THE EFFECT OF SPECIAL EXERCISES IN THE DEVELOPMENT OF THE MOMENTARY BIOMECHANICAL STRENGTH OF THE SKILL OF THE TWO REAR AIR CORES ON THE PARALLEL DEVICE IN THE TECHNICAL GYMNASTICS OF THE EMERGING PLAYERS

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ABSTRACT:

Gymnastics is one of the most interesting games in terms of organizing various world championships and tournaments. Their basic skills and their technical development, especially those with high difficulty levels that rely on basic and complex skills, are the basic skills of gymnastics are the main pillar to be developed and therefore high-difficulty skills will not depend on basic skills, which should reach the stage of the automatic mechanism. Retention) in order to move on to training and developing another skill for the difficulty of movements as well as the smooth flow of performance, ie the degrees of difficulty of each skill specific to your gym and The researcher used the experimental method and The research community determined from the gymnast players of the center and forum of the martyr Mustafa virgins and the number of 7 players and The proposed exercises helped to develop the instantaneous force of the various parts of the body, giving an opportunity for the sample to open the corners of the work with great efficiency and activity, allowing him enough space to wrap the body around the horizontal axis and Adopt modern techniques when analyzing a specific skill in your gymnastics objectively to detect strengths and weaknesses.

***Keywords**: Biomechanics - Sports Training – gymnastics.*

INTRODUCTION

Gymnastics is one of the most interesting games in terms of organizing various world championships and tournaments. Their basic skills and their technical development, especially those with high difficulty levels that rely on basic and complex skills, are the basic skills of gymnastics are the main pillar to be developed and therefore high-difficulty skills will not depend on basic skills, which should reach the stage of the automatic mechanism. Retention) in order to move on to training and developing another skill for the difficulty of movements as well as the smooth flow of

performance, ie the degrees of difficulty of each skill specific to your gym.

The game of gymnastics in Iraq is still a sport that suffers from many problems and obstacles that lead to hinder the progress of the game and its development for the better, despite the experience of many coaches and specialists working in this game. It is still in the process of progressing, and the researcher was chosen to select the skill of the two rear air cores on the parallel device as a problem for his study because it is a skill with a difficulty degree of requirement (C) and developed in gymnastics according to some biomechanical variables that contribute to the performance of the skill perfectly while performing on the parallel device in the players. The technical gymnastics which is teaching and developing the different skills that help in developing the performance of the skill of the two rear air cores with the access of the players to the stage of the skill performance with a high level of technical performance on the parallel device during the researcher's knowledge of the championship. By consulting experts, trainers and specialists in the field of gymnastics in Iraq**.**

MATERIALS AND METHODS:

Research Methodology:

The researcher used the experimental method because it is one of the most appropriate and adequate approaches and because of the nature of the research problem, because it deals with the facts and verification with their causes and the researcher chose to design the experimental groups and control officers in his study.

Search community and sample:

The research community determined from the gymnast players of the center and forum of the martyr Mustafa al-Azari (formerly the youth challenge center) in Mansour housing in Baghdad city, the game of gymnastics of the (Iraqi Central Union Gymnastic) and the number of 7 players.

Means of gathering information, tools and devices used in research:

:Hardware and Tools

.Biomechanical analysis cameras -

.Mobile number (2) type phone x, 7 pulse -

.Laptop (dell5010) -

.Camera for imaging and documenting tests type (Nikon5300) -

.Device for measuring height and weight -

.Legal parallel device -

.Parallel device of various heights -

.Trampoline device -

.- Parallel device various training heights

.Mat of ground movements -

.- Balance to measure the mass of players

.Measuring tapes -

:rubber cords

.Protective means made of rubber -

.Training device type (gamenova) -

:Means of information collection

.Arabic and foreign references -

 Observation.

.Interviews -

 Tests and measurement.

 A form for recording data.

. .Electronic registration form -

 Questionnaire: A questionnaire was prepared to survey the opinions of specialists and experts on biomechanical variables. -

 Questionnaire: to survey the opinions of specialists and experts in your gym on the selection of training exercises for the skill.-

 World Wide Web.

 Scientific observation of the evaluation of the results of the skill of the two rear air cores on the parallel device in the game of artistic gymnastics through the judges to assess the technical performance of the expert skill (assessors -

.Assistant Team

 Data dump forms.

Field research procedures:

Select the skill chosen for the study:

The researcher presented a set of skills in gymnastic to the experienced and specialized in the field of the game in order to nominate the skill for his research and the skill of the two rear air cores was selected on the parallel device for men.

The researcher consulted with expertise and specialization in the field of biomechanics and gymnastics game in order to determine the momentary biomechanical force, which is involved in the technique of performing the skill of the two rear air cores on the parallel device in the artistic gymnastics.

Through imaging and using variables (mass, distance, and time) the force exerted in both the torso, thigh and legs) was extracted during the performance and using Newton's instantaneous force law that force = mass × distance / n 2, as follows:

Momentary force of the torso from Ota point to the moment to leave (Newton) -

Measured by finding the mass of the torso according to special relative weights (total body mass x relative weight of the torso = real torso mass), measuring the angular range that the torso travels from the moment of the lowest point to the moment of parallel departure and measuring the transition time, and extracting the momentary force of the trunk using the above law ((Where k = trunk mass, m peripheral distance traveled by the end of the trunk represented by the shoulder point, n = time spent) and the peripheral distance of the trunk is determined by the law of (arc length = angle traveled by the trunk by sector / trunk length).

- Strength of the thigh from Ota point of the queer to the moment of abandonment (Newton).

The same procedures were used to measure the momentary force of the trunk, except to replace the stem mass with the arms mass when applying the equation to measure the force, and to measure the radius of the arms (length) when using the equation to find the peripheral distance traveled by the hands.

- Strength of the leg from Ota point to weighted to the moment of abandonment (Newton):

The same procedures were used to measure the momentary strength of the torso and thigh, except to replace the mass in the above measurements with the mass of the legs when applying the equation to measure the force, and to measure the radius of the legs (length) when using the equation to find the peripheral distance traveled by the feet.

: Exploration Experience

Before proceeding with the implementation of the experiment and study procedures and to establish the work and all powers must conduct field experiments similar to the conditions of the main experiments on a society that is similar to the study community through which the researcher applied a survey that is similar to the same research conditions.

:Main experience

The researcher has carried out the special training exercises in the curriculum and applied to the research sample for the period from (8/4/2019), and until (16/6/2019), and for (10) week (30) units at a rate of (3) training units per week.

:Statistical means

.Arithmetic mean -

.Standard deviation -

.Torsion coefficient -

.C) Law for independent samples -(

- Percentage law**.**

RESULT AND DISCUSSION:

Table (1)

It shows the arithmetic media and the standard deviations of the control and experimental groups and the calculated and tabulated value of the skill of the rear spheres

Significance level	Sig	P	P e	Post test		Pre-test		measruing unit	Statistical treatments
				P	s	P	s		Variables
moral	**0.012**	**44.8**	**197.6**	**69.19**	**695.68**	**35.14**	**498.03**	Newton	Trunk strength
moral	**0.015**	**27.6**	**112.2**	**36.24**	**473.21**	**31.28**	**360.96**	Newton	Thigh strength
moral	**0.019**	**8.90**	**33.95**	**11.55**	**263.56**	**10.22**	**229.61**	Newton	Leg strength

Significant when (Sig) ≤ (0.05), degree of freedom (n 1+ n2-2) = 6-2 = 4, significance level (0.05)
The researcher attributes the significant difference to the fact that the propulsion efficiency variable is of great importance in pointing to the correct position taken by the body at the moment of starting after completing the pushing process from the elevation panel. The appearance of moral differences in favor of the post-test of the research sample means the effectiveness of the exercises applied by the research sample in influencing They get the best position to push the body the moment you set off.

To obtain the maximum amount of force must be consistent with matching doses of this force with the required movement, and to the time of performance, which must be appropriate to use this force considering the speed of movement.

The results obtained by the members of the research sample presented in the table, indicate that the development of the force of the variable force is related to the development of force used during the performance of the members of the research sample through the use of force in high amounts and thus increase the amounts of force thrust at the moment, and it was evident in the members of the research sample in Dimensional tests, which is an inevitable result of the level of training they have practiced in the training, which originally aimed at the development of momentary strength and speed, and physical abilities related to it, as the evolution of the amounts of force pushed against the time achieved achieved the level that shows a clear impact in the development of the level of force push, As a result, the researcher believes that the proposed exercises can be modified in the future in order to include a focus in the training of the performance of movements that fall in accordance with the rapid and fluid reactions, which can reflect the state of improvement in the work of muscle fibers and muscle contraction mechanism associated with this improvement, the results have shown that The training method has ensured the effective and clear development of this potential. Therefore, the strength exercises within the training curriculum have been influenced by making the research sample good in creating the paths (center of gravity of the body), the correct mechanical form so that the operations of the (parallel device) and push under high mechanical conditions without loss of speed both during performance Which must have a high impact on the performance of the skill.

CONCLUSIONS:

- The proposed exercises helped to develop the instantaneous force of the various parts of the body, giving an opportunity for the sample to open the corners of the work with great efficiency and activity, allowing him enough space to wrap the body around the horizontal axis.

ENDORSEMENT:

- Adopt modern techniques when analyzing a specific skill in your gymnastics objectively to detect strengths and weaknesses.

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