision during the match, and thus the accuracy of handling needs quick reactions to enable the player to make the right decision at a high speed.

Scoring skill is the summary of the efforts of the entire team, which is about introducing the ball into the opponent's goal, and without this effectiveness, the team cannot achieve a victory over the opponent (DICLEMENTE: 1999, P28). The researcher attributes this development to exercises prepared on scientific foundations that positively affected the morale of the differences. In the post test

As for accurate scoring, it needs the presence of several elements, namely accuracy, strength, and speed in scoring because quick and sudden scoring, along with accuracy and strength, are among the basic elements of hitting the target (Mowafak Asaad Mahmoud: 2008, p. 104)

3. CONCLUSIONS:

An improvement in the special force exerted while running at the moment of foot contact with the ground occurred for specific stages of the performance level on the field for the experimental group for the post test

- The training program based on the pulse rate index is effective in developing both special speed and some basic football skills (scoring, handling, and rolling).

Recommendations:

. Conducting the training program and carrying out its exercises in situations similar to those of playing by using footballs as much as possible.

- Conducting a similar study in which another training method is used or adding other variables such as being physical, functional, and others.

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