

THE EFFECT OF RESISTANCE EXERCISES USING TRX ROPES IN DEVELOPING THE TYPES OF STRENGTH AND HARMONIC ABILITIES IN FOOTBALL FOR YOUNG GOALKEEPERS

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Abstract

The research aims to create resistance exercises using ropes (TRX) that are compatible with the research topic. This research also aims to identify the effects of resistance exercises, ropes (TRX) and training modules that focus on developing the types of strength and coordination ability of young goalkeepers. This research was interested in hypotheses, finding significant differences in the variables of the pre- and post-test in favour of the post-test. And the researcher had a lot of theoretical research that he dealt with. The researcher used the experimental method to design the two groups and the method of pre- and post-measurement. The researcher researched a sample of (20) players. They were deliberately chosen from among the goalkeepers in football. The researcher used statistical methods and the therapist to process all the data associated with the results of (pre)(post) tests, & after completing all the final statistical procedures related to the tests and processing them, the researcher came to many conclusions, including rope training (TRX) has a significant impact on physical abilities and coordination abilities.

Keywords: resistance exercises, Sling (TRX), physical ability, harmonic abilities.

The introduction

No two in the world disagree that the game of football is the most exciting, interesting and interesting game, and this abnormal interest is due to the nature of this game, its versatility, integration and interconnection of its physical, skill, planning and psychological aspects, which made its games the focus of millions of eyes and made its practitioners stars referred to as Lebanon and based on this It is a pleasure for the people who are interested in it, including coaches, educators and academics, in continuous research and tireless striving to improve this game for the better, so that these studies included all aspects of preparation in football, but went beyond the research to the most detailed things related to this game and have an impact on its development.

Therefore, the importance of goalkeepers in the team exceeds half, as it is said in the conventional speech experimentally that the goalkeeper is half of the team because of his importance in protecting the goal from scoring goals, and therefore the need to pay attention to his physical abilities, which would resolve attacks and failures and help achieve positive results

It is necessary to pay attention to some necessary things that are common to raise the competitive level of goalkeepers in football, through the development of physical and consensual abilities, it is possible to bring the performance of goalkeepers to the highest levels that qualify the goalkeeper in dealing with all the cases and circumstances that goalkeepers may be exposed to during matches from

The search problem:

The goalkeeping centre is one of the necessary centres where the goalkeeper must have all the physical and consensual abilities, and the imperative thing is that the guards are half of the team, then self-

reliance becomes necessary through the development of physical and consensual abilities and the experience of the researcher noticed the difficulty of the smooth movement of the goalkeepers, so the researcher formulated the research problem with the following question

Q :does training withTRX ropes) affect the physical abilities andcoordination of football goalkeepers

Research Aims:

Preparation of training usingTRX ropesto develop the physical and harmonic abilities of football goalkeepers

Identify the impactof training usingTRX ropes) to develop the physical and harmonic abilities of football goalkeepers

Research Hypotheses:

There are significant differences between the pre-and post-tests of the physical abilities of football goalkeepers of the experimental group.

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Research areas:

1-Human field: goalkeepers of Maysan governorate clubs for the first class of the sports season

2-time domain: for the period from 8/1/2023 until 23-24/4/2023

3-spatial field: special football stadiums for first-class clubs in Maysan.

Research methodology and field procedures:

The researcher used the experimental method as the most appropriate method to solve the research problem, as the experimental method is one of the most accurate types of methods and the most sufficient in reaching accurate and reliable results (Hamdan M. Z., 1984)

Research sample: the research sample was selected deliberately and they are the goalkeepers of the first-class clubs of Maysan governorate.

They were homogenized by the torsion coefficient in variables (weight, chronological age, training age), as the arithmetic mean of the weight reached (63.25) kg with a standard deviation (3.43), the median was (61) kg, as for the arithmetic mean of the training age (4.87) years with a standard deviation (1.58) and the median was (4.50) As for the chronological age, the arithmetic mean reached (26.38) years with a standard deviation of (2.51), as for the median, it reached (25.21) years, as shown in Table (1) if the research sample was divided into two control and experimental groups

Table (1) displays how the research sample's age, training age, and weight are all the same.

Indicators	unit of measurement	arithmetic mean	standard deviation	median	torsion coefficient
weight	kg	63.25	3.43	61	0.22
chronological age	year	28.333	1.211	28.50	0.45
training Age	year	7.50	0.548	7.50	0.12

After calculating the torsion coefficient of the variables (weight, chronological age, and training age), it was found that the sample was distributed normally between (+3) in the normal distribution curve, and thus the researcher confirmed the homogeneity of the research sample. Research tools and devices used in research: one of the important things that help to complete and complete the experiment is to configure, organize, arrange and coordinate the tools used so that they can be used in the best way to perform work efficiently and accurately with the least effort and shortest time (Hassanein, Measurement and evaluation in physical education and sports, 1995)

Identify the tests used in the research:

The researcher often needs to choose tests or develop multiple tests to measure some variables related to the phenomenon studied (Ismail, 1996), although most of the tests are contained in scientific sources, (Al-Khasawneh, 2003),(Hassanein, Evaluation and measurement in physical education, 1995), but As indicated in Table (2) the researcher created a questionnaire form and then presented it to a panel of experts.

Table (2) displays the relative significance of the research's tests.

Relative	The tests	importance tests
1	speed strength	test 80%
2	man explosive strength test-two	%85
3	response speed test	%85
4	Fluidity test	deadlift test 90%
5	balancing test	%80
6	agility test	%90

Exploratory experience:

An exploratory experiment, defined as a "preliminary experimental study conducted by the researcher on a small sample before conducting his research aimed at choosing research methods and tools," is the most crucial component of any scientific investigation (Language, 1984).Thus, on September 10th, 2023, the researcher performed his first exploratory experiment on three goalkeepers from Maysan Governorate clubs. For the initial lesson:

- Adequate testing of research participants.
- Verify the location and time of the test execution.
- Verify the legitimacy and safety of the instruments and gadgets being used.
- Recognize any mistakes that could happen when tests are implemented.
- Get acquainted with the time taken for the tests.
- Identify the competence of the auxiliary team members

The tests used in the study:

1. speed characteristic strength test
2. test the explosive power of the two men
3. test the response speed
4. flexibility testing
5. balance test
6. agility test

Pre-tests:

The pre-tests, which took place in the province's stadiums on January 18 and 19, 2023, at precisely four o'clock in the afternoon, were conducted before the training curriculum began.

the first day of the harmonic tests, which was 18/1/2023.

The next day, 19/1/2023, was dedicated to the physical exams.

Implementing the training program:

The curriculum was developed by the study sample and the training period of the sports season, so the curriculum was constructed for the period (special preparation) and based on what was trained in the general preparatory period and by the main goal of the training process, which began on 21 January 2023. The curriculum for goalkeepers was created after reviewing the scientific sources and references related to the field of sports training. The curriculum was still being applied for ten weeks, totaling thirty training units, at a rate of three training units per week, until it was discontinued on April 21, 2023. The construction of TRX exercises—which test goalkeepers' physical and harmonic abilities—was considered by the researcher, and the grading system was applied rigorously during training modules in the curriculum created for the study sample.

Post-tests:

The dimensional tests of the research sample were conducted immediately after the completion of the training curriculum application on 23-24/4/2023 and the sequence of the same tribal tests.

Statistical means :

The researcher used the statistical bag (SPSS) to extract statistical manipulations, to analyze the results, and I used :

Results of discussion:

Table (3) displays the calculated value (t), the level of error, the arithmetic mean, standard deviations, and the significance of the variations between the control group's pre- and post-test results for the research variables.

Tests Variants search variables	unit of measurement	pre		post		The value of t calculated value t	Level of significance	semantic level semantic differences
		price	P	price	P			
explosive force	meter	1.55	1.31	1.65	1.56	5.19	0.01	Moral
the 0.01 power characteristic of speed	again	13.66	0.79	13.90	0.88	4.89	0.01	moral
response speed	seconds	7.08	1.50	6.78	2.75	6.88	0.00	moral
balance	degree	11.45	6.25	12.65	7.08	7.00	0.00	moral
agility	intention	9.74	1.71	8.70	1.47	3.65	0.03	The moral
Flexibility	is CM	21	0.131	22	0.11	4.89	0.01	moral

A mean under a level of significance smaller or equal to (0,05) at a degree of freedom

The values of the T-Test law calculated for symmetrical samples, whose levels of significance for all variables came less than (0,05), which indicates that the differences are significant, and the differences between the values of the computational circles for the tribal and dimensional tests of all research variables and in favor of dimensional tests show a noticeable positive development, as shown in Table (3). As a result, the first and second hypotheses' respective assumptions have come true.

The reason for the significance of the differences among the control group in the dimensional tests and all research variables, to the prepared exercises, which were according to the scientific foundations of sports training and aimed at developing harmonic abilities and thus physical abilities

Table (4) displays the calculated value (t), error level, arithmetic mean, standard deviations, and significance of the variations between the experimental group's pre- and post-test results for the research variables.

Variants Search Variables	unit of measurement	-pre		Post		The value calculated value t denotational	level denotational	differences
		price	P	price	P			
explosive force	meter	1.54	1.45	1.90	1.44	0.01 6.22	0.01	Moral
power characteristic of speed	again	13.77	0.64	10.11	0.75	5.50	moral 0.01	Moral
response speed	.Sec	21,7	>,1 BR 48 <	5.22	2.22	7.45	0.00	moral
balance	degree	11.54	6.76	15.43	8.10	7.77	0.00	the moral
of agility	again	9.22	1.50	7.00	1.45	3.85	0.03	The moral
Flexibility	is CM	21	0.10	39	0.09	5.20	moral 000	Moral

A mean under a level of significance smaller or equal to (0,05) at a degree of freedom

The first and second hypotheses have been realized because, as can be seen in Table (4), there has been a noticeable positive development through the differences between the values of the computational circles for the tribal and dimensional tests of all research variables and in favor of dimensional tests as well (as the values of the T-Testlaw calculated for symmetrical samples, whose levels of significance for all variables came less than (0,05).

The impact of the TRX workouts used by the experimental group is what caused the substantial differences to show up in the dimensional tests of the experimental group and all the study variables., which would develop the harmonic abilities, which is reflected positively on the level of physical abilities of goalkeepers. Compatibility is "the ability to coordinate and integrate between independent motor systems and different sensory means and methods in perfect motor patterns, the more the need for a higher level of coordination and integration indicates good performance and efficiency". (Hamdan & Norma Abdel Razzaq Saleem, Previously mentioned source, 2001)

Table (5) displays the estimated value (t), error level, arithmetic mean, standard deviations, and significance of the differences between the two groups' two-dimensional tests for the study variables.

Aggregates Variants search variables	unit	of measurement		experimental		control Valuet calculated	Level of significance	indication level indication differences
		price	P	price	P			
explosive force	meter	1.65	1.56	1.90	1.44	5.19	0.02	Moral
the strength characteristic of speed	again	13.90	0.88	10.11	0.75	9.74	0.00	moral
response speed	SEC	6.78	2.75	5.22	2.22	6.91	0.01	moral
balance	degree	12.65	7.08	15.43	8.10	6.57	0.01	the moral
of agility	again	8.70	1.47	7.00	1.45	6.93	0.01	the moral
of flexibility	is CM	22	0.11	39	0.09	7.58	moral 0.00	Moral

A mean under a level of significance smaller or equal to (0,05) at a degree of freedom

Table (5) indicates a significant positive development in favor of the experimental group as well as a noticeable difference in the computational circle values for dimensional tests of all research variables. The values of the T-Test law calculated for independent samples showed that all variable significance levels were less than 0.05, indicating that the differences are significant in favor of the experimental Trainings.

The significant differences in the dimensional tests between the two groups, which came in in support of all the research factors as well as the experimental group that carried out the activities, are due to the effect of exercises that focused on accuracy in execution, as we note that the higher the accuracy of the implementation of motor performance indicates a higher level of general and special compatibility and (Fattah, 1997), on the other hand, we see that the exercises applied by this group were focused on the involvement and correlation of more than one motor sentence and exercise in more than one performance in a manner that is keen on its implementation. (Ali Salloum 2004) States Larson and Yoakum that compatibility depends on the integrity and accuracy of the functions of muscles and nerves and their connection together in one action. ,(Al-Hakim, 2004), therefore, the research goal been achieved about the development of harmonic abilities, as well as the fact that the exercises applied by this group in terms of their composition and Variety give more than one stimulus and with different stresses in one exercise, which requires goalkeepers to respond with a high degree of accuracy to those stimuli, i.e. The process of neuromuscular regulation of the body, and this is confirmed by (Talha hossa meddin et al., 1998) that compatibility is a response to a stimulus and means the relationship between certain stimuli to carry out a skill activity and the required response to it, in the sense that there is an arrangement of the motor apparatus of any existing system, starting from sending nerve signals of different types according to different control systems until passing through cognitive systems until Kinetics. (El-Din & others, 1998) pointed out that (Sari Ahmed and Norma Abdur Razzak 2001) is the ability of the nervous system to give more than one command at the same time or in a short period, and the ability of an individual to control the work of different and common body parts in the performance of a certain motor duty, connecting these Single-flow parts (Hamdan and Norma Abdel Razzag Salim, Physical and Health Fitness, 2001). Thus, the research goal regarding physical abilities has been achieved.

Recommendations And Conclusions

Conclusions

1. training (TRX) rope has a high impact on physical abilities
2. Rope (TRX) drills with high impact on harmonic abilities
3. Football guard development heavily relies on their harmonic ability.
4. The development of a low-efficiency foot improves the level of the goalkeeper's abilities
5. Among the most important qualities of a goalie are high levels of physical condition and harmonic ability.

Recommendations :

1. The need to develop a low-efficiency foot for goalkeepers
2. The need to prepare goalkeepers for a high-level Brown preparation
3. The need to give consensual exercises to goalkeepers
4. Conducting similar research and studies

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