

## **Effects of the Rehabilitating with Aids on Frontal Head Fall and Scoring in Futsal Football for Female Students**

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### **Abstract**

The importance of the research lies in explaining the importance of rehabilitating exercises using the designed aids in deformities of head fall and soccer scoring that may affect some female students if they are not treated early.

As for the research problem, the lack of awareness of the aspects of posture leads to the wrong posture habits, which leads to the injury of deformities of body, and that these deformities can be easily treated if they are discovered early before turning into advanced deformities that need surgical intervention. Through the work of the two researchers in the field of teaching and follow-up of some cases deformities of posture, they noticed that there are some deformities of posture that affect female students, including frontal head-fall that could be ascribed to shyness or incorrect habits. Considering the safety of the student posture deformities, there are some factors that affect the proper erect posture that the students must follow, including that the head position should be moderate as well as that the shoulders should be naturally. Due to the lack of studies conducted in this field, or their absence in finding rehabilitation exercises that are actually applied to a sample of students with frontal head-fall and their recovery or improvement of the condition of these deformities If it is treated early and continuously, and according to the researchers' knowledge also, there are no aids designed to improve these deformities in indoor stadiums(futsal), so, they worked on finding Rehabilitative exercises (preventive - curative) and aids for these posture deformities can be used in futsal training.

The aim of the research was to identify the effect of rehabilitative exercises by means of aids in frontal head-fall deformities futsal scoring for female students.

The most important conclusions are represented by: the rehabilitative exercises and aids contributed in achieving development in certain variables such as frontal head-fall deformities and deviation which leads to a positive development in the skill of scoring in futsal football.

The recommendations included conducting similar research and studies concerning the other deformities that affect different areas of the body, which can be treated through rehabilitation exercises and aids, for male or female students.

**Keywords (posture deformation - rehabilitation exercises - frontal head fall)**

**The Research introduction and importance:** Good (body) posture has a positive impact on the individual in terms of aesthetic, psychological, health, social and economic aspects, because

the individual who suffers from deformities feels depressed and withdrawn, and thus avoids being outgoing, in addition, he cannot perform his daily life requirements with the same efficiency of the healthy ones because of his mechanical and kinetic performance and his skill are affected by his physical and psychological condition, and this will reduce his production as an individual in society. The causes of body deformities may be hereditary or congenital, and they may be acquired due to accidents, injuries, diseases, or wrong body habits, or because of the nature of the work practiced by the individual, and they vary in degrees and areas in which they occur. In childhood, the muscles and bonds are relatively weak, as well as the growth centers in the bones are active and can be easily affected by weight pressures, and the most prominent sciences that have been researched in this field are sports medicine and rehabilitation of injuries through various means of rehabilitation of injuries and rehabilitation of postural behaviors, where posture is one of the most important of the individual's health aspects. The scientific research has always succeeded in presenting many studies to reach the most optimal and best ways for the body to return to its natural state.

The educational process requires many aids in the learning process, and these means must be designed to apply the tracks of technical performance to achieve the educational goals, so attention must be paid to sports activities that will maintain the shape of the body and the internal organs properly, especially in the game of futsal is one of the sports that is very popular with young players; As it is an effective way to develop skills for these players, and it is widely used in professional football academies, and a set of tools and equipment must be available on the field to play this game, hence the importance of the research in explaining the importance of rehabilitative exercises using the aids designed in frontal head fall deformities that may affect some female students if it is not treated early, it will have many damages to female students because of the deformities it causes in their body.

### **The Research Problem:**

The researchers are working in teaching, by following some of postural deformities they observed that there are some postural deformities that affect female students, including the frontal head-fall deformities; it could be due to shyness or incorrect habits. Consider determining the safety of the student's posture from deformities of posture, there are some factors that affect the proper erect posture that students must follow such as that the head position should be moderate, as well as that the shoulders should be naturally, and due to the lack of studies conducted in this field, to the knowledge of the two researchers, to find rehabilitative exercises that are actually applied to a sample of students with frontal head fall forward and their recovery or improvement of the condition of these deformities if they are treated Early and continuously, and according to the knowledge of the two researchers, there are also no auxiliary means designed to improve these deformities in indoor playgrounds, so I worked on finding rehabilitative exercises (preventive, therapeutic) and aids for these deformities that could be used in futsal football.

### The research Objective

To identify the effect of rehabilitative exercises by means of aids on frontal head fall deformities and scoring of futsal football for female students

### Research Methodology and Field Procedures:

#### Research Methodology:

The researchers used the experimental method for its suitability to the current study.

#### Research community and sample:

The research community represented the students of the fourth stage of the Department of Physical Education and Sports Sciences / College of Education for Girls / University of Kufa for the academic year (2021-2022), and the sample was chosen randomly, which numbered (30) students. In order to control the research variables accompanying the course of the research experiment and to identify the validity of the sample and the distribution of the values of its variables moderately, the two researchers found homogeneity for the sample in terms of (mass, length and age), using the deviation coefficient. The results show that the sample members had been distributed naturally among the study variables, hence, there are no irregular values, as the deviation coefficient values are limited to (+1), which indicates the normal distribution of the sample, as shown in table 1:

**Table 1**

Measures	Measure unit	arithmetic means	standard deviation	Average	Twist factor	Statistical value
Length	Cm	163,50	3,10	164	0,80	Harmonized
Mass	Kg.	62,20	5.90	62,5	0,75	Harmonized
Age	Year	23,80	0.15	23,5	0,60	Harmonized

Moreover, the two researchers equalized the two groups using the T test for independent samples of the results of the pre- tests (Raysan Khribit, 1988, 99) in order for the two researchers to suggest the difference to the experimental factor, the experimental groups must be equivalent " as shown in Table (2) ) below:-

**Table (2)**

NO.	Variables	Measur e unit	Experimental Group		Control Group		T Value	Significance
			arithmetic means	standard deviation	arithmeti c means	standard deviation		
1	frontal head fall	score	19,970	1.280	48,10	1,010	1,526	0,805

2	Scoring towards the squares in the goal (10m)	score	3,87	1,12	3.43	1,08	1,18	0,85
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**Research tools:**

- 1-(3) Japanese video cameras (Sunny) with a speed of (25 images/sec), with their supports.
- 2- One laptop computer (APPLE).
- 3- Electronic scale manufactured by U.S.A (YA 2008), No. (1).
- 4- A metal tape measure, length (50) meters.
- 5- Plastic chair (10) and towel (10).
- 6- A metal wall and a wooden ladder.
- 7- Electronic timing clocks (2).
- 1- Plastic poles (5), colored tape and pieces of colored chalk.

**Research Field Procedures:****Implementation of the rehabilitative exercises elements:**

The two researchers did the following:

1. Preparing rehabilitative exercises (frontal head falling deformities) after informing the researcher of the relevant sources and studies.
2. The duration of the rehabilitative exercises is (8) weeks.
3. The number of units of rehabilitative exercises (2) units per week.
4. The total rehabilitation exercises are (16) units.
5. The time of the rehabilitative exercises in the unit is (30) minutes.
6. The number of rehabilitative exercises in each unit (4) rehabilitative exercises.

**The Aids**

The researchers prepared the aids that were used in the rehabilitation exercises after researching and investigating them, and according to the (posture deformities) that were identified. Of these aids we have:

- 1- Back brace. A back brace helps correct your posture by pushing your shoulders back and keeping your head aligned with your vertebrae.
- 2- Neck Supports: - help to make the neck in the correct shape, which makes the head be in the correct position.
- 3- Medical ball: - helps in strengthening the neck muscles

### **Tests and measurements used in the research:**

The researchers conducted their pre- tests on Wednesday 13/10/2021 by video filming of the research community, which numbered (30) students. The video was shown by the specialist physicians to define the deformity's rate for the students. The study sample was defined in an intentional manner by the physicians, to be ( 7) students , who have a medium degree of humpback deformity, and (8) a low degree of humpback deformity, after that x-rays were taken on the sample. The rehabilitative exercise were applied with aids for (16) weeks, by two units a week, after that, post-tests were conducted to define the results that had been reached.

### **Scoring towards the squares in the corners of the goal from a distance of (10m)/ Jalil Qahtan Al-Azzawi, 1991, 79:-**

The purpose of the test: to measure accuracy

The tools used:

- A place to perform the test in the playing field facing one of the two goals specified in the four corners of a square of (50 cm<sup>2</sup>) and the starting line is determined at a distance of (2 m) from a distance of (10 m) to the middle of the goal line.
- Five (5) footballs distributed on the starting line.
- A whistle.

**Method of performance:** After the student hears the start signal, he kicks the test balls towards the squares, in order to calculate the scores he obtained. Figure (1) shows the method of performing the test.

### **Scoring method:**

The grades obtained by the student are calculated through:

- The student is given a score for each ball that enters one of the lower squares.
- The student is given two scores for each ball that enters one of the higher squares.
- No score for the ball does not enter one of the squares.

Evaluation: The number of scores obtained by the student during the test is calculated.

### **Exploratory experience:**

The researchers conducted the exploratory experiment on a group of (10) students of the fourth stage in the Department of Physical Education and Sports Sciences - College of Education for Girls, University of Kufa for the academic year (2021-2022), in order to:

- 1- Organizing the duties of the assistant work team.
- 2- Defining where to place cameras.
- 3- Identify the appropriateness of the evaluation form.

4- Defining the difficulties and obstacles that the researcher may face.

### The main experience:

The research variables tests were conducted on (30) students of the fourth stage; video filming was conducted, taking into account the adjustment and calibration of the camera used before starting. The first camera was fixed (3.30m) of the kinetic performance field on height of (1.30m). The second was placed on the side of the middle of the performance field and at a distance of (3.30 m) and a height of (1.30 m), moreover, a simplified explanation was given of the goal to be implemented before starting filming, and then each student made two attempts to perform the scoring skill on Wednesday ( 30/12/2021). The performance evaluation of the skill was carried out using the performance evaluation form with the help of experts specializing in football, which numbered (3) to evaluate the performance, and the evaluation degree was of (10) degrees.

### Statistical processors:

The statistical package (SPSS.) was used to process the results statistically.

### Presentation, analysis and discussion of the results:

**Table 3**

It shows the arithmetic means, standard deviations and the calculated t-value for the pre and post-tests of the futsal scoring skill for the experimental group.

Variables	Pre-		Post		T Value	Statistical Significance
	arithmetic means	standard deviation	arithmetic means	standard deviation		
Scoring	7.65	1.30	10.35	1.67	4.69	Significant differences

From Table (3) it is clear that the computed t-value of the (scoring) tests was (4,69) which is greater than the tabular t-value of (1.761) in front of the degree of freedom (14) and at an error rate of  $\leq (0.05)$ , which means that there is significant differences between the pre- and post-tests, and in the interest of the post-test in this skill.

**Table 4**

Variables	Pre-		Post		T Value	Statistical Significance
	arithmetic means	standard deviation	arithmetic means	standard deviation		

frontal head fall	19.970	1.280	11.870	0.70	35.95	Significant differences

From Table (4) it is clear that the computed t-value of the (frontal head fall) tests was (35,952) which is greater than the tabular t-value of (1.761) in front of the degree of freedom (14) and at an error rate of  $\leq (0.05)$ , which means that there is Significant differences between the pre- and post-tests, and in the interest of the post-test in this skill.

### **Discussing the results of the differences between the pre and posttests of the experimental group in the skill of scoring in futsal**

Through the presentation of Table (1) it shows that there are significant differences between the pre and post tests and in favor of the post test. The two researchers attribute these moral differences between the pre- and remote tests to the experimental group that the educational curriculum prepared by the two researchers, and the regularity of learning reflects the impact of the curriculum in learning the skill of scoring, which relied on the diversity of exercises and the increase in opportunities for fun and participation, which contributed to providing the necessary opportunities to perform this skill, which led to increasing the motivation of students.

### **Discussing the results of the differences between the pre and posttests of the experimental group for frontal head fall diformities**

Through the presentation of Table (2), we find these values. It is possible to set a measure for the fact that these values represent a distortion or deviation, as the researcher asked many doctors specialized in the field of body deformities and found that the evaluation of the case is theoretical and according to the distance from the longitudinal axis, from here The values represented a slight deviation that may be the result of wrong posture habits. The deviations and distortions that appeared in the research sample in the case of the frontal head fall are either due to a shortening of the muscles and the frontal ligaments corresponding to the muscles and the posterior ligaments in the cervical region, (and it may be due to the habits of wrong like walking and looking down constantly, or incorrect habits while writing and reading for a long time, as well as genetic traits that appear in the formation of the cervical vertebrae).

**Table 5**

It shows the arithmetic means, standard deviations, and the calculated t-value for the pre and posttests of the futsal scoring skill for the control group.

Variables	Pre-		Post		T Value	Statistical Significance
	arithmetic means	standard deviation	arithmetic means	standard deviation		
Scoring	6.20	1.06	6.70	0.93	2.70	Significant differences

From Table (5) it is clear that the value of (t) calculated for the (score) tests was (2.70), which is greater than the tabular (t) value of (1.761) in front of the degree of freedom (14) and at an error rate of  $\leq (0.05)$ , which means that there are significant differences Between the pre and posttests, and for the benefit of the posttest in this skill.

#### **Table (6)**

It shows the arithmetic means, standard deviations, and the calculated t-value for the pre and posttests of the frontal head fall for the control group.

Variables	Pre-		Post		T Value	Statistical Significance
	arithmetic means	standard deviation	arithmetic means	standard deviation		
frontal head fall	18.806	1.010	18.806	0.950	20.351	Significant differences

From Table (6) it is clear that the value of (t) calculated for the tests of (frontal head fall deformaty) was (20.351) which is greater than the tabular value of (t) which is (1.761) in front of the degree of freedom (14) and at an error rate of  $\leq (0.05)$ , which means There are significant differences between the two tests, the pre and posttests, in favor of the posttest in this skill.

#### **Discussing the results of the differences between the pre and posttests of the control group in the skill of scoring in futsal.**

From Table (5) it is clear that there are no significant differences between the pre and posttests of the control group, but the development were very little in the arithmetic circles.

The control group, which used the traditional method, achieved a development in the posttests, and the researchers attributed this development using kinetic and skill exercises that increased the intensity of competition in addition to the number of repetitions and taking into account rest times, this has a great effect on learning the kinetic abilities and basic skill. That what had been confirmed by (Mohammed Hesen Allawi):the performance of kinetic skills is closely related to physical attributes such as speed, strength, flexibility and agility, and that good performance of kinetic skill would not be successful if it does not depend to a large extent on the required physical attributes.

#### **Discussing the results of the differences between the pre and posttests for the control group in frontal head fall deformities.**

Table (6) shows that there are no significant differences between the pretest and posttests for the control group, but the development were very little in the arithmetic circles. The sources indicate that this condition is common in adolescent, males and females, and there are a number of reasons related to the quality of the behavior of female students. The concept of stature does not restrict to the shape of the body and its external limits. Good physique is the “mechanical



relationship among the various skeletal, muscular, nervous and vital organs of the body. ..., and whenever this relationship improves, the body is healthy and the mechanics of the body improve."

The two researchers believe that the reason for this is the trainer's adoption of traditional exercises from a scientific point of view, as it had an impact on developing some simple deformities of body, but by neglecting special matters, including the use of rehabilitative exercises to deform the frontal head fall in particular.

### **Conclusions and Recommendations:**

#### **Conclusions**

- 1- Rehabilitative exercises and the aids used have an effective effect in improving the correction of the frontal head fall deformity.
- 2- Rehabilitation exercises and aids contributed to an evolution in the variables of frontal head fall and its deviation, which as a result leads to a positive development in the skill of futsal soccer scoring.

#### **Recommendations**

- 1- Using the rehabilitative exercises and aids because of their role in rehabilitating frontal head fall deformities.
- 2- Conducting further research and studies to the rest of the deformities that affect different areas of the body, which can be treated through rehabilitation exercises and aids, male or female students.

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