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"THE EFFECTIVENESS OF CERTAIN PHYSICAL ABILITIES AND THEIR RELATIONSHIP TO THE DEVELOPMENT OF GOALKEEPERS' SKILL PERFORMANCE IN THE IRAQI PROFESSIONAL FOOTBALL LEAGUE"

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Research Summary
The study aimed to identify the relationship between specific physical abilities and certain offensive skills of goalkeepers in the Iraqi Professional Football League. The researchers hypothesized a statistically significant relationship between these physical abilities and offensive skills among the study sample.
The research population consisted of clubs participating in the Iraqi Professional Football League for the **2024-2025** season, with a total of **20** teams competing in the Iraqi Stars League. These teams included **Al-Shorta, Al-Quwa Al-Jawiya, Al-Zawraa, Al-Talaba, Zakho, Nawroz, Erbil, Duhok, Al-Najaf, Al-Minaa, Karbala, Al-Naft, Al-Kahraba, Al-Karkh, Al-Hudood, and Al-Qasim**.
The researchers deliberately selected the **primary goalkeepers** of each club, totaling **20 players**. However, four goalkeepers were excluded—two participated in the **pilot experiment**, and two others were excluded due to injuries sustained during league matches—leaving a final research sample of **16 goalkeepers**.
The study aimed to examine the relationship between specific physical abilities and certain offensive skills of goalkeepers in the Iraqi Professional Football League. The researchers hypothesized a statistically significant correlation between these variables.
A **descriptive research method** was employed due to its suitability for addressing the research problem. Statistical methods such as the **arithmetic mean, standard deviation, and Pearson's simple correlation** were used for data analysis.
The study concluded that there is a **significant correlation** between specific physical abilities and certain offensive skills of goalkeepers in professional football. The researchers recommended focusing on **training programs** during competitive periods by integrating **tactical training drills** with specific physical abilities, as this has a **positive impact** on enhancing the technical performance of professional goalkeepers during advanced training stages.

1. Research Introduction

1.1 Introduction and Importance of the Study:

The goalkeeper is the **last line of defense**, yet at the same time, he is also the **first line of attack**. The attack may begin with a **quick throw** using one or both hands to a teammate, which serves as an effective method to initiate offensive play, or with a **long kick** to an advanced teammate deep in the opponent's defense.
Additionally, the goalkeeper is the only player on the football team who **cannot afford to make mistakes**, as any error on his part can have severe consequences on the team's performance and success. Regardless of a

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team's overall strength, its success is directly linked to the goalkeeper's performance, making him the **ultimate safety valve** for any team.

According to **Al-Atrash and Abu Shehab (2018)**, the role of the goalkeeper is unique and crucial, aligning with the saying that "a goalkeeper is half the team." A goalkeeper cannot develop his skills on his own; rather, several factors contribute to his improvement, foremost among them being a **competent coach** who designs specialized training programs to enhance the goalkeeper's **physical, tactical, mental, and psychological** abilities, ensuring he reaches the highest possible level of performance. Given the importance of goalkeepers in football, they must possess **specific physical, technical, and physiological attributes**. Since goalkeepers are the primary targets of opposing teams, they must have **specific physical fitness qualities** such as **agility, speed, and endurance**.

According to **Al-Saffar (1998)**, the goalkeeper is the **heart of the team and its main source of strength**, being the last defender responsible for protecting the goal. His role is significant, and his skills are unique, as he is the primary player positioned along the goal line. Unlike any other player, a goalkeeper must use his **entire body** in play. It is evident that a team with a **highly skilled and physically fit goalkeeper** has a significant advantage in determining match outcomes and achieving success.

The **evolution of football** has led to changes in the role of the goalkeeper. In the past, his duty was limited to preventing the ball from crossing the goal line. However, in recent years, goalkeepers have had to **learn and master new techniques, skills, and attributes**, such as agility, flexibility, jumping ability, footwork, playing as a **sweeper-keeper**, delivering **key passes**, taking responsibility, **anticipation (vision), creativity, courage, and bravery**.

A goalkeeper's **physical abilities** are crucial in allowing him to perform fundamental skills under **various conditions**, whether under pressure from opponents or in highly challenging circumstances. Goalkeepers with **high-level physical attributes** can maintain consistent performance and efficiency in different match situations.

Therefore, **goalkeepers must be trained both physically and technically**, as physical and skill development form the foundation of football performance. **Integrating technical skills with specific physical abilities** enables goalkeepers to reach the highest levels of **technical performance**, aligning with the demands of **competitive matches** and achieving the best possible results.

This can be accomplished through **specialized training programs** designed to bring about **physiological adaptations tailored to individual and team training needs**. Training must also be adjusted according to each player's **physical attributes, physiological characteristics, anthropometric measurements, and psychological and social factors**.

Thus, the **importance of this research** lies in understanding the **relationship between specific physical abilities and certain offensive skills** of goalkeepers in football. This is achieved by analyzing training methods and programs that help **enhance the goalkeepers' skill and physical performance**.

1.2 Research Problem:

Achieving **higher levels of sports performance** across all disciplines depends largely on the **completeness of an athlete's training**, which is influenced by their **physical, technical, tactical, and psychological** capabilities. These factors collectively contribute to **optimal performance during competition** and help athletes reach peak **form (top condition)**.

As a former **international-level player and a certified international and Asian goalkeeper coach**, the researcher has spent **many years coaching elite clubs** in the Iraqi Professional League. Through extensive

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field experience, the researcher has observed a **lack of emphasis on developing elite goalkeepers through physical preparation**, which directly affects their **technical skills**.
Therefore, the researcher aims to address this issue by investigating the **impact of specific physical abilities on certain offensive skills** of professional goalkeepers in order to enhance their technical proficiency in the **Iraqi Professional Football League**. This study seeks to **contribute to the advancement of goalkeeping performance** in the league, ultimately helping goalkeepers achieve better results and higher success rates in competitive matches.
Thus, the research problem is framed in the following question:
"Is there a relationship between specific physical abilities and certain offensive skills of goalkeepers participating in the Iraqi Professional League for the 2024-2025 season?"

1.3 **Research Objectives:**

- Identifying the relationship between specific physical abilities and certain offensive skills in the research sample.

1.4 **Research Hypothesis:**

- There is a statistically significant correlation between specific physical abilities and certain offensive skills in the research sample.

1.5 **Research Scope:**

- **Human Scope:** Goalkeepers participating in the Iraqi Professional Football League.
- **Time Scope:** From September 8, 2024, to November 2, 2024.
- **Spatial Scope:** Stadiums of the Iraqi Ministry of Youth and Sports and club stadiums of the Iraqi Professional Football League.

Study Terminology

1.6 **Study Terminology:**

1.6.1 **Goalkeeper:**

A distinguished player, uniquely granted by football laws the ability to hold, catch, or block the ball with their hands inside the penalty area during play. The goalkeeper wears a jersey that differs in color from all other players, including the opposing team, and wears gloves. Additionally, they are the only player allowed medical treatment on the field, with the game stopping entirely during their substitution (Al-Atrash & Abu Shehab, 2018).

1.6.2 **Physical Variables:**

A set of physical abilities specific to the type of practiced activity (Hassanein, 1998).

2-Research Methodology and Field Procedures

2.1 **Research Methodology:**

The researchers adopted the descriptive method as it is appropriate for the nature of the problem under investigation.

2.2 **Research Population and Sample:**

The research population consists of clubs in the Iraqi Professional Football League for the 2024-2025 season, with a total of **20** clubs participating in the league, including: **Al-Shorta, Al-Quwa Al-Jawiya, Al-Zawraa, Al-Talaba, Zakho, Nawroz, Erbil, Duhok, Al-Najaf, Al-Minaa, Karbala, Al-Naft, Al-Kahrabaa, Al-Karkh, Al-Hudood, Al-Qasim.**
The researcher purposefully selected the **starting goalkeepers** from these clubs, meaning the primary goalkeeper for each club, totaling **20 goalkeepers.** However, four (4) goalkeepers were excluded:

- **Two (2) goalkeepers** who participated in the pilot study.

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- **Two (2) goalkeepers** due to injuries sustained during league matches.

Thus, the final research sample consisted of **16 goalkeepers.** The sample was standardized in terms of age, weight, and height, as shown in **Table 1** below.

Table (1) - Homogeneity of the Research Sample and Characteristics of Study Participants Based on Body Mass, Height, and Age Variables

Variable	Mean	Standard Deviation	Skewness Coefficient
Body Mass (kg)	**78**	**7.09**	**0.43**
Height (cm)	**181.75**	**6.81**	**0.40**
Age (years)	**19.50**	**1.69**	**0.82**

The sample is considered homogeneous as the skewness coefficient falls within the acceptable range (±1).

2.3 - Equipment and Tools Used in the Research

1. Two (2) electronic stopwatches.
2. One (1) digital medical scale.
3. One (1) measuring tape.
4. Two (2) whistles.
5. A football field.
6. Ten (10) training cones.
7. Fifteen (15) footballs.
8. A marked measurement scale.
9. Arabic and foreign references.
10. A supporting work team.

3.3 - Tests Used in the Research

3.3.1 - Specific Physical and Skill Tests

3.3.1.1 - Description of Physical Tests for Goalkeepers

First Test: 30-Meter Sprint from a Standing Start

- **Objective of the Test:**
  - To measure the sprinting speed of goalkeepers in football.
- **Required Equipment:**
  - A **40-meter** running track.
  - An **electronic stopwatch**.
  - A **whistle**.
  - A **red marker cone** to indicate the starting position.
  - **Two yellow marker cones and two yellow poles** to indicate the start and finish lines.
  - A **data recording form**.
- **Test Specifications:**
  - Three plastic cones are used: **one red and two yellow**, along with **two yellow poles**.
  - The **red marker cone** is placed at the beginning of the **10-meter mark**.
  - The **first yellow cone** is placed at the end of the **10-meter mark** and at the start of the **30-meter sprint** with a yellow pole lying horizontally on the ground.

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- The **second yellow cone** is placed at the **30-meter mark** with another yellow pole in the same horizontal position.
- The **timekeeper** stands at the end of the **30-meter mark**, near the yellow cone and pole.
- The **assistant timekeeper** stands at the **start of the 30-meter mark**, near the first yellow cone and pole.
- The setup is illustrated in **Figure (1)**.

- **Scoring:**
  - The time is recorded in **seconds**.
  - The timer starts **when the leading foot crosses the first yellow pole** and stops **when the foot crosses the second yellow pole**.
  - Each participant is allowed **two (2) attempts**.
  - The **best recorded time** from the two attempts is considered the final score.

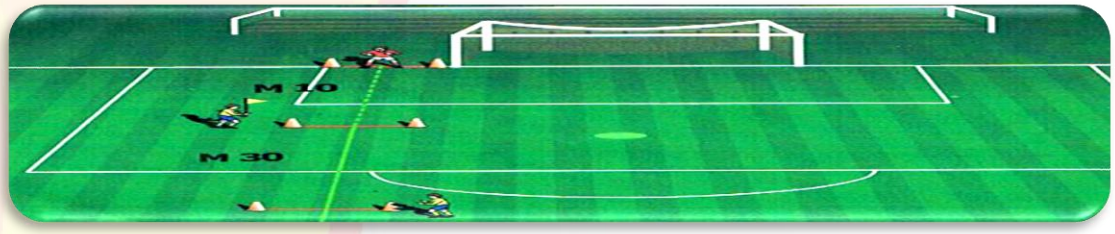

Figure (1)

Illustrates the 30-meter sprint test from a standing start for goalkeepers in football.

Second Test: Explosive Leg Power
Forward Jump Over a 35 cm Hurdle

- **Objective of the Test:**
  - To measure the **explosive power** of goalkeepers' legs through a standing forward jump.
- **Required Equipment:**
  - The **penalty area (18 yards)** of a football field.
  - A **35 cm high hurdle**.
  - A **measuring tape** and a **data recording form**.
  - A **training spear** to mark the participant's foot position.
- **Test Specifications:**
  - The **hurdle** is placed **1 meter** away from the **starting line**, with a height of **35 cm**.
  - The goalkeeper (test participant) stands in front of the hurdle with both feet fixed on the starting line.
  - Upon hearing the instructor’s command, the participant **swings their arms** and jumps forward over the hurdle as far as possible.
- **Test Conditions:**
  - The participant must stand **with both feet fixed** on the starting line.
  - If the participant crosses the starting line before jumping, the attempt is **repeated**.
  - If the hurdle is knocked over by the participant’s foot, the attempt is **repeated**.
  - The measurement is recorded **in centimeters (cm)** for the farthest jump.
- **Scoring:**

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- The distance is measured from the **starting line** to the **nearest landing point** of the participant's foot after landing.
- The participant is allowed **three (3) attempts**.
- The **best recorded distance** from the three attempts is considered the final score.

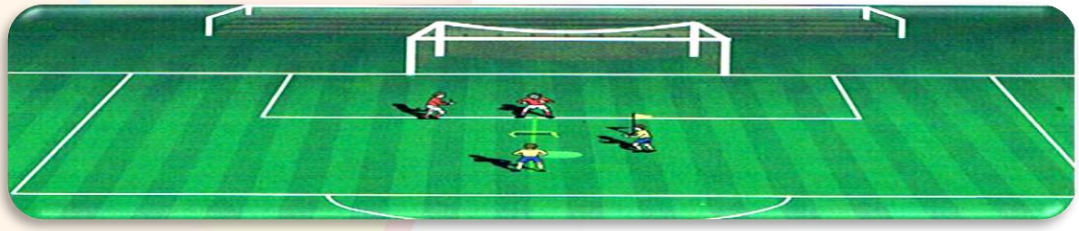

Figure (2):
Illustrates the **forward jump over a 35 cm hurdle** test.

Third Test: Explosive Arm Power
Medicine Ball Throw (1 kg)

- **Objective of the Test:**
  - To measure the **explosive strength** of the **goalkeeper's arm muscles**.
- **Required Equipment:**
  - **Half of a football field** (penalty area).
  - **1 kg medicine ball**.
  - **Measuring tape** and **data recording form**.
  - **Training spear** to mark the ball's landing point.
- **Test Specifications:**
  - The goalkeeper stands at the **starting line** (18-yard area).
  - The **opposite foot** to the throwing arm must remain **fixed** on the starting line.
  - The participant stands **sideways** with feet **shoulder-width apart**.
  - The ball is thrown similarly to a **long pass** in football, using an **over-the-shoulder throw**.
  - The participant can **swing the throwing arm** for momentum but must **remain stationary**, ensuring the fixed foot **does not move** off the starting line.
- **Test Conditions:**
  - One foot **must remain fixed** on the starting line.
  - If the participant's foot **crosses** the starting line, the attempt **must be repeated**.
  - If the participant **fails to follow** the proper technique, the throw **must be repeated**:
    - **Rest time:** 3 minutes between attempts for recovery.
    - **Measurement:** Distance is recorded in **centimeters (cm)**.
- **Scoring:**
  - The distance is measured from the **starting line** to the **farthest landing point** of the ball.
  - The participant is allowed **three (3) attempts**.
  - The **best recorded distance** from the three attempts is considered the final score.

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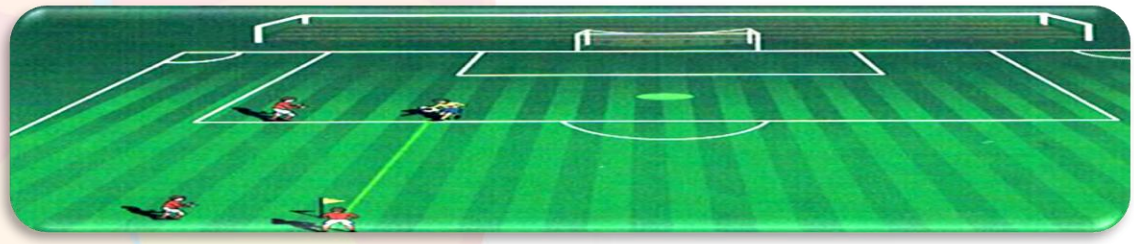

Figure (3)

Illustrates the **goalkeeper's medicine ball throw test**.

Fourth Test: Zigzag Running and Aerial Ball Catch

Objective of the Test:

- To **measure the agility** of **goalkeepers** on both the **right and left sides** in football.

Required Equipment:

- A **5×5 meter** square in the **penalty area** of a football field.
- **Four (4) plastic markers**.
- **One (1) hurdle** (35 cm high).
- **One (1) football**.
- **Measuring tape, recording form, whistle, and electronic stopwatch**.

Test Specifications:

- The goalkeeper starts near the **first plastic marker**, positioned **close to the hurdle**.
- After the **start signal**, the goalkeeper performs:
    1. A **forward-backward turn** around the **first marker**.
    2. A **fast lateral run** to the **second marker → turn → fast lateral run** to the **third marker → turn → fast lateral run** to the **fourth marker**.
    3. A **lateral turn** around the fourth marker, followed by a **sprint** towards the **hurdle**.
    4. A **jump over the hurdle** while catching a ball thrown by the **coach**.

Test Conditions:

1. The attempt **must be repeated** if the goalkeeper **does not correctly turn** around the plastic marker.
2. The attempt **must be repeated** if the goalkeeper **does not perform lateral running correctly**.
3. The attempt **is invalid** if the goalkeeper **fails to jump over the hurdle**.
4. Each goalkeeper is given **three (3) attempts**.
5. **A 3-minute rest period** is given between attempts for recovery.
6. Time is recorded to the **nearest tenth of a second**.

Scoring:

1. The timer starts from the **moment the goalkeeper begins running** and stops **once they have jumped over the hurdle and caught the ball with both hands**.
2. The **best time** of the **three attempts** is recorded.

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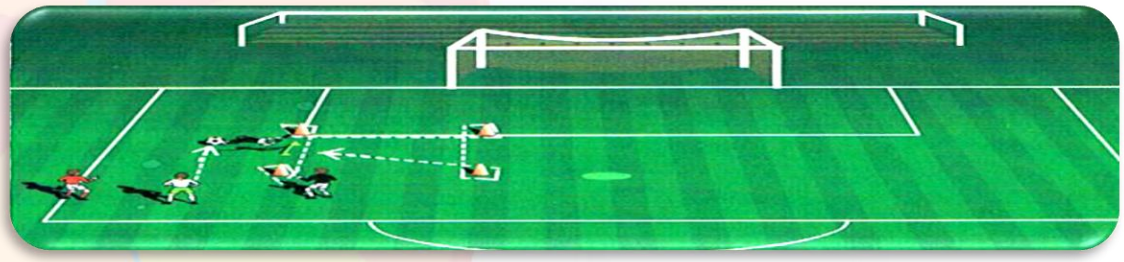

Figure No. (4)

Illustrates the zigzag running test between the four markers, the goalkeeper's leap over the hurdle, and catching the ball in the air to the right or left side.

Fifth - Numbered Circles Test:

- **Objective of the Test:**
  - To measure foot-eye coordination.
- **Required Equipment:**
  - Stopwatch.
  - Eight circles drawn on the ground, each with a diameter of **60 cm**, numbered as shown in the figure.
- **Test Specifications:**
  - The test subject stands inside circle **No. 1**.
  - Upon hearing the start signal, the subject jumps with both feet together to circle **No. 2**, then to **No. 3**, and so on until reaching **circle No. 8**, as quickly as possible.
  - This process is illustrated in **Figure No. (5)**.
- **Scoring:**
  - The time taken to move through all eight circles is recorded.
  - The subject is given three attempts, and the best performance is recorded.

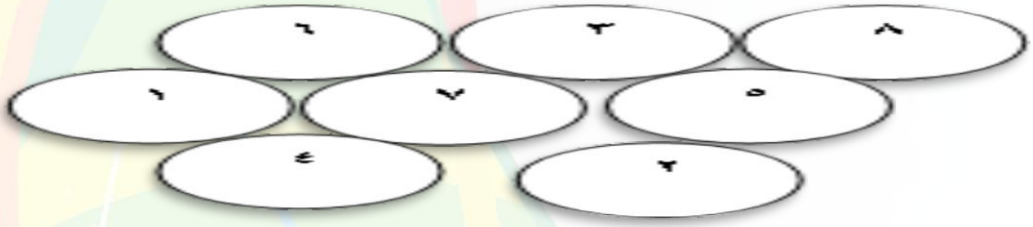

Figure No. (5)

Illustrates the numbered circles test for a football goalkeeper.

3-3-1-2 - Description of Skill Tests for Football Goalkeepers

First - High Ball Catching Accuracy Test from Jumping and Passing:

- **Objective of the Test:**
  - To measure the skill of catching high balls and passing them within the target area.
- **Required Equipment:**
  - **5** cones.
  - **6** official footballs.
- **Test Specifications:**
  - **Five** markers are placed in the target area.

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- The goalkeeper stands on the goal line.
- **Coach (A)** stands **5 yards** to the right from the corner of the penalty area.
- **Coach (B)** stands **5 yards** to the left from the corner of the penalty area.
- **Coach (A)** makes a high pass toward the target area.
- The goalkeeper moves to catch the ball between the markers and then passes it to **Coach (B)** on the left side, as illustrated in **Figure No. (6)**.

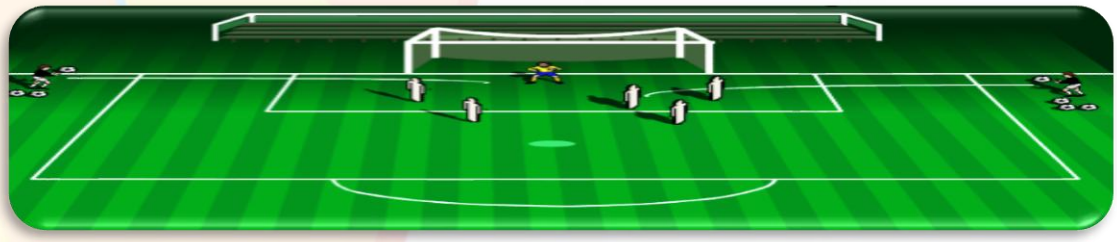

Figure No. (6)

Illustrates the goalkeeper's accuracy test for catching high balls from a jump and passing them.

Scoring System:

1. The goalkeeper is awarded **2 points** for each successful ball reception and accurate pass to both Coach (A) and Coach (B).
2. The goalkeeper is awarded **1 point** if the reception is correct but the pass is inaccurate, or vice versa.
3. The goalkeeper receives **no points** if both the reception and pass are incorrect.
4. The attempt is repeated if either Coach (A) or Coach (B) makes an error in delivering the ball correctly to the goalkeeper.
5. The test is repeated **6 times**, with **three attempts from each side**.
6. The **total possible score** for the test is **12 points**.

Second Test – Passing the Ball with the Foot onto Marked Circles on the Ground:

Objective:

- To measure the accuracy of goal kicks towards a designated target area.

Required Equipment:

- White chalk powder, a metric measuring tape.

Field Setup:

- **Five concentric circles** are drawn, each consisting of four nested circles with the following dimensions:
    1. **First circle**: 4 feet in diameter.
    2. **Second circle**: 8 feet in diameter.
    3. **Third circle**: 12 feet in diameter.
    4. **Fourth circle**: 16 feet in diameter.
- The circles are placed on the half of the field where the goalkeeper is **not** standing, with the following **positioning**:
    1. **First circle**: Aligned with the **18-yard line** on the right side.
    2. **Second circle**: Aligned with the **18-yard line** on the left side.
    3. **Third circle**: Positioned at the midpoint of the **quarter-circle** of the **18-yard box**.
    4. **Fourth circle**: Located in the **midfield area**, **4 meters** inside from the **right touchline**.
    5. **Fifth circle**: Located in the **midfield area**, **4 meters** inside from the **left touchline**.

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illustrated in **Figure No. (7)**, which depicts the goalkeeper's test for passing the ball with the foot onto concentric circles drawn on the ground.

Test Specifications:

- The goalkeeper kicks **10 balls** using their foot, aiming to land them inside the **smallest target circle** starting from **Circle No. 1** to **Circle No. 5**.
- The goalkeeper can choose any suitable spot within their penalty area to take the kick.
- Each goalkeeper gets **two consecutive attempts per circle**, with the **best result recorded**.

Scoring System:

- Each ball is scored based on where it lands:
    1. **5 points** if it lands in the **first (smallest) circle**.
    2. **4 points** if it lands in the **second circle**.
    3. **3 points** if it lands in the **third circle**.
    4. **2 points** if it lands in the **fourth circle**.
    5. **1 point** if it lands in the **fifth (largest) circle**.
    6. **0 points** if it lands **outside** all circles.

Third Test – Catching Rolling Ground Balls

Objective:

- To assess the goalkeeper's technical ability to **block and catch rolling ground balls** from **frontal and lateral (right and left) directions**.

Required Equipment:

- **Half of a standard football field**, with the goalkeeper positioned inside the penalty area.
- **10 footballs**.
- **Training cones** to mark target zones.
- **Whistle, measuring tape, and score sheet**.

Test Specifications:

- The goalkeeper stands at a designated position **1.5 meters** in front of the goal line, defending their goal against shots from **outside the penalty area**.
- **6 balls** are placed on the **18-yard line**, **2 meters apart**, for **frontal shots**.
- For **side shots**, the goalkeeper stands **one arm's length** from a goalpost, defending against rolling balls from the **right and left sides**.
- The shots are taken from the **18-yard side line** (right and left), with **two balls per side**.
- The goalkeeper must prevent the ball from entering the goal using appropriate techniques, either by **blocking or catching**.
- The setup is illustrated in **Figures No. (8) and (9)**.

Test Conditions:

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1. If the coach **fails to deliver** the ball correctly, the attempt is **repeated**.
2. The goalkeeper faces **10 shots** in total:
    - **6 frontal shots** (placed 2 meters apart).
    - **2 shots from the right** and **2 shots from the left**.

Scoring System:

- The goalkeeper is awarded points based on their ability to handle the ball:
    1. **3 points** for a **clean catch** from a **far lateral dive**.
    2. **2 points** for catching the ball **from a standing position** or catching it on the **second attempt after a fall**.
    3. **1 point** for **deflecting the ball away** when it is close.
    4. **3 points** for successfully deflecting a **difficult-to-catch** shot away from goal.
    5. **0 points** if the ball enters the goal.
    6. If the ball **hits the goalpost** without the goalkeeper's intervention, the attempt is **repeated**.
    7. For **side shots**:
        - **2 points** for catching the ball inside the **6-yard box**.
        - **3 points** for catching the ball **outside** the **6-yard box**.
        - **1 point** for **failing to catch** the ball but successfully blocking it.
        - **0 points** if the ball **passes the goalkeeper** into the goal.

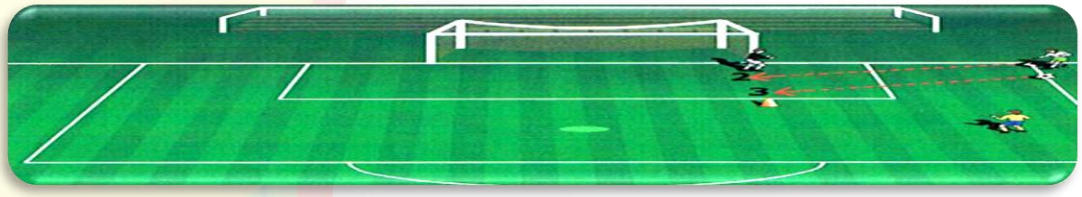

Figure No. (8) illustrates the **goalkeeper's right-side rolling ground ball test**.

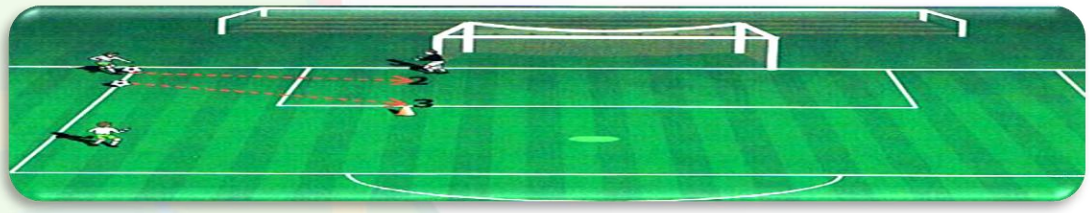

Figure No. (9) illustrates the **goalkeeper's left-side rolling ground ball test**.

3-4 Field Research Procedures

3-4-1 Pilot Experiment

The pilot experiment is conducted to identify potential obstacles the researcher may encounter during the main experiment and to prepare for its requirements, including time, cost, assisting staff, and the validity of devices and tools. The researcher conducted the pilot experiment on the research sample on **September 25, 2024**, to ensure the validity of the equipment and tools used in the research, control any obstacles that might arise, and prevent any issues during the main experiment.

3-4-2 Main Experiment Procedures

The physical and skill-based tests were divided into two phases:

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- **Day One: Physical Tests for Goalkeepers**
  On the first day, physical tests were conducted, including:
  - **30-meter sprint** (from a standing start)
  - **Explosive leg strength test**
  - **Explosive arm strength test**
  - **Agility test**
  - **Coordination test**
- **Day Two: Skill-Based Tests for Goalkeepers**
  On the second day, the skill-based tests were conducted, including:
  - **Catching high crosses**
  - **Diving and catching rolling ground balls from the sides**
  - **Speed passing test using hands and feet**
    The reason for postponing the skill-based tests to the second day was to ensure goalkeepers performed optimally and to obtain accurate test results.

3-4-3 Post-Testing Phase

The researcher conducted post-tests on the research sample on **October 4, 2024**, at **3:00 PM**. The physical and motor tests were conducted on the first day, while the skill-based tests took place on the second day. The researcher ensured that all test conditions, such as time and location, were as consistent as possible with those of the pilot experiment. This was done to maintain consistency in test conditions, minimize external influences on the results, and achieve optimal testing conditions with the assistance of the research team.

3-5 Statistical Methods Used

The researcher used the **Statistical Package for the Social Sciences (SPSS) version 26** and **Microsoft Excel** to process data. The following statistical methods were applied in this study:

1. **Arithmetic Mean**
2. **Standard Deviation**
3. **Pearson's Simple Correlation Coefficient**
4. **Skewness Coefficient**

4 - Presentation, Analysis, and Discussion of Results

This chapter presents, analyzes, and discusses the research results after completing the data collection process. The results were organized into tables, which facilitate the extraction of scientific evidence and serve as a clear visualization tool. These results help validate the research hypotheses and objectives based on the field procedures conducted by the researcher.

Skill Performance	Transitional Speed	Explosive Leg Strength	Explosive Arm Strength	Agility	Coordination
Catching High Crosses and Passing	0.795	0.649	0.987	0.542	0.560
Diving and Catching	0.887	0.650	0.540	0.820	0.760

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Rolling Ground Balls					
Passing Speed (Hand and Foot)	**0.420**	**0.730**	**0.760**	**0.648**	**0.563**

Table (2)

This table presents the **calculated (R) values** measuring the correlation between **physical abilities and skill performance** among professional goalkeepers.

In light of the extracted data for the research sample, Table (2) indicates that the statistical treatments for Pearson's simple correlation coefficient show that the correlation values between the offensive skill performance of goalkeepers—(catching and distributing high cross balls, diving and catching low side balls, and fast passing with hands and feet)—and certain physical elements and abilities, namely (transitional speed, explosive leg power, explosive arm power, agility, and coordination), in Pearson's simple correlation coefficient, yielded table values of (0.795-0.649-98.7-0.542-0.56-88.7-0.65-0.54-0.82-0.76-0.420-0.73-0.760-0.648-0.563). These values were compared to a tabular value of (0.49) at a degree of freedom (14) under a significance level of (0.05). Since the calculated value is greater than the tabular value, this indicates a significant correlation between offensive skill performance (catching and distributing high cross balls) and some of the studied physical elements and abilities. This supports the research hypothesis, which states that the offensive skill performance of a goalkeeper in catching high cross balls requires good physical fitness to execute the skill at a high level. A goalkeeper with a high level of physical fitness will perform better in this skill.

Regarding (transitional speed), performing the skill quickly allows the goalkeeper to move swiftly within the penalty area to carry out offensive and tactical duties, as these require high speed. "Performing the skill at a slow pace has its drawbacks, as it does not allow for proper sensation of the skill, whereas at high speed, the player can control the skill effectively."

Muscular strength is one of the essential requirements for all football players, especially professional goalkeepers. Its importance lies in the need for explosive power and speed, as well as developing a muscular structure that acts as a shield against impacts from the ground or other objects. Strength is a crucial component that contributes to various sports activities, particularly football, as it becomes evident in dynamic and changing game situations.

The researcher confirms that jump and plyometric exercises involve high-speed performance and explosive power in the leg muscles, repeated frequently to induce rapid adaptations in both the nervous and muscular systems, creating quick coordination between contraction and relaxation phases. This is supported by (Abdel Aziz Ahmed Al-Nimr and Nariman Al-Khatib, 1996): "The ability of muscle groups to contract at a faster rate increases when performing successive explosive strength movements" (Al-Khatib, 1996). Similarly, (Ali Saleh Al-Harhouri, 1993) states, "Jumping and plyometric exercises enhance neuromuscular coordination and improve muscle efficiency in performance development" (Al-Harhouri, 1993). Additionally, (Zuhair Qasim Al-Khashab et al., 1999) highlight that "jumping strength is essential for goalkeepers. Developing this motor trait can be integrated at all stages of goalkeeper training. Improving jumping ability enhances skills and compensates for natural height deficiencies in some goalkeepers. Acquiring jumping ability comes from training in strength and speed, particularly in leg muscles" (Dhanun, 2005).

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Since the calculated value is greater than the tabular value, this indicates a significant correlation between offensive skill performance (diving and catching low side balls) and some of the studied physical elements and abilities. This supports the research hypothesis that the offensive skill performance of goalkeepers in catching high cross balls requires excellent physical fitness to perform the skill at a high level. Thus, a goalkeeper with good physical fitness will exhibit superior skill performance.

Regarding (agility), the ability to perform rapid movements in diving and catching low side balls requires goalkeepers to possess this physical trait, which enables them to execute the skill with precision. (Issam Abdel Khaleq, 1991, p. 41) states, "Agility involves quick and precise coordination of large body muscles, all of which contribute to mastering motor performance. It becomes more effective when combined with high levels of muscular strength and speed, along with precision." (Hanafi Mokhtar, 1990, p. 84) further adds, "Agility in football refers to a player's ability to change body positions, speed, or direction on the ground or in the air with correct timing. This is evident in deceptive moves associated with different skills, such as deception while shooting, dribbling, or controlling the ball, as well as diving on the ground for goalkeepers and their ability to respond correctly in both simple and challenging situations."

(Mufti Ibrahim, 1994) highlights that "Agility is used in football for various purposes, such as dribbling, running with direction changes, and goalkeepers needing agility to adjust body positions quickly and efficiently." (Boutros Rizqallah, 1994) and (Mohsen Al-Nahriri, 1983) agree that "goalkeepers require agility as a specialized physical trait due to the nature of their functional performance. Often, goalkeepers must quickly change body positions with precise timing, as in transitioning from running to jumping to catch a high ball, or shifting body direction when the ball's trajectory changes after colliding with a player. This necessitates rapid body adjustments in response to evolving match situations, such as diving, momentary aerial leaps, or executing kicks from unconventional positions."

Since the calculated value is greater than the tabular value, this indicates a significant correlation between offensive skill performance (quick passing with hands and feet) and certain studied physical elements and abilities. This supports the research hypothesis that goalkeepers require high physical fitness to perform the skill effectively.

Regarding (coordination), fast passing and diving to catch low side balls enable goalkeepers to move quickly within the penalty area for offensive and tactical duties. Coordination in football requires extensive training to reach a skilled level. (Mohammed Reda Al-Madamgha, 2013) states, "Coordination ability involves skillful movement and balance of different body parts simultaneously. It includes synchronized or alternating movements of the upper and lower body, hands, eyes, feet, and eyes. Often, athletes must perform simultaneous movements across different body parts to execute a specific skill, such as a goalkeeper catching an incoming ball while standing on one leg. This action engages both upper and lower body parts at the same time, focusing the eyes and hands on catching the ball in the air while keeping one foot grounded."

"Based on this, the nervous system is the primary controller of high-level coordination through sensory receptors and motor neurons. Coordination within a single muscle and between different muscle groups plays a crucial role in achieving motor harmony." This aligns with the study of (Mishaal Abdel Wahab, 2017), which found that "coordination training improved skill variables such as lateral diving to catch balls, diving to block shots, catching crosses, punching away crosses, and foot movements."

From a physiological perspective, coordination represents the ability of the central nervous system to manage movement efficiently. The nervous system's function is to quickly select appropriate responses to various stimuli, directly influencing performance.

5-Conclusions and Recommendations

5-1 Conclusions:

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1. The performance of offensive skills by professional goalkeepers is directly linked to developing specific physical elements and abilities, particularly in offensive skills that rely on speed and strength in tight spaces against opponents.
2. The performance of offensive skills by professional goalkeepers is effectively correlated with various physical abilities in varying degrees of importance, with speed being the most critical, followed by strength, agility, and coordination.

5-2 Recommendations:

1. Early training programs should focus on integrating tactical sequences with physical abilities at young age groups, positively impacting the technical performance of goalkeepers in advanced training stages.
2. Training sessions should emphasize developing goalkeepers' physical abilities and fundamental offensive skills to match the modern demands of football.
3. Further research should be conducted on defensive skills and physical abilities of goalkeepers to assess their technical and physical levels, including studies on different age groups such as juniors and youth.

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