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THE EFFECT OF PROPOSED EXERCISES ON THE DEVELOPMENT OF CERTAIN PHYSICAL AND SKILL ABILITIES IN BEACH SOCCER PLAYERS

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Abstract
The study is important because it provides exercise complexes that combine physical and skill components to develop certain physical and technical capacities of beach soccer players. This sport has its specificity and needs special physical and technical features. The researchers conducted this study due to the limited number of studies on this aspect of training for beach soccer players.
The research population comprised 120 beach soccer players from seven clubs. The selection of Al-Diwaniyah Club was done randomly. The researcher chooses experimental method with one group pre-test and post-test design. Once the target physical and skills abilities were determined suitable tests were selected and proposed exercises were prepared scientifically.
The program consisted of 12 exercises that took place over 8 weeks, 3 training sessions per week. A pilot study followed by pre-testing, administration of training, and post-testing was conducted. The research sample demonstrated significant improvement in both physical and skill capabilities as a result of the findings.

Keywords: Proposed Exercises – Certain Physical and Skill Abilities.

Introduction

Beach soccer is one of the sports that require a high degree of physical and technical skills. For a player to carry out the technical and tactical tasks that are envisaged on the pitch by the coach, he must have advanced physical and technical capacities. This affects their performance positively and leads to good results in matches.
Training Sports programs are one of the basic means to achieve this goal, because they motivate players to engage in and consistently stick to the training process within the framework of scientifically structured foundations. This helps in realizing the sought-after

advancement and growth aspired to by specialists in the short and long terms. Ultimately, the objective is to prepare players who are capable of executing assigned tasks and winning in competitions.

1.1 Purpose of the Study:

- To draw sample exercises to develop a number of physical and technical capabilities of beach soccer players.
- The objective of this research is to assess the effect of the proposed exercises on the improvement of certain physical and technical abilities in beach soccer players.

2. Theoretical Studies:

2.1 Basic Skills:

Basic skills are a determining and indispensable factor to achieve the objectives of the game, because they are the only means of interacting with the sport itself. Every sport uses several basic skills to measure performance capabilities. Without advancing their competencies to a high degree, tactical plans cannot be implemented. The ball is played mainly by means of.... or the player plays the ball mainly by means of .... A pleasant association exists between the mastery of the basics and improvement in tactical performance. Having these skills allows the player to perform movements automatically without attending to every single skill's details.

2.2 Physical Abilities:

The physical capacities in beach soccer are fundamental and basic in improving technical and tactical performance. Being a team sport, beach soccer includes the use of many motor skills which must be executed with the appropriate technical performance and with precision that requires high physical capabilities. The physical qualities of footballers is considered one of the main factors affecting the efficiency of technical and tactical actions. A well-made plan that does not take into account physical abilities will fail nonetheless. Furthermore, unless the players possess physical attributes and characteristics, which allow for the motor execution of basic skills, technical performance cannot be executed automatically.

3. Research Procedures:

3.1 Research Methodology:

Appropriate for the nature of the research problem, the researcher used an experimental method through one-group design.

3.2 Population and Sample of the Study:

The method is interpreted as the suitable approach the researcher uses to realise the intended purpose as set at the beginning of the study(1).

The study population includes beach soccer players working in clubs in the middle Euphrates provinces, which are seven clubs and 120 players. To represent the research, 16

Players were selected at random by the lottery method from Al-Diwaniyah Club. Table (1) shows that sample homogeneity was verified.

Table (1) Homogeneity of the Research Sample

No.	Variable	Mean	Standard Deviation	Skewness Coefficient
1	Training Age	3.55	0.212	0.44
2	Body Mass	62.4	1.654	0.56
3	Speed-Strength of the Legs	3.84	0.71	-0.36
4	Explosive Strength of Leg Muscles	266.87	13.12	-0.16
5	Aerial Passing	4.36	0.89	-0.12
6	Shooting from a Stationary Position	7.75	0.91	0.13

3.3 Field Research Procedures:

3.3.1 Determination of the Tests Used in the Study:

Having read many scientific references and sources, personal interviews with experts and specialists, a set of tests related to the physical and skill attributes of beach soccer players were prepared. To obtain the opinion of experts and specialists, these tests were submitted to them.

Once the evaluation forms were collected, the data was processed. Table (2) below shows the tests and their validity using chi-square test (χ^2) for the selected tests:

Table (2) Validity of the Selected Tests

No.	Test	Response Options	Agreement Percentage	χ^2 Value	Significance
		Suitable	Not Suitable		
1	Speed-Strength of the Legs Test	8	0	100%	8
2	Explosive Strength of Leg Muscles Test	8	0	100%	8
3	Aerial Passing Test	8	0	100%	8
4	Shooting from a Stationary Position Test	8	0	100%	8

3.3.2 Description of the Tests Used in the Study

1. Standing Long Jump (1):

The explosive strength of leg muscles is tested in this activity.

You divide the soccer field into two equal halves lengthwise. You draw a starting line on the ground that's a meter long.

The player stands back against the starting line with their feet slightly apart. From a two-footed take-off, the player makes one jump as far as possible, but is allowed to swing his arms..

Scoring Method:

- The jump distance is measured from the starting line to the furthest point reached by the player.

- The player is given two attempts, and the best attempt is recorded.

2. Hopping Test (15 m forward on the right leg and 15 m return on the left leg):
To measure the strength of the legs in vertical jump.
The test area consists of two lines, a starting line and a finishing line at a distance of 15 meters. There are also an electronic stopwatch, whistle, measuring tape.
The contestant is in the stipulated starting line. When instructed, the player hops on the right leg towards the finishing line and returns to the starting line hopping on the left leg.
The time taken is recorded to nearest 1/100 of a second to score**.**

3. Aerial Passing Test (Short, Medium, Long):
The Test's Objective is to evaluate the precision of aerial passing abilities.
There will be used beach soccer pitch, beach soccer balls, whistle, marking paint of the ground and measuring tape, measuring ruler of 1.5-metre length and recording form.
Performance Description: Three circles are drawn with radii 1m, 1.5m and 2m. Short passing will be done from 5 meters distance with radius of 1.5 metres first target circle drawing. The second target circle is 10 meters away and is of the same size as the medium passing one. The third target circle, intended for long passing, is set at a distance of 15 meters. Upon the call of play, the player standing within the centre sends an aerial pass after releasing it from the ground**.**

Scoring Method:
- The player receives three tries, one for each distance.
- A player will score 3 points if the ball lands in the first circle (1metre).
- The player gets 2 points when the ball lands within the second circle (1.5 meters).
- If the ball lands within the 3rd circle (2 metres), the player gets 1 point.
- The player will get 0 points if the ball goes outside all the circles.

Note: The maximum score for the test is 9 points, and the minimum score is 0.

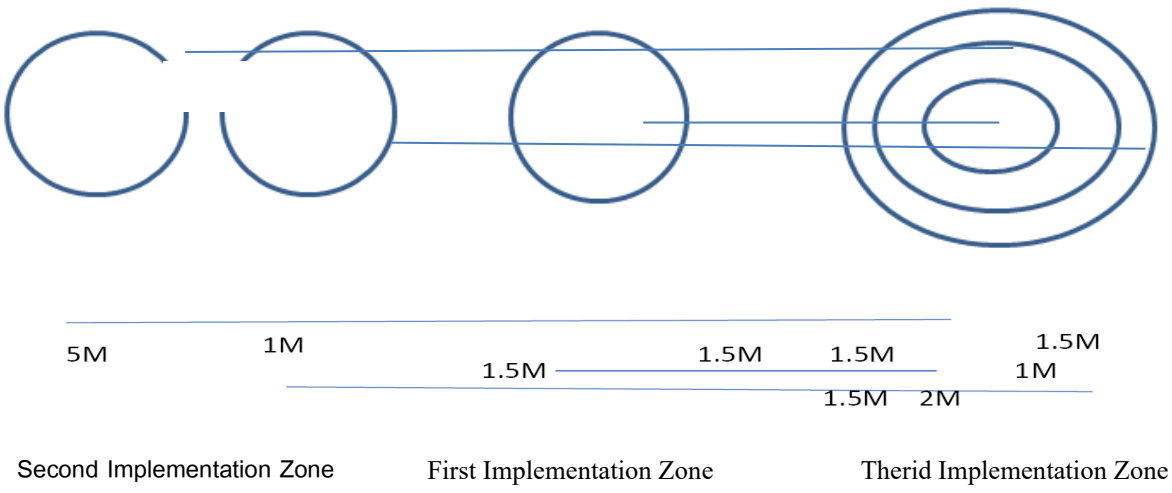

Figure (1) Illustrates the Aerial Passing Accuracy Test

4. Shooting from a Stationary Position:

Purpose of the Test: To measure the accuracy of shooting from a stationary position.

The beach soccer goal is divided into five zones. The two zones on the right and left have scores of (3); the two zones on the right and left have scores of (2); and the centre zone has a score of (1). Other equipment includes beach soccer balls, whistle, measuring tape, elastic ropes, recording form, a circle with radius of 1.5 meters, as well as a line 15 meters from the goal, divided into three positions (centre, right, and left).

The player is positioned within the circle. Test starts when the messenger in first position lifts the ball in the air and shoots to the goal. The player repeats the examination from positions two and three next.

Scoring Method:

- A player will get three points when the ball enters zone (3) on either right or left side.
- When a player enters zone (2) on either the right or left side of the course, the player receives 2 points.
- A player earns 1 point if the ball enters zone (1) on the central area.
- If the ball makes contact with a line, the higher of the two scores will be awarded.
- If the ball lies outside of the goal, a player is awarded

Note: The maximum score for the test is 9 points, and the minimum score is 0.

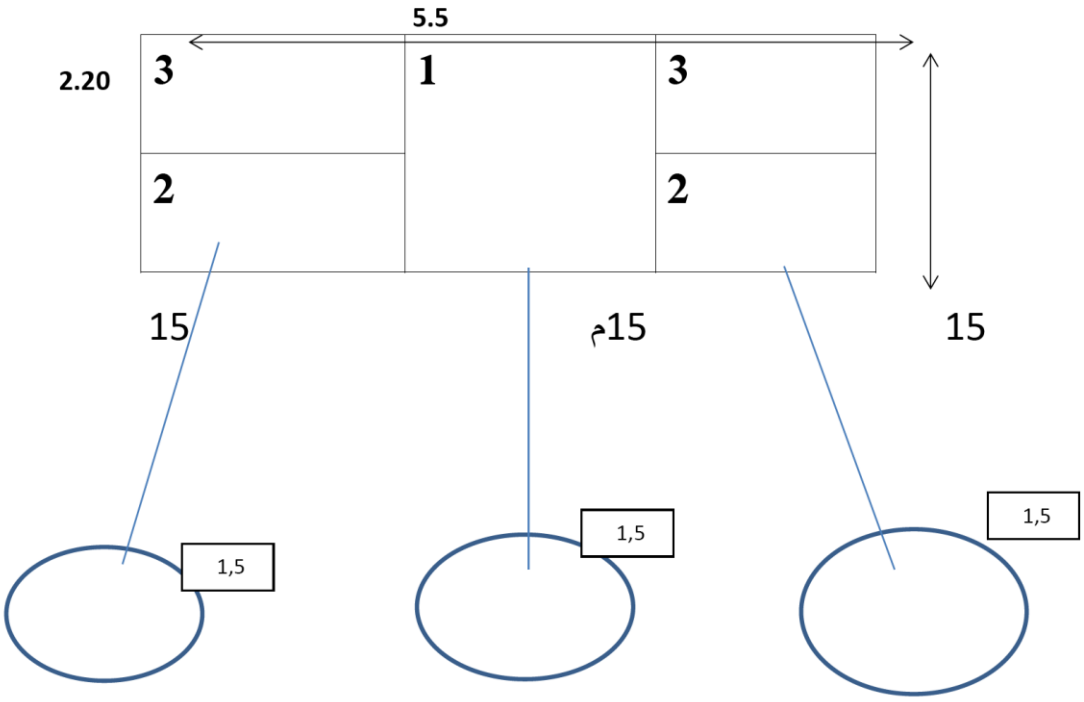

Figure (2) Illustrates the Shooting Accuracy Test from a Stationary Position

3.3.3 Preparation of the Proposed Exercises:

A group of practices appropriate to the research sample was designed after reviewing a number of scientific references, sources and previous studies. The physical and skill

components of the study are achieved through the development of these exercises. The exercises were formulated based on sound scientific principles. In particular, progressive training load, variability of performance, adequacy for current research sample. Moreover, duration of each exercise, rest intervals, and level of intensity and difficulty.

3.3.4 First Pilot Study:

The researcher executed the pilot study on tests that will be used in research to see if they are lucid for the sample or if there will be any issues faced in conducting the tests and to see the time duration which is required to execute the tests. Para firebolt study was applied to four beach soccer player samples. Tests were found suitable for research sample and the time taken for each test and clarity of the procedure were confirmed through this process.

3.3.5 Second Pilot Study:

A second pilot study was conducted to identify the suitability of the exercises in the context of the research sample, the duration of each, rest intervals and the number of repetitions. Based on this, the researcher was able to develop exercises based on scientific level and suitable for the subjects of the current research.

3.3.6 Scientific Foundations of the Tests:

1. Legitimacy

There are many ways to verify validity. The researcher confirmed the quality of the tests; in other words, their validity. Furthermore, validity is considered an important criterion for tests quality, which determines if a measurement tool measures what it is intended to measure.

2. Content Validity

The validity of this type was verified through exposure to a group of experts and specialists to determine their suitability and the extent to which they represent and measure the characteristic, as shown in Table (3).

3. Dependability

By simply repeating the tests once again a week after their first implementation and computing the Pearson simple correlation coefficient, the tests are confirmed to be reliable, Table (3).

4. 4. Lack of bias

The objectivity was measured using the Pearson simple correlation coefficient when calculating the objectivity coefficient, Table (3) shows.

Table (3) Scientific Foundations of the Measured Abilities

No.	Test	Reliability Coefficient	Significance Level	Objectivity Coefficient	Significance Level
1	Speed-Strength of the Legs Test	0.91	0.023	0.93	0.011
2	Explosive Strength of Leg Muscles Test	0.88	0.012	0.89	0.023
3	Aerial Passing Test	0.87	0.023	0.92	0.015
4	Shooting from a Stationary Position Test	0.83	0.031	0.91	0.016

3.3.7 Pre-Test:

On Tuesday 02-22-2025 AD, the researcher physically conducted the pre-tests and the research was conducted to study a sample of (the 16 soccer players beach-related to the province of Al-Diwaniyah). After securing the test forms, the test administrator examined them before the data were recorded and statistically analyzed.

3.3.8 Application of the Proposed Exercises to the Research Sample:

The suggested drills were conducted on the research sample from 1/3/2025 to 1/5/2025, with a training session conducted 3 times a week for 8 weeks. The researcher conducted a total of 24 training sessions during the field trial in the main part of the training unit.

3.3.9 Post-Tests:

Once I finished the application of the proposed exercises, I conducted the post-tests on beach soccer players in Al Diwaniyah Governorate in Monday 3/5/2025 under the same conditions as the pre-tests. The test forms were collected and the obtained data were recorded and statistically examined.

3.9 Statistical Methods:

The researcher used Excel software for data analysis, through which the following were calculated:

- Mean
- Standard deviation
- Chi-square test (χ^2)
- t-test
- Skewness coefficient for homogeneity
- Pearson simple correlation coefficient

4.Presentation, Analysis, and Discussion of Results:

4.1 Presentation, Analysis, and Discussion of Pre- and Post-Test Results for the Research Sample:

Table (4) Results of Pre- and Post-Tests for the Research Sample

No.	Variables	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	Calculated t-value	Significance
1	Speed-Strength of the Legs	2.99	0.65	3.75	0.41	3.62	Significant
2	Explosive Strength of Leg Muscles	278.22	12.36	283.87	12.23	4.87	Significant
3	Aerial Passing	3.99	0.95	4.89	0.52	5.22	Significant
4	Shooting from a Stationary Position	6.88	0.81	7.76	0.81	4.93	Significant

Translated Text:

The t-table value stands at 1.71 at degree of freedom (n−1) (16−1 = 15) at 0.05 level of significance.

The table presents statistical data indicating significant differences between the pre-test and post-test results of the speed-strength of legs. The research sample has a mean value (2.99) and a standard deviation (0.65) for the pre-test and (3.75) (0.41) for the post-test. The calculated value of t (3.62) was greater than the table value of t (1.71); this means that there is a significant difference in favor of the research sample in post-test.

The improvement may have been caused by the nature of the proposed exercises used to develop speed-strength in the legs. The ability to kick strongly is greatly important for beach soccer players as the soft sand of the field makes it necessary for players to have enhanced leg strength in order to either pass the ball to his teammate or shoot at opponent's goal.

With respect to explosive strength of the leg muscles, the mean and standard deviation values for the research sample in the pre-test and post-test were respectively (278.22), (12.36), (283.87), (12.23). The t-value calculated was (4.87) which is greater than the tabulated value (1.71). Thus, these differences are significantly in favour of post-test.

Such a result may occur due to a systematic scientific exercise of the activity that incorporates physical and skill components. This is especially true for explosive strength development involving legs' muscles. The ability to apply torque instantaneously is in regime of boat soccer players because playing on a sandy surface is not easy, and they should give their best reply to the opponent in the match. Explosive strength could be viewed as a compound and its nature combines strength and speed. Successful athletes are high in both attributes and integrate them to produce optimal explosive performance (1)NCP. In NCP athletic performance experts, the individual's physical size, body proportion's that is how much power is there in him or her?

For the skill-based tests, the means and standard deviations of aerial passing in the pre-test and post-test were (3.99), (0.95) and (4.89), (0.52), respectively. The t-value obtained was (5.22), which is more than the tabled value (1.71). Thus, the differences were significant in favor of the post-test.

The proposed exercises included skill-based components and more specifically aerial passing, which helped the players deliver accurate passes to their teammates. Passing is reaching the target efficiently and accurately.

As for the stationary shooting test, the mean and standard deviation values of the pre- and post-tests were (6.88), (0.81), (7.76), and (0.81) respectively. The tabulated value was (1.71), according to t-table. Hence, the calculated (4.93) was more than tabulated (1.71). Thus, there was a significant difference in favor of post-test.

The result seems reasonable since the activities had shooting elements. The repeated and continuous practice plays an important role in developing this skill in the post-test of the research sample.

5. Conclusions and Recommendations:

5.1 Conclusions:

1. The proposed exercises were used to enhance the development of some physical abilities of beach soccer players.
2. The proposed exercises practiced in training facilitated a valuable contribution to the development of certain skill abilities in beach soccer players.

5.2 Recommendations:

- 1. There should be an emphasis on the construction of different exercises that develop the physical and skill aspects of beach soccer players.
- 2. Similar studies should focus on other different skills and abilities.

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Appendices

Appendix (1)

Names of Experts and Specialists for Determining the Tests of the Investigated Abilities

No.	Expert Name	Academic Title	Specialization	Workplace
1	Wissam Faleh Jabr	Professor	Sports Training	College of Physical Education and Sports Sciences, University of Al-Qadisiyah
2	Habib Shaker Jabr	Professor	Sports Training	College of Physical Education and Sports Sciences, University of Al-Qadisiyah
3	Adnan Nughayish Hassan	Professor	Measurement and Evaluation	Open Educational College, Al-Diwaniyah Study Center
4	Ahmed Fahim Nughayish	Professor	Measurement and Evaluation	College of Physical Education and Sports Sciences, University of Al-Qadisiyah
5	Yass Majid Dahash	Professor	Measurement and Evaluation	College of Education for Women, University of Al-Qadisiyah
6	Majid Abdul Hamid	Assistant Professor	Sports Training	College of Physical Education and Sports Sciences, University of Al-Qadisiyah
7	Wissam Yaseen Burhan	Assistant Professor	Sports Training	Open Educational College, Al-Diwaniyah Study Center
8	Yousif Hussein Abbas	Assistant Professor	Sports Training	Open Educational College, Al-Diwaniyah Study Center

Appendix (2)

Training Load of the Exercises and Training Units Used

Week	Intensity	Training Volume	Rest Between Sets	Rest Between Exercises
Week 1	90%	5×2	1 min	2 min
Week 2	85%	7×2	1 min	2 min
Week 3	80%	9×2	1 min	2 min
Week 4	75%	11×2	1 min	2 min
Week 5	90%	5×3	1 min	2 min
Week 6	85%	7×3	1 min	2 min
Week 7	80%	8×3	1 min	2 min
Week 8	90%	5×3	1 min	2 min

Training Units – Week One (Example):

Training Unit	Exercise	Intensity	Volume	Rest Between Repetitions	Rest Between Exercises
First Unit	1	75%	10	30 sec	1–2 min
	2	85%	8	40 sec	
	3	80%	9	35 sec	
	4	75%	10	30 sec	
Second Unit	4	80%	9	35 sec	1–2 min
	5	90%	5	50 sec	
	6	85%	8	40 sec	
	4	80%	9	35 sec	
Third Unit	7	85%	8	40 sec	1–2 min
	8	80%	9	35 sec	
	9	90%	5	50 sec	
	4	85%	8	40 sec	

The same structure applies to the remaining weeks and training units.

Exercises Used in the Study:

1. A football player advances the ball with his feet by dribbling for 5 meters, makes an aerial pass to a teammate, continues running forward, receives the ball again and makes a shot at goal from 15 meters.
2. The player executes a pass up in the air and towards right, runs away in a straight line, receives the ball and shoots from a standing position at 15 metres.
3. The athlete kicks the ball to execute an aerial pass and circumvents 5 markers. They receive the ball again and shoot at a standstill from a distance of 15 metres.
4. The player performs a dribble between five cones then plays an aerial pass receives on the other side of the cones standing still plays a shot from 15 meters.
5. The player makes aerial pass then moves to the left. Upon receiving the ball, he shoots from a certain distance of 15 meters.
6. The player performs an aerial pass before moving to the right and shoots with a stationary ball from the distance of 15 meters.
7. The participant moves down the line dribbling, performs an aerial pass and moves to the right, receives the ball and shoots from a static position of 15 m.
8. The player dribbles straight, performs an aerial pass, dribbles left to collect the ball, and shoots from a stationary position at 15 metres.
9. The player dribbles in a line, air-pass, continues forward, receives the ball and makes a shot from a stationary position at 15 metres.
10. The player will make an aerial pass towards the left side, then run straight forward to receive the ball and shoot at the goal.
11. The player plays an aerial pass to the right, runs in a straight line forward, connects with the ball, and shoots at goal.
12. The athlete runs past two cones, executes an air pass, receives with straight dribbling, and shoots at the goal.