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The effect of exercises according to the training program Cross Fit by the repetitive method with a variable pattern on developing the endurance of muscle strength and the accuracy of the skill of beating the Qatari crush with volleyball for the Al Ain University team

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ABSTRACT

The significance of the research display or take public the analyst's endeavor to use exercises in accordance with the preparation program Cross Fit in the repetitive plan of changeful the changeable pattern in the happening of athletic force lastingness and veracity of the ability of thrashing the Qatari crushing volleyball, apart from reaching veracity in depiction by expanding the substance continuity of two together legs to reach the maximal attainable altitude to hit the globe and accordingly reach highest in rank conduct in the game of volleyball either The question of research through the effect to the developments of incident in the game of volleyball usually and the happening in the ability of thrashing overpowering Qatari specifically at the local level and by way of allure impact on the result of the competition and the analyst famous that the mechanics level concerning this ability is not constant accompanying the development engaged of sports preparation and the field of volleyball what skilled is defect and vacillation of abundant performers in the level of veracity of performance ability thrashing overpowering Qatari so the analyst has wanted to use Exercises in accordance with the preparation program Cross Fit in the repeated design of force with a changing pattern in the growth of stout substance continuity and veracity of the ability of thrashing the Qatari suppressing volleyball, and the objectives of the research search out assemble exercises in accordance with the preparation program Cross Fit in the repetitious design of strained changeable pattern in the development of Withstand the athletic substance and veracity of the ability of thrashing the Qatari overpowering volleyball, and recognize the mathematical dissimilarities between the pre- and post-tests to continue power substance and the veracity of the ability of thrashing the Qatari overpowering volleyball, and the scientist secondhand the experimental approach in of highest quality-group approach to suit the type of the question in consideration of get correct news and results The experimental approach is individual of ultimate enough right of way to trustworthy information, and contained The research society on the performers of the Al Ain University national group, that doomed (14) performers, and (10) performers were picked exhibiting the research sample and mirroring (71.42%) of the society, and one of ultimate main ends is that the preparation program CrossFit in the repetitive plan accompanying a changing pattern had a excellent impact on the incident of persistence characteristic of The research group pronounced that these trainings cultivate ability.

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1- Definition of research:

1-1 Introduction to the research and its importance:

Sports preparation in all inclusive aim, it is all the stages arranged to brace the contestant to reach the above levels to compete in local and worldwide competitions, and sports preparation established controlled bases leads to approach to sports completeness through the arranged and correct affect the skills of the jock, place sports preparation aims chiefly to prepare the individual and change welcome nature and system of accomplishment to reach the level of engine and ability depiction, and sports preparation is the process that puts the sport or performer the one has existed commit tangible influence. The physiological and cognitive are what lead him to reach the standard of ability to reach the taller levels. Despite the excellent growth that has captured place in the athletic field, that reached on account of weighty controlled research that aided to raise the level of all sports plot and events. Scientific research and authorities in the facet of sports preparation are still active as a matter of usual practice or as a matter of usual practice in verdict high-quality habits and best choice hole or door in vessel the process of consistency pace accompanying controlled novelty and this is from Through the interdependence and flap of a a lot of hypothetical and used sciences that would supplement the numerical facet and increase the chance of gaining highest in rank level in it. As well as the growth of designs, way and sports supplies and different many determinants that influenced to the development of the accomplishment of performers in worldwide forums and the rise of extreme levels of records and realization, so the studies and research on the preparation process aided the coach in evolving welcome information of the habits and orders that can influence the accomplishment of the training process. Physical capabilities, containing substance continuity in volleyball, are an main and essential determinant to raise the level of ability depiction, as tangible skills aim to expand sure material items that play a famous role in learning the performer's elementary abilities, containing the ability of thrashing the Qatari crush , and volleyball all at once of the composite sports ventures is individual of the mechanics sports that hold a a lot of engine skills that need a a lot of competencies and continuity in consideration of be exhausted a good conduct and decent efficiency. From the previous, the significance of the research display or take public the investigator's endeavor to use Exercises in accordance with the preparation program Cross Fit BThe changeable-pattern strained recursive form In the happening of Withstand strapping substance and veracity of the ability of thrashing the Qatari crush accompanying volleyball , apart from reaching veracity in accomplishment through the growth of endure

The capacity of the legs to reach the topmost likely altitude To work hard so reaches high-quality acting in the game of volleyball.

1-2 Research problem:

The works fashioned in sports preparation have realized a excellent development in the game of volleyball, and in spite of that, skilled are still existent questions guide the preparation process that demands controlled solutions that attack the shoulders of coaches and technicians in addition to demand the follow up-to-date experimental wealth and arrangements enhanced by experiments that help raise the level of material depiction and ability of performers by any means levels The scientist has eminent that exercises in accordance with the training program Cross Fit in a repetitious plan accompanying a changeable pattern acted not take The necessary used room within the syllabuses of trainers skilled is a lack of clearness in the feasibility of carrying out and expanding tangible talents, containing strength lastingness. Through the effect to the incidents in the growth of the game of volleyball usually and the incident in the ability of thrashing the Qatari overwhelming exceptionally at the local level and by way of allure affect the result of the counterpart and the scientist famous that the mechanics level concerning this skill is not regular accompanying the incident engaged of sports preparation and the field of volleyball what skilled is proneness and fluctuation of the performers in the level of veracity of conduct ability thrashing overpowering Qatari. Therefore, the scientist wanted to use exercises in accordance with the training program Cross Fit in a repetitious system accompanying a changeable pattern in cultivating the continuity of athletic substance and the accuracy of the ability of thrashing the Qatari crush volleyball

1.3 Research objectives

- 1- Preparing exercises according to the training program Cross Fit in the short-frequency method with a variable pattern in developing the endurance of muscular strength and the accuracy of the skill of beating the Qatari crush with volleyball .
- 2- Identify the statistical differences between the pre- and post-tests to endure muscular strength and the accuracy of the skill of beating the Qatari overwhelming volleyball .

1-4 Hypothetically research

- 1- There are significant statistical differences between the pre- and post-tests of the research group and in favor of the post-tests.

1-5 Research Areas:

1-5-1 Human field: Al Ain University Iraqi team players

1-5-2 Time Range: 20/11/2024 to 10/3/2025

1.5.3 Spatial field: volleyball court at Al Ain University, Iraq.

1-6 Definition of terms:

Cross Fit Training Program ⁽¹⁾ "The (Transit Fitness) program is one of the modern training programs that have been used at the present time in the form of comprehensive, diverse and complex sports events and competitions that require high physical fitness for the participant, and can be organized anywhere in the hall, stadium, beach, street or workplace"

Variable pattern recursive method ⁽²⁾ "A training method for strength development where it is a set of short-term repetitions ascending or descending so that the sum of the repetitions of each group is different from the other"

Example / (intensity 100% 8K, intensity 90% 10k, intensity 80% 12k).

2- Research Methodology and Field Procedures:

2.1 Research Methodology:

The researcher used the experimental method in a one-group method to suit the nature of the problem in order to obtain accurate information and results, and the experimental method is one of the most efficient means of reaching reliable knowledge.

2.2 Research population and sample:

The research community included (14) players of the Al Ain University national team , and (10) players were selected to represent the research sample and represent (71.42%) of the community .

1- 2-3 Homogeneity of the sample:

For the purpose of verifying the homogeneity of the sample, the researcher has some procedures to adjust the variables, although the selected sample is from a similar age stage.

Therefore, statistical methods were used through the arithmetic mean, standard deviation and coefficient of variation for morphological measurements to know the reality of the difference or not, and Table (1) illustrates this.

It is proved that the value of the coefficient of variation is less than 30 %, which means that the sample is homogeneous.

Table (1)

Shows the homogeneity of the research sample in age, height and weight using the coefficient of variation which shows values less than 30%

Coefficient of variation	Standard deviation	Arithmetic mean	Unit of measurement	Morphological measurements	t
3.18%	7.69	241.25	month	Chronological age	1

Iyad Raysan Jassim and Muhammad Jabbar Manadi: *Cognitive foundations in the applied frameworks of modern sports training* , 1st edition, ¹

2025, p. 22.

Raysan Khuraibet: *Applications in Physiology and Sports Training*, 1st Edition, Dar Al-Shorouk for Publishing and Distribution, Amman, ²

1997, p. 104.

7.92%	6.34	79.95	kg	Mass	2
4.58%	8.25	180.02	poison	Length	3

2-4 Means and tools used:

✓ Means of collecting information:

⊙ Arab and foreign sources. ⊙ Observation and analysis. ⊙ Experimentation. ⊙ Testing and measurement.

✓ Tools and devices used:

⊙ Tape measure . ⊙ 5 boxes of different height ⊙ Machine push device ⊙ Medical Scale ⊙ Whistle ⊙ Manual stopwatch ⊙ Irish-made DellCi7 laptop ⊙ Volleyball Court Legal ⊙ Volleyballs (10)

2.5 Tests used in research:

First: Test to measure the strength endurance of the two men ⁽³⁾:

▪ Purpose of the test:

Measuring the strength endurance of the muscles of the legs.

▪ Tools used:

Payment device from the supine position (push machine), whistle, and registration form.

▪ Performance Description:

The player lies on the force measuring device with his second knee and pushes a weight of 25 kg and the player extends the knees completely and then bends the knees and continues to do so until he feels tired and cannot push the weight.

▪ Registration :

The tester records for the player the number of times the weight is pushed by the legs, noting the need to extend the knees to the end.

Second: Accuracy test for the skill of beating the Qatari crush ⁽¹⁾.

▪ Purpose of the test: -

Measure the accuracy of the overwhelming multiplication in the diagonal direction.

▪ Tools:-

Volleyball court, 6 volleyballs, adhesive tape to determine the specific area for the fall of the ball as shown in Figure (2).

▪ Performance Specifications:-

The tester blows overwhelmingly from the center 4, so that the trainer passes from the center 3 using the high passing facing, the tester performs (5) attempts to hit the back area, then (5) other attempts on the front area. The laboratory is calculated correct attempts in the 10 attempts allocated to him according to the rules of registration.

▪ Sign up:-

Amr Allah Al-Basati: Foundations and Rules of Sports Training and its Applications, Knowledge Foundation, Alexandria, 1998, ³ p. 120.

(2) The command of Allah al-Basati: ibid ., p. 122.

- ✓ 4 points for each correct crushing blow in which the ball falls on the area inside the square.
- ✓ 3 points for each correct crushing blow in which the ball falls into the planned area.
- ✓ Two points for each correct crushing blow in which the ball falls in area A or B.
- ✓ A point for each correct crushing blow at which the ball falls in area C.

2.6 Exploratory experiment

For the purpose of deciding the veracity and lawfulness of the research work and preventing the impediments that concede possibility perform all along the processes of the field experiment, the investigator attended an preliminary experiment on Sunday 8 /12/2024 at ten in the dawn "on performers (from outside the sample), as the preliminary experiment is used to prevent weaknesses while deciding the place, period and event of the experiment"

(1). The objective of the preliminary experiment was:1- Preparing and addressing the helper work crew in accordance with the goals of the research.

2- Preparing the inevitable designs and forms.3- Identify moment of truth necessary for the test.

2-7 Scientific foundations of the test :

1- Test Validity:

The researcher presented the tests to the experts and specialists in the field of training through personal interviews and their agreement on the validity of the tests as in Table (2).

Table (2)
Shows the percentage of validity of research tests

Percentage	Number of concurring opinions	Number of experts	Test Name	t
85.7%	6	7	Test to measure the strength endurance of the legs	1
100%	7	7	Diagonal Overwhelming Test	2

2- Test stability :

The researcher used to calculate the stability coefficient (test and retest method) with an interval between the first and second test (7) days and The retest method is one of the simplest and has the interval of coherence because the measurement-related error is fortunately always more pronounced when there is a period between the two tests from one

day to more." ⁽⁴⁾ The researcher has extracted the stability coefficient through the correlation coefficient (Pearson) between the results of the first test and the results of the second test and the extraction of the significant correlation has reached the researcher that the tests It has high morale because the value of (Sig) \geq (0.05)

Table (3)

Builds the stability coefficient for research tests

Sig	Coefficient of stability	audition	t
0.000	0.89	Test to measure the strength endurance of the legs	1
0.000	0.91	Diagonal Overwhelming Test	2

The correlation coefficient is significant at the level of significance of $>$ (0.05)

3- Objectivity:

The objectivity of the test is originally due to the clarity of the instructions for the application of the test, as the objectivity of the test is high if tests are used that have specific conditions and since the tests used have specific and clear conditions, they are characterized by high objectivity, as the results do not accept the interpretation "that the test is of high objectivity when the conditions of the test are specific, because they are not affected by the subjective assessment of the arbitrators".⁵

2.8. Post-tests of the research sample: -

The post-test of the research sample was conducted on Wednesday, 13/2/2025 after the completion of the period of application of the method, which took (8) weeks, and the researcher was keen to provide the conditions of the pre-test and its procedures followed for the research test.

2.9 Statistical means:

- Arithmetic mean.
- Standard deviation .
- Coefficient of variation.
- Pearson's correlation coefficient .
- Test T)) for threaded samples.

⁽¹⁾ Ibrahim Ahmed Salama: Research Methods in Physical Education , Dar Al-Maaref, Cairo, 1980, p 49.

Nasrallah ⁵Radi Mashgal: A comparative study in the values of some biomechanical properties of the methods of performing the firewall skill from the centers (4, 6) and (2) for the national volleyball team players, Master's thesis – University of Dhi Qar, 2017, p. 57.

- Percentage .

3 Presentation, analysis and discussion of results:

3-1 Presentation and analysis of the results of the pre- and post-tests of the sample

Table (4)

Shows the values of the arithmetic means, standard deviations and the value of (T) calculated for the pre- and post-tests of the sample

Total	Sig	Calculated T	Overwhelming beating (dimensional)		Overwhelming beating (Kebili)		Unit of measurement	Physical abilities
			on	Going to	on	Going to		
Moral	0.000	9.11	2.32	50.24	1.98	39.01	reiteration	Bearing strength for the legs
Moral	0.000	8.96	2.18	30.53	3.08	21.27	degree	Qatari Overwhelming Beating

*Significant at the level of significance > (0.05)

Table (4) shows the arithmetic means, standard deviations and the value of (t) calculated between the results of the pre- and post-tests, as the results presented in the table showed that the value of the significance level in all values amounted to (0.000). It is less than the value of the significance level (0.05) Which indicates that there are statistically significant differences between the pre- and post-tests of the sample.

3.2 Discussion of results:

Through Table (4) it came that skilled is a important distinctness in the results of the post-tests of the research group ascribed apiece scientist to the preparation program CrossFit in the repetitious pattern of forced changeable pattern has influenced to the incident of the characteristic of continuity of force through the use of sets of exercises that provided to the incident concerning this characteristic what this mirrored absolutely in the happening of the veracity of the ability of thrashing the overpowering angled through the use of stress, repetitions and periods Appropriate rest managed to the incident of veracity test results It is famous that veracity is individual of the parts of engine appropriateness and it needs vigorous and anxious unity in the influences of the weaponry, midriff and poles, as Mohamed Sobhi Hassanein mentions "The course of willing movements towards a particular aim demands extreme effectiveness of the stout and

central nervous system, veracity demands adequate control of willing powers. to direct it towards a particular aim" (). As is famous, veracity way that the performer has the ability to score a point or aim in many sports the happening of the item of veracity is the mainstay that achieves the success of the group, as it stands the case in sparring, handball, volleyball and soccer. Accuracy is individual of the main elements in the game of volleyball when operating the ability of overpowering thrashing as Through it, the result is certain by the success or deficit of the crew, so it demands the volleyball performer to carry the characteristic of substance in the powers of the physique and rapport so that within financial means act this ability accompanying maximum substance, speed and veracity in act. It is known that each sports contest depends on sure influence groups that distinct from individual game to another in accordance with the specific sport, as the game of volleyball is individual of the entertainment that must be from the substance of the powers of the poles, weaponry, midriff and body, apart from neuromuscular unity and accuracy in the depiction of abilities, consideration must due to these groups through the use of up-to-date preparation programs accompanying appropriate stress in conditions of duplications and rest event apart from the believers of The appropriate preparation procedure All these belongings got for one scientist through the results of the research, which grown the characteristic of posture the substance of two together husbands and so evolve the veracity of the overpowering thrashing angled. This growth is logical accompanying Iman Hussein's view that "skilled is a statistically meaningful direct equating middle from two points the strength persistence of two together brothers and the veracity of intending () And that the volleyball performer is forever exciting on the field, either he is in a watchful or offensive state, and accordingly, apart from carrying the main tangible characters, he needs lastingness when operating abilities, and thus, when operating the ability of quelling striking, he needs neuromuscular rapport, in addition to veracity when operating a overwhelming blow and forcibly and fluency in flow when operating striking the sphere, and this is regular accompanying what he refers to Essam Abdel Khaleq established that "the motor accomplishment of the ability depends on distinguished engine skills ".

4. Conclusions and recommendations

4-1 Conclusions:

- 1- The CrossFit training program in the variable-pattern repetitive method had a significant impact on the development of endurance trait in the research group as these exercises work to develop ability.
- 2- The training program CrossFit in the repetitive method with a variable pattern with this ripple of load led to the emergence of this

amount of development in endurance and accuracy of the skill of beating the Qatari crush.

4.2 Recommendations:

- 1- Using the CrossFit training program in a short-circuit repetitive method with a variable pattern, which works to develop most of the physical abilities of volleyball players .
- 2- Emphasize the use of the CrossFit training program in the short-frequency method with a variable format because it is suitable in such exercises.
- 3- The use of different sizes, stresses and ripples in pregnancy, which may lead to better results.
- 4- The need to use the CrossFit training program in a repetitive method with a different variable format and not to be economical in one style.
- 5- Using the CrossFit training program in a short-circuit repetitive method with a variable format for different categories of players

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