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An Analytical Study Of The Values Of Some Biokinematics Variables And Their Relationship To The Skill Of The Penalty Kick In Futsal

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Abstract

The scientific development that took place included many events and sports, including the game of futsal, and in particular the skill of the penalty kick, which is of prominent importance in resolving matches and which determines the result of the accuracy of successful corrections in the goal, so it is the decisive factor and the conclusion of the attack, which requires the availability of a number of motor abilities to achieve This factor is through the role played by sports biomechanicsin developing kinetic solutions according to the mechanical foundations and laws in proportion to the nature of the mechanical work to perform the game, as the preparation and education of the player for successful skill performance is characterized by a degree of difficulties, specifically when performing the penalty kick skill, which requires those in charge of this The field is to divide the technical stages of the skill to reach the player to master it well, and thus the importance of the research is evident in studying the relationship between the values of the biokinematics variables and the skill of the penalty kick in soccer indoors because of their great role in determining the outcome of the match, and accordingly the researcher considered studying the correlation between values Extracted for some biokinematics variables and between the penalty kick skill in Futsal, This is in order to develop appropriate kinetic solutions to raise the level of skill performance for the skill under study.

Introduction

Practicing sports is one of the important things for a person in society and contributes greatly to building his personality and maintaining public health, as the scientific progress that the world is witnessing at the present time was and still is one of the main reasons for that. The progress of human life through planning and programmed scientific studies, which contributes to achieving the desired goals, and this included many events and sports, including Futsal halls, and specifically the skill of punishment, which has a prominent importance in the decision of the mechanisms of the match. Which determines the result of the accuracy of successful corrections in the target, so it is a decisive factor and a conclusion to the attack that requires the availability of a number of motor capabilities to achieve this factor through the role played by sports biomechanics in developing kinematics solutions according to the foundations and mechanical laws in proportion to the nature of mechanical work to perform the game or The required skill, such as preparing and educating the player to perform a successful skill characterized by a degree of difficulty, specifically when the skill of the penalty kick for which they are responsible is required. A space to divide the technical stages of the skill to reach the player to master it. Well, therefore, the importance of the research is reflected in the study of the relationship between the values of alpha biokinematics variables and the skill of the soccer penalty kick in futsal because of their great role in determining the outcome of the match. This depends on continuous research to access sufficient information by relying on some modern sciences, including mathematical biomechanics, a science based in its study on the use of advanced software technologies and specialized cameras in the method of measurement and data processing when studying. The values of the mechanical variables related to the required motor skill and the extent of its relationship with the penalty kick skill in Futsal . Through the foregoing, technological progress has contributed to the development of Alpha Lee Sports according to categories and fields depending on scientific research methods, where we find that the use of trap sports monitoring techniques using video imaging has contributed to the achievement of many positive aspects in the development of many sports events and games through Iron weakness in the level of athletic performance, it is a positive result between and the free path accurately so that it is weak when performing different skill stages after analyzing the motor and T and Y data during slow or fast skill performance, and the researcher felt the relationship of the relationship between the values extracted for some biokinematicsvariables and the penalty kick skill in Futsal in order to develop solutions for the appropriate engine to improve the level of performance of the skill under study

The aim of the study

1. To arrive at the values of some variables biokinematics and penalty kick skill in Futsal.

2. Knowing the relationship between the penalty skill and the values of some biological variables in Futsal.

The methodology of the study and procedures of the field

He chose the descriptive approach in line with the problem of the study, where the study sample was deliberately chosen, which was represented by some Futsal players within the South Sports Club for the sports season 2020-2021, and their number was (10) players. Their percentage (55.55%) was from the original community. 18) For the purpose of ensuring the homogeneity of the sample in the variables that may affect the course of the experiment, the researcher conducted a statistical treatment using the coefficient of variation and it turned out that all values of the coefficient of variation are less than (30%), and thus the researcher made sure that the sample was distributed closer to the normal range under the Gauss curve in the research variables (3:161), which means the homogeneity of the study sample, as the arithmetic mean and standard deviation of the variable length (17 3, 4, 8, 8) and the coefficient of variation was 2.82%, while the arithmetic mean and standard deviation of the variable of his book Comic (6, 7.6). , 4.7) depending on the magnitude 6.95%, where the arithmetic mean and standard deviation of age (2 reached 4.2, 1.22) and the coefficient of variation 5.04%, they used the following statistical methods: arithmetic mean, standard deviation, coefficient of difference, law (T) for correlated samples, percentage law.

The tests used

Test name: Futsal penalty kick skill test.(8)

The purpose of the test: To measure the skill of kicking a penalty kickinFutsal.

Tools used: futsal soccer goal, soccer balls, goal splitting bars metric tape.

Method of performance: The ball is placed on the first penalty mark, which is a distance from the middle of the goal (6 m), where the player runs from the starting point chosen by the player to shoot the ball while it is fixed on the ground towards one of the boxes marked on the right or left side of the goal to the following parts:

Score Calculation: The player is given five attempts. The best four attempts are calculated so that the player's total score is (100 points) and as follows: - if the ball enters the position (E1 the player gets (25 points), - if the ball enters the position (E2 the player gets) (21 points), - If the ball enters the center (E3 the player gets (21 points), - if the ball enters the center (E4), the player gets a score (17), - if the ball enters the center (E5 player) gets 17 points), - if the ball enters the position Center (E6 the player gets 13 points), - if the ball enters the center (E7 the player gets (13 points), - if the ball enters the center (E8) the player gets (9 points), - if the ball does not enter any of these squares , you get (zero), - If the ball bounces as a result of hitting one of the sides between two squares, the two points are added and then divided by (2), we get the player's score.

Presentation and discussion of the results

Table No. (1) Shows the mean values and standard deviations of the study variables

standard deviation	Arithmetic mean	measuring unit	Variables	No
4.76	103.8	Degree	Table tilt angle cm moment kicking the ball	1
0.08	1 0.80	meter	Maximum hip flexion at the moment the ball is kicked	2
4.92	132.7	Degree	The angle of the kicking man's knee at the moment of kicking the ball	3
6.49	37. 61	Degree	penalty kick skill	4

Table (2)shows the correlation matrix between the study variables

penalty kick skill	The angle of inclination of the body at the moment the ball is kicked	Maximum flexion of the hip joint at the moment of kicking the ball	Variables
*0.692 -	0.245	*0.733	The angle of the kicking man's knee at the moment of kicking the ball
*0.649 -	0.345	—	Maximum flexion of the hip joint at the moment of kicking the ball
*0.693	—		The angle of inclination of the body at the moment the ball is kicked
—			penalty kick skill

Tabular values (R) are less than significance level (0.05) and degree of freedom (8) = 0.632.

The results showed a positive relationship between the knee angle of the man who was kicked at the moment of kicking the ball and the angle of flexion of the back of the hip joint at the moment of kicking the ball E. Li the

effect of flexing the maximum angle of the hip joint. At some point. Kick the ball at the angle of the kick leg at the moment the ball is kicked i.e. E. FT on GJ Ed from hip height leads to increased tidal knee joint and E. Li reaches normal height during performance thus achieving dynamism The path helps to complete the mechanical work of the penalty skill performance according to For the successful mechanical trajectory of the kick angle the knee of the man who kicks at the moment his foot touches the soccer ball by increasing the radius of rotation and thus increasing the kick speed of the soccer ball and this is what we find positive through a mechanical relationship between linear velocity and radius because increasing the radius leads to an increase Linear velocity, but g is the distance between the spindle and the joint representing the knee or foot half the state, where as well as the linear foot velocity of the knee is twice the speed of that due to the difference and distance between the mPH of the origin of the leg and the axis of rotation (4:118). The relationship between Les basal populations such as the kicking man's knee angle at the moment the ball is kicked and penalty kick skill, the reason for this background study is to make the most of the increased knee angle. The kicking man while the man returns the kick from behind to get the man's foul velocity for a moment and the late striker is ready as he quickly kicks the ball towards the goal with high accuracy and this was confirmed by Mal Jaber W. Mahmoud Ibrahim said that (if it is mechanically dependent, the task is to have high accuracy such as a good image and correct handling of the kicking position and the position of the pivot player that connects all parts of the body.To become the role of the actor while performing the kicking skill towards the goal for effectiveness and success(1:2), and that the kicking process is the entry point for mechanics and mobility capabilities is determined by the compatibility of the PAL and not the nciab kinematics and where the overlap was imprecise and fast in order to achieve the required kinematic duty and this requires an optimal dynamic setup depending on the time variables to reach The best NTC to achieve all parts of the body from the pain involved in the work to achieve the requirements for proper mechanical performance (4:271) As for the negative correlation between the maximum hip angle at the moment the ball is kicked and the skill of the penalty kick, the reason is that the player y decreases the height of the maximum hip angle in the SOW to get the best touch. For the man, kick the ball, so place the ball on the floor to touch the appropriate tilt while kicking, this allows all the joints involved to perform at their best. A suitable dynamic trajectory and thus achieving the trajectory of the arc to implement the correct performance of the engine and appropriate accuracy towards the target and achieve a successful shot (7:213) and this is confirmed by (6: 23). The reason for the existence of a positive relationship with the angle of inclination of the body at the moment of kicking the ball and the skill of kicking the ball is that the study of the sample benefited greatly from the conditions of the mechanical and anatomically correct parts of the body during the performance and those who helped them reach the mechanical and motor duty required for the skill to get Wasel on the desired result for the performance of accuracy Which Swoop needs towards the goal, Ztides cut the knee joint of a man shown by the port touching the ball (7:215) which came from the angle of inclination of the body for a moment kicking the ball made of mechanical things, God from him to achieve the speed and angle of shooting the ball up . At the appropriate level of height, which helps men reach the kick ball. I much further, much further and so behind the leg increase the resultant force by increasing the length of the acceleration path of the kicking man (2:160).

Conclusions

1. It was found that there is a positive relationship forthe values of the kicking knee angle variable at the moment of kicking the ball with the maximum flexion of the hip joint angle variable at the moment of kicking the ball and the skill of the penalty kick.
2. It was found that there is a positive relationship to the values of the maximum flexion variable of the hip joint angle at the moment of kicking the ball and the penalty kick skill variable.
3. It was found that there is a positive relationship to the values of the body tilt angle variable at the moment of kicking the ball and the penalty kick skill variable.
4. It was found that there is a negative relationship for the values of the body inclination angle variable at the moment of kicking the ball with the variables of the kicking leg's knee angle at the moment of kicking the ball and the maximum bend of the hip joint angle at the moment of kicking the ball.

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The test was designed by the researcher, and he obtained the following scientific basis: (test validity = 0.906, test reliability = 0.822, where the test with a high degree of accuracy and high reliability is also of high objectivity).

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