An alternative program using a variety of resistance according to energy production systems has been influenced by body composition and some physiological variables for wrestlers under the social spacing of the Covid 19 epidemic

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The current era is witnessing clear scientific progress in the field of sports science and sports training, and this has become a clear demonstration of the progress and development of societies to cope with current changes, adjustments, and developments to develop the level of athletes as a whole and achieve integrated inclusive and balanced growth.

Mohammed Mohammed Ibrahim (2006) states that upgrading aspects of the training process can only be achieved through a careful understanding of the sciences associated with the training process, including sports physiology, which shows us the extent of the responses and adaptations that the training process makes in its various elements (physical, skill, calligraphy and psychological) on the vital organs of the athlete and the extent to which they respond to this change. (34: 72)

Resistance training is one of the most important means used in the development of muscle strength of various types, and these exercises can be divided according to their nature and method of training to external resistance exercises (weights- free weights - medical balls - rubber resistance - sandbags - etc.) and exercises using the resistance of the player's body. (10: 122)

Resistance exercises are consistent with high-speed exercises and enable muscles to contract at rates like those used during competition. (36: 312)

Abdul Aziz Al Nimr and Nariman Al-Khatib (2000 AD) add that resistance training increases the strength, ability, and effectiveness of the individual on the speed of muscle constriction in addition to increasing muscle size and improving the speed of specialized motor performance. (2: 27)
Training with various resistances aims to avoid the course of training at one pace or the use of a single method of training by following the use of different types of resistances and weights as well as switching between training loads to develop (maximum strength- carrying force - characteristic force at speed) in an explosive manner, in addition to changing pregnancy levels or changing the type of muscle contraction or weights to the polarimetric. (14: 317)

Aweys Jebali and Tamer Jebali (2013) add that there are hundreds of external resistance training used by the coach in the design of resistance training programs, but the main challenge facing the coach is how

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to choose from these exercises in proportion to the player's level and abilities and the nature of the specialized activity. (18: 490)

alsaid Abdel Maksoud (1997), Mohammed Allawi, and Abu Ala Abdel Fattah (2000) add that resistance training for the development of special force is similar in its kinetic composition in terms of curving strength, Tim,e, and motor path with movements that perform during competition and are based on the same muscle groups. (14: 224)) (39:103)

The method of disparate resistance in the development of force was used for the first time in Bulgaria to reach the maximum degree of effectiveness by using resistance exercises in different ways to develop the force of various kinds. (14: 314)

Bastiaans, et., al ، (2000) Jackson, et., al (2000), and Gregory (2007) both agree The contrast in training is intended to mix different types, methods, and tools, such as weight training (resistance) and aerobic and anaerobic exercises in the same daily unit or between training units or between the weeks of the program or divide the periods of resistance and aerobic and anaerobic exercises equally within the training program. (20 :79) (30 :540) (26: 64)

The American Institute of Sports Medicine points out that resistance training is a method or method designed to develop the strength, ability, and tolerance of the muscle system, and is called weight training or strength development exercises, and has several methods such as (resistance devices, free weights, dumbbells, or body weight itself) and it aims to gradually carry the intensity of pregnancy on the musculoskeletal system, thus improving strength, ability, and endurance. (39: 54)

Dal Monte, Miri (1996), believes that physical activity is accompanied by many physiological and physical changes that enable the body to meet the requirements of physical exertion, and the individual's regularity in training leads to functional changes in vital organs. (23: 236)

Training by energy production systems plays an important role in the development of the level in all sports, by increasing the efficiency of the body's organs in the production of energy according to the needs of motor performance and skills in competitions, and thus focusing training programs and increasing their effectiveness with the development of directed energy production systems, thereby raising the efficiency of the player's body without wasting time and waste in other training directions that are not currently required. (7: 30) (28: 34،37)

There are three energy production systems: Phosphagen (immediate source), Anaerobic (somewhat slow, uses carbohydrates), and Aerobic (slow, uses either carbohydrates or fat) the phosphagen system and the lactic acid system do not rely on oxygen to produce the energy needed for performance, so they are called anaerobic energy, while the third system depends on oxygen and is called the Aerobic system or air energy. (44:128) (44:215)

Bruce and Noble(2006) point out that most sports activities have both aerobic and anaerobic systems, but it is not forbidden that one of them prevails over the other depending on the type of activity practice. (21:11)

Aweys Jebali (2000) believes that wrestling depends on both the aerobic and anaerobic energy system, but the dominant or dominant work is the anaerobic energy system. (17:25)

Wilmore and Costiel' (1994) state that the ideal body composition varies from sport to sport, but in general the less fat improves performance, as well as increased lean mass preferred in sports that require strength and muscle tolerance and may be an obstacle to athletes who require them to move for a long time, and it is obesity that has the greatest impact on performance rather than overall body weight, the lower the fat rate. (51:390)

Abu Ala Abdel Fattah and Sobhi Hassanein (1997) point out that body composition is a scientific term that refers to the proportions of the presence of fatty and non-greasy parts of the body, and adds a new dimension to the athlete's understanding of himself as the precise measurement of the composition of the body gives high-value information on determining the ideal weight at which the player can reach the so-called sports form and this about adjustments to training. (9: 324)

Maximum oxygen consumption ($VO2_{MAX}$) is an influential factor in endurance-based sports to increase aerobic capacity, as it is closely linked to physical performance, and the importance of estimating maximum oxygen consumption (VO2MAX) lies in knowing improvement due to particular training, and in knowing the severity needed (maximum oxygen consumption) for training or activity to raising cardiorespiratory fitness, where many studies have indicated that maximum oxygen consumption is an indicator of the efficiency of the work of the heart and lungs, and Determining cardiorespiratory fitness is linked to the methods of assessment and evaluation applicable in the field, and therefore the judgment of physiological fitness levels, and therefore tests must be used for the appropriate and regulated field for the purpose to estimate periodic and psychological organ.(31:297)

Emad Eddin Abbas (2005) states that anaerobic work is a chemical change that occurs in the working muscles to produce energy crisis to perform physical effort with no use of atmospheric oxygen, and chemical changes of working muscles for energy production are carried out using the phosphagen system in activities with a duration of less than 30 seconds, and the lactic system in activities ranging from 30 seconds to 3 minutes. (29: 185,186)

The lactic acid system, as well as the adenosine triphosphate and creatine phosphate system, are of great importance in the athletic performance of many sports activities that perform high performance and sweat between (1:3) minutes. (53)

Measuring the components of body composition is one of the most important dimensions of the player's abilities, which is highly linked to

achieving high levels of sports, and the availability of the required measurements of the type of activity gives a greater opportunity to absorb the skills and arts of the game. (10: 71)
Abdul Rahman Zaher (2011) states that sports training leads to physiological changes necessary for physical performance, and the player's performance depends on the positive extent of these changes to achieve adaptation to the body's organs to cope with the effort and physical fatigue resulting from training and competition. (1:161)

Research problem

These days, the world is experiencing a full-fledged health and community crisis, with the emergence and spread of The Covid-19 Virus in recent times, the global community has frozen almost all its activities to preserve human life from the risk of the penetration and spread of this virus, which has killed thousands of lives during the past period, including sports activity, whether training or competition.

With the decrease in cases of injuries, the unit of the spread of the virus and the gradual return, and the conditional the social spacing of sports activities, we find that many activities depend mainly on doing during the performance, whether in training or competitions such as wrestling, which will delay its practitioners from returning to the training naturally within the halls Closed, complete friction, resorting to individual training until the health situation stabilizes, cases of injury decrease, and allowing training inside the halls.

- It is worth mentioning that the decision to stop came in the middle of the season of competitions and it is expected that the return will be the completion of the competitions of the season at different age stages, especially the adult stage, in which the formation of the national team depends. This led the researcher to design an alternative program for the basic program that contains different and varied resistance exercises, whether the variation in the type of resistance or the intensity of performance and the number of repetitions according to the systems of energy production in the sport of wrestling between aerobic exercises and lactic endurance, so that they are similar to the motor tracks of wrestling skills and similar to the performance of competition and identify the responses of the physiological devices to the players and the extent of improvement, which reflects on the physical, physiological and skill situation when returning Activity naturally.

Objectives of the research

1. Design an alternative training program for the basic program using contrasting resistances (Olympic Bar - Body Weight - Dumbbells - Plates Weights - Medical Balls - Rubber Resistance - Solid Balls) according to the energy system for wrestling in light of the social distancing of the coronavirus pandemic (Covid-19).
2. Identify the impact of the program on the body composition and some physiological variables (cardiac respiratory system efficiency- respiratory efficiency- maximum oxygen consumption (vo2Max) - blood lactate) for wrestling players in light of

the social distancing of the coronavirus pandemic (Covid-19).

Hypotheses of the research:

1. There are statistically significant differences between the pre-and post-measurements of **body composition variables and some physiological variables** in the experimental and control groups in the favor of post-measurement.
2. There are statistically significant differences between the averages of the post-measurement between the experimental and control group in body composition variables and some physiological variables in the favor of the experimental group.

Research Terms:

Alternative training program:

- A training program is intended to replace the basic training program because of the inability to implement it because of precautionary measures for the Covid-19 pandemic, such as closing covered training rooms, social spacing, preventing touch or contact of players in training and allowing only training in open spaces. (Procedural definition**)**

a variety of resistances: - means training tools of weight or determination such as (Olympic Bar - Body Weight - Dumbbells - Plates Weights- Medical Balls- Rubber Resistance- Solid Balls) used in training, whether from stability or movement in a varied or overlapping manner to achieve maximum arousal of working muscle fibers in addition to breaking boredom or monotony in training. (Procedural definition)

Body composition: - A scientific term that refers to the proportions of the presence of fatty parts and non-fat parts of the body. (5:324)

Research Procedures:

1- Method: The researcher used the experimental method because of its appropriateness of the nature of the research, using the experimental design with pre-and post-measurements on two groups (control and experimental).

2- **Research sample**: - The total research sample included (27) players selected in the deliberate manner of the players of the region of Menoufia high-level, where the research community reaches (25) wrestlers, and (7) wrestlers were selected to conduct exploratory studies, and (20) wrestlers for basic study and were divided to two equal groups, experimental and the control, (10) wrestlers for each group and **Table (1**) shows the homogeneity of the research sample in the variables of (age – height – weight – fat mass- fat- free mass- muscle mass-training age).

Table (1)

sample homogeneity in the variables of (age–length–weight-Training age) (n= 27)

Variables	Unit	Mean	St. Div	Median	Skewness	Kurtosis
Age	Year	21.550	1.986	20.50	0.702	0.919 -
Height	CM	166.70	5.676	168	1.124 -	1.066
Weight	KG	73.760	8.617	74	0.491	0.882 -
Fat mass	KG	11.475	3.232	11.80	0.770	1.163

Follow Table (1)
sample homogeneity in the variables of (age–length–weight-Training age) (n= 27)

Variables	Unit	Mean	St. Div	Median	Skewness	Kurtosis
Fat-free mass	KG	62.258	6.218	60.90	0.806	0.497 -
Muscle mass	KG	57.985	6.218	56.60	0.806	0.497 -
Training age	Year	4.90	0.852	5	0.204	0.992

Table (1) shows that Skewness and KURTOSIS are confined between (±3) which shows the homogeneity of the research sample individuals in these variables and is located under one bell curve.

Equality of the two sets of search

Table (2)
mean, standard deviation, and (T-test) for variables of (growth – Body composition - physiological) for the two groups (experimental / control (n= 20)

Variables		Unit	Experimental Group. N=10		Control Group N=10		M.D Mean	T-test
			س	±ع	س	±ع		
WEIGHT		KG	73.080	7.551	74.440	9.935	-1.360	-0.345
FAT MASS		KG	11.150	2.571	11.800	3.899	-0.650	-0.44
FFM		KG	61.930	5.951	62.640	6.778	-0.710	-0.249
Muscle mass		KG	57.630	5.951	58.340	6.778	-0.710	-0.249
Carlson's Fatigue Curve	work	degree	9.600	0.699	9.800	0.422	-0.200	-0.775
	Speed pulsed	degree	11.200	1.033	11.600	0.516	-0.400	-1.095
	Cardio fitness	degree	20.800	1.317	21.400	0.516	-0.600	-1.342
	Percentage of cardio	%	59.400	2.633	58.200	1.033	1.200	1.342
VC		L	4.250	0.190	4.170	0.106	0.080	1.163
fev1		L	3.194	0.109	3.143	0.123	0.051	0.983
PEF		L/sec	5.280	0.079	5.240	0.052	0.040	1.342
Vo2 max		L/M	3.396	0.363	3.193	0.280	0.203	1.4
Lactic at rest		M-mole	1.542	0.164	1.552	0.177	-0.010	-0.131
after effort lactic		M-mole	10.638	0.110	10.682	0.036	-0.044	-1.205

tabulated 'T' value at level (0.05) = 2.101 degrees freedom = 18

As shown in the table (2) that there are insignificant statistical differences between the two groups (control and experimental) in the variable under discussion as the values of "T" calculated are greater than the value of (T) tabulated, which refers to the parity between groups in these variables.

- Tools and means of data collection: -

1. **Reference survey**

The researcher surveyed studies, scientific references an,d websites that dealt with resistance training systems and energy systems within the limits available to the researcher in order to identify the different methods and training methods of these systems, as well as to use them in how to develop the program and form loads and codify them to raise the functional abilities of players and benefit from their results in discussing the results of the current study as well as determine the appropriate time for their application, and determine the appropriate physiological tests for the variables of the study.

Tools and means of data collection Basic measurements of the search sample

1. Age: - For the nearest month.
2. Total body length: - for the nearest centimeter.
3. Body weight: - for the nearest kilogram.
4. Training age: - For the nearest month.

Search measurements and tests. Attachment (2)

1. body composition (WEIGHT, FAT MASS, Fat-Free Mass (FFM), and Muscle mass)
2. Maximum oxygen consumption (Vo2max).
3. Measuring Respiratory efficiency functions (VC, Fev1, PEF)
4. Carlson's fatigue test (work score {steps} - pulse speed - fitness of the cardio-respiratory)
5. **Lactate acid**

Training program attached(3)

The training program is prepared with the following steps:

- The researcher surveyed Arabic and foreign books and websites within the limits of the researcher's knowledge.
- A survey of research and studies related to research variables in wrestling training, sports physiology, and physical effort, as well as in resistance training, was conducted.

The main objective of the Program aims to:

- develop and improve the functional abilities and physical composition of players using training with various resistances considering the energy systems of wrestling.

Foundations and criteria for building the program.

- Building the program according to scientific foundations .
- The training program should be commensurate with the objectives set.
- The appropriateness of the program and its contents of training for the dental stage of the selected sample.
- The flexibility of the program.
- Benefit from previous studies in the design of the program and its training.
- Continuity
- Considering the principles and physiological foundations of training in the development of the training program.
- Considering individual differences.
- Considering the foundations of resistance training, including good warm-up before the start of training,

then good lengthening and flexibility exercises at the end of training - determining the weight used according to the intensity required through a one-time maximum lifting weight test.

- Gradually upgrading the training load where the researcher applied anaerobic exercises by 60% in the first month, by 70% in the second month, and by 80% in the third month, divided into (70% lactic, 30% Phosphagen systems in the first month) and (60% lactic, 40% Phosphagen System in the second month) and (40% lactic, 60% Phosphagen System in the third month.

Principles and foundations for the development of private energy systems for wrestlers.

- Gradually upgrading pregnancy where the researcher applied anaerobic exercises by 60% in the first month, by 70% in the second month, and by 80% in the third month, divided into (70% lactic, 30% Phosphagen System in the first month) and (60% lactic, 40% Phosphagen System in the second month) and (40% lactic, 60% lactic Phosphagen System in the third month).
- The warm-up period in anaerobic endurance training must reach the individual's functional abilities for proper preparation, to avoid injury and stress so that the player can progress in endurance training. (8: 89)
- The complex movements of any exercise aimed at developing the special endurance of the basic movements of the wrestling must be similar, bearing in mind that the timing and rhythm of performance are like the conditions of competition. (10: 180)
- Use extreme and less extreme intensity to develop anaerobic capabilities, and in the form of competition over a certain period of 1-2 minutes to achieve the growth of anaerobic capabilities. (9: 180)
- After performing anaerobic endurance exercises, the use of active positive rest during recovery periods to maintain blood flow is considered to provide the muscles with food and oxygen and faster elimination of lactic acid' considering the drop in the pulse rate to 110-120 beats/minute.(38: 223)
- The change from rapid anaerobic exercises to slow aerobic workouts, with anaerobic energy production sources taking time to recover while working without stopping training. (9: 270)
- The researcher used the method of training (high and low intensity) as well as the method of repetitive training where these methods are used to develop your endurance, improve the vital capacity of the lungs and heart, and improve the efficiency of the periodic system. (38: 218,222) (13:181)
- **Mohammed Hassan Allawi (1993)** believes that the intensity of the exercises used in the method of repetitive training ranges from 90 to 100% of the maximum level per capita and is characterized by a short performance period or the number of repetitions, with full breaks, and the principle of 'positive comfort' can be used some walking exercises, breathing exercises, or relaxation exercises during rest.(38:236)
- **Amrullah Ahmed Al-Basati (1998) quoted Fox et fox, et, al.,**

(1993) as the foundations of the formation of the carrying of the training based on the time of performance according to the energy production systems as in table 3. (15: 91)

Table (3)

Bases of formation of the training load depending on the performance time by the energy production systems

Energy System	Exercise (work) time	repetitions	groups	Number of groups	work to rest	Type of rest
ATP – PC system	10Sec. 15Sec. 20Sec. 25Sec.	50 45 40 32	5 5 4 4	10 9 10 8	1:3	Active rest (walking and stretches)
-ATP PC, LA system	30Sec. 40-50Sec. 60-70Sec. Sec. 80	25 20 15 10`	5 4 3 2	5 5 5 5	1:3	Light to medium work of exercises
LA O2 system	1.3-2 Min 2.1-2.4M. Min. 2.5-3	8 6 4	2 1 1	4 6 4	1:2 1:1	Light to medium exercises
O2 system	Min. 3:4 Min. 4:5	4 4	1 1	4 3	1:1 1:0.5	Rest or light exercises

- It is recommended to use constant load in anaerobic training through constant and strong contractions and repeats this work from 3:4 times a week as this helps in the adjustment process in addition to improving the endurance of various types and production of ATP. (15: 94)

Training program parameters

Program implementation period

Loads of the program will form as a special preparation period and pre-competition so that the player is equipped to enter the competitions with the decision to return to activities and open the halls and the duration of the application of the program has been determined by (10 weeks) by (4 units) training per week, with the application of the proposed training program in open spaces and the observance of spacing between players and the emphasis on precautionary procedures for the Krona pandemic and warning against wearing muzzles during training for easy supply of oxygen to the body for physical effort.

The proposed training program was divided into three phases:

- The establishment phase and its duration (2 weeks).
- 2weeks preparation phase
- 6weeks of preparation for competitions.
- The number of units of the proposed training program (40 units).
- Training unit time (120 minutes).
- Total program time (4,800 minutes) = (80 hours) .

Training methods used .

- (Low-intensity, long-term training - high-intensity long-term training - repetitive training).(3:87)

Training loads legalized using pulse rate and One repetition maximum (1 RM)

1- Rationing of training loads for free resistance using pulse rate

- Load intensity is rationed using **Karvonen's** heart rate method during training as follows: - Target Pulse for THR Training: = Rest Pulse + [Training Ratio x (Maximum Pulse - Rest Pulse). (5:235) (40:70)

The average age of the sample is 21 years

- Average sample comfort pulse is 64 pul/s.
- Maximum pulse of the sample = 220- age = 220-21 = 199 pul/s.
- Pulse reserve for the sample = maximum pulse rate - pulse rate in comfort
- = 199-64=135 pul/s.

Table (5)

Determining the intensity and time of resistance training units using pulse rate

Load	Percentage	Pulse rate
Maximum	95: 100%	Pulse/min199 :192
Less than maximum	85: 94%	Pulse/min1:19178
High	85: 84%	Pulse/min77:1516
Medium	65: 74%	Pulse/min4:16215

2- One repetition maximum (1 RM)

The intensity of training loads within the proposed training program was codified by a one-time maximum lifting weight test for each selected exercise One repetition maximum (1RM). During the Olympic Bar Training) (3:193)

(4) Table

Adjust iterations according to maximum lifting weight once

Load	Percentage	repeat	group	Rest between groups
Maximum Less than maximum	٪100	1	1	1.5: 3 minutes
	٪95	2	3-1	
Less than maximum	٪93	3	3-1	3: 4 minutes
	٪90	4	3-1	
	٪87	5	4-3	
	٪85	6	4-3	
High	٪83	7	4-3	3: 5 minutes
	٪80	8	4-3	
	٪77	9	5-3	
	٪75	10	5-3	
Medium	٪67	12	5-3	1.5: 3 minutes
	٪65	15	5-3	
Low	٪60	18	4-3	3: 4 minutes
	٪55	20	4-3	
	٪50	25	4-3	

(42:121)

Variables for the development and testing of muscle strengths

Maximum power: - Intensity 85%: 100%, 1:4 repetition, groups 1:6, rest between groups 2:4 second

conditions of maximum strength tests (the player's performance in the test should be only one repetition not repeated, to reach the maximum resistance the player can overcome once).

- **Ability (power): -** Intensity 50%: 80%, repetition 6:12, groups 4:6, rest between groups 2:5 minutes.

conditions of ability (power) strength tests (repetition against the resistance of at least 10% maximum weight and no more than body weight, performance time up to 15 seconds, performance as fast as possible.

- **Endurance force**: - Intensity 40%: 70%, repetition 20:30, groups 4:6, rest between groups 1:4 minutes.

Endurance force test conditions (performance time of 1: 1.5 minutes, performance as fast as possible during the performance period). (46: 258-295) (24: 213-216) (35: 156166 ،) (33: 48)

Arrangement of training muscle strength variables within the weight training unit

1- Maximum power.

2- Ability (power).

3- Endurance force.

4- Endurance skill performance of the resistance (It is carried out in circular stations with resistances and weights equivalent to 30% - 40% of the player's weight and in the same motor tracks of technical skills in 10 stations, the time of each station begins by 10 seconds at the beginning of the processing period for the competitions and continues to increase until the time reaches The stations in the group to the time of the round in the wrestling match and at maximum intensity and a pulse rate higher than 180 pulse/minute as fast as the fastest performance, the rest period graded between stations from 10 seconds to 30 seconds and between groups 1minute. To improve the lactic system, delay the appearance of fatigue)**.**

5- **Flexibility and stretching** (43:92)

Exercises used in the program. Attachment(5)

1- **Training during the foundation period**: - Exercises that work on multiple muscle groups at the same time, using the Olympic bar and several joints are involved in its performance to develop maximum strength and carry strength.

2- **Training during the preparation period**: - exercises using (iron tires, rubber resistance, medical balls, dumbbells, and body weight) and aims to develop the distinctive strength at speed.

3- **Training during the processing period of competition**: - The various are used in multiple and different light weights for short periods with high strength and with the same courses of skill performance of the matches to improve performance tolerance and physiological capabilities according to the lactic and phosphate energy system and the ability to continue for the longest period and overcome the appearance of fatigue.

Table(6)
Summary of the training of the proposed program

Program parts	Foundation stage	Preparation stage	Level stabilization and processing phase for competitions
Training weeks	WEEKS (8 TRAINING 2 UNITS)	WEEKS (8 TRAINING 2 UNITS)	WEEKS 6 (24TRAINING UNITS)
Training methods	(Low-intensity training to develop the high-intensity aerobic and periodic work and the method of repetitive training to develop the anaerobic work)		
Training strategy	– USING THE OLYMPIC BAR LIFT TO CREATE, IMPROVE AND PROVOKE THE BODY'S MAIN MUSCLE FIBERS SUCH AS LEGS, ARMS, BACK, AND ABDOMEN. – AEROBIC FITNESS IMPROVEMENT EXERCISES (E.G. RUNNING AND STAIRS), AND ACROBAT TRAINING.	– SPECIAL EXERCISES SIMILAR TO WRESTLING TECHNIQUE USING (RUBBER RESISTANCE, MEDICAL BALLS, SOLID BALLS, IRON TILES, AND BODY WEIGHT RESISTANCE). – COMPLEX EXERCISES TO DEVELOP ENDURANCE SKILL PERFORMANCE USING RESISTORS.	Focus on increasing the frequency of motor performances with resistance for as long as possible within wrestling energy systems in accordance with competition requirements. (Starting from 10 seconds at full speed and then gradually increasing exercise time very .high)
Organizing training	CIRCULAR TRAINING METHOD		
Time of main part	minutes768	1152 minutes	1920 minutes
Stage goal	– CREATING, IMPROVING, AND PROVOKING THE BODY'S LARGE MUSCLE FIBERS SUCH AS LEGS, ARMS, BACK, AND ABDOMEN – RAISING THE EFFICIENCY OF THE PERIODIC AND RESPIRATORY DEVICES. – DEVELOP MAXIMUM STRENGTH AND ability(power)	– IMPROVING ABILITY(POWER). – IMPROVING MAXIMUM STRENGTH – IMPROVING THE SPEED OF PERFORMANCE OF MOTOR SKILLS WITH RESISTANCE – COMBINING LACTIC AND AEROBIC EXERCISES.	– CONTINUE TO PERFORM FOR A LONGER PERIOD USING DIFFERENT RESISTANCES TO INCREASE FATIGUE RESISTANCE AND LACTIC ACCUMULATION. – TO RAISE THE EFFICIENCY OF THE WRESTLER TO WITHSTAND PERFORMANCE ACCORDING TO THE PHOSPHATE AND LACTIC ENERGY SYSTEM.

The training program of the control group

The control group used a training program like the pilot group in terms of program duration, several units, and unit time, with the difference

that the control group used the traditional training available, such as track running, weightlifting exercises, stands, and rubber citation.

Survey

The researcher selected a random sample of the research community of (8) players from outside the basic research sample, and tested them with the help of assistants, from 20 June 2020: to 25 June 2020**.**

The purpose of this study

- Calibration of measuring devices.
- Ensure the safety of the implementation and application of measurements and tests and the validity of the devices and tools and related precautionary measures for the Krona pandemic during measurement and the extent of the appropriate location.
- Determining the time required for the measurement process and the time it takes for each player to test when measuring.
- Identify errors that can be made during the implementation of tests and measurements, arrange their progress, and suitability for the dental stage.
- Ensure the appropriate time for the training unit to achieve its goal by applying a pilot unit and experimenting with its contents**.**

− Measure the maximum one repetition for each of the exercises used in the program from 27 June 2020: to 28 June 2020. Attachment (1)

− Learn how to use a resistance training form or card. Attachment (1)

− The appropriateness of the tests for the search sample as well as the tools and where the measurements were made was confirmed, as well as the assistants' knowledge of how the tests were conducted to avoid measurement errors.

Pre-measurements: the researcher applied the pre-tests and measurements to the experimental group and control group for the period from Monday 29/06/2020 to Tuesday30 /06/2020.

− **Application of the program to the experimental sample**: the proposed program was applied in the period from Saturday1/7/2020 to Wednesday, 9/09/2020.

Post measurement: The post measurements were conducted on 10, 11/09/2020 under the same conditions and standards of post measurements in the same place.

- Statistic treatments: (means – Median- skewness- Standard deviation- "T" test- Change (improvement) rate- "Eta 2" equation (effect power test)

Presentation and discussion of results

Table (7)

Differences and their significance and (ETA^2) coefficient between the averages (pre-post) measurements of the experimental group in body composition variables and some physiological variables (n=10)

Variables	unit	pre-test		Post-test		M.D Mean	T-test	Rate of change	$(ETA)^2$
		Mean	St. Div	Mean	St. Div				
WEIGHT	KG	73.080	7.551	72.380	7.168	0.700	2.689 *	0.96%	0.005
FAT MASS	KG	11.150	2.571	7.540	1.632	3.610	8.876 *	32.38%	0.90
FFM	KG	61.930	5.951	64.840	6.260	-2.910	-6.484 *	4.70%	0.82
Muscle mass	KG	57.630	5.951	61.040	6.260	-3.410	-7.598 *	5.92%	0.87

Follow Table (7)
Differences and their significance and (ETA^2) coefficient between the averages (pre-post) measurements of the experimental group in body composition variables and some physiological variables (n=10)

Variables		unit	pre-test		Post-test		M.D Mean	T-test	Rate of change	(ETA)^2
			Mean	St. Div	Mean	St. Div				
Carlson's Fatigue Curve	work	degree	9.600	0.699	5.900	0.738	3.700	12.333 *	38.54%	0.94
	Speed pulsed	degree	11.200	1.033	8.500	0.527	2.700	7.364 *	24.11%	0.86
	Cardio fitness	degree	20.800	1.317	14.400	0.966	6.400	11.817 *	30.77%	0.94
	Percentage of cardio	%	59.400	2.633	72.200	1.932	-12.80	11.817 *	21.55%	0.94
respiratory	VC	L	4.250	0.190	5.190	0.166	-0.940	10.628 *	22.12%	0.93
	FEV_1	L	3.194	0.109	4.210	0.341	-1.016	-8.110 *	31.81%	0.88
	PEF	L/sec	5.280	0.079	5.800	0.211	-0.520	-7.150 *	9.85%	0.85
Vo2 max		L/min	33.96	3.629	43.86	1.721	- 9.9	7.134	28.68%	0.85
Lactic at rest		M-mole	1.542	0.164	1.210	0.088	0.332	10.157 *	21.53%	0.92
after effort lactic		M-mole	10.638	0.110	9.649	0.151	0.989	15.279 *	9.30%	0.96

(T) tabulated value at significance of (0.05) = 1.833and freedom degree (9)
ETA2 coefficient estimate (from 0:0.3 = weak effect) (from 0.3: 0.5 = average effect) (from 0.5: one = strong effect)

Table (7) shows statistically significant differences between pre and post-measurements of the experimental group in body composition variables (Body weight-Fat Mass- FFM)Fat-Free Mass -Muscle Mass) where the calculated value of (t) ranged from (2.689: 8.876) in the direction of pre-test, as evidenced by statistically significant differences between the pre and post-measurements of the experimental group in Carlson's fatigue curve variables (work- pulse speed - heart fitness - and Percentage of cardio) where the calculated value of (t-test) ranged from (7.364:12.333) in the direction of post-measurements as evidenced by statistically significant differences between the pre and post-measurements of the experimental group in respiratory function (VC-fev1 - pef) the calculated value of (T-test) ranged from (7.150: 10,628). in the direction of pre-measurement, statistically significant differences between pre-and post-measurements of the experimental group are evident in variables (maximum oxygen consumption (VO_{2MAX}) -blood lactate at rest- and blood lactate after effort) where the calculated value of (T-test) ranged from (7,134: 15,279). in the direction of the pre-test.

Table (7) also shows that the ETA2 coefficient (testing the size of the effect of the program used) for body composition variables, giving fatigue to Carlson and Respiratory functions, Vo2max, and blood lactate in rest and after effort, has exceeded (0.5) at a rate of change (improvement) ranging from (0.96: 38.54%) in favor of distance measurement, which

indicates the strength of the effect of the alternative program using resistances according to energy systems and is effective and effective.

Table (8)
Differences and their significance and (ETA^2) coefficient between the averages (pre-post) measurements of the control group in body composition variables and some physiological variables (n=10)

Variables		unit	pre-test		Post-test		M.D Mean	T-test	Rate of change
			Mean	St. Div	Mean	St. Div			
WEIGHT		KG	74.440	9.935	74.500	9.407	.0600-	.1790	0.08%
FAT MASS		KG	11.800	3.899	11.680	4.018	.1200	1.450	-1.02%
FFM		KG	62.640	6.778	82062.	3546.	.1800-	.480	0.29%
Muscle mass		KG	58.340	6.778	58.500	6.354	.1600-	.4300	0.27%
Carlson's Fatigue Curve	work	degree	9.800	0.422	9.300	6750.	.5000	*3	-5.10%
	Speed pulsed	degree	11.600	0.516	11.200	7890.	.4000	*2.449	-3.45%
	Cardio fitness	degree	21.400	0.516	20.400	0751.	1	*3.873	-4.67%
	Percentage of cardio	%	58.200	1.033	20064.	2.150	2	*3.873	10.31%
respiratory	VC	L	4.170	0.106	2664.	240.1	.0960-	*1.943	2.30%
	FEV_1	L	3.143	0.123	3.340	0.196	.1970-	*2.653	6.27%
	PEF	L/sec	5.240	0.052	5.280	0.063	.0400-	1.500	0.76%
Vo2 max		L/min	31.93	2.805	33.90	2.514	1.970	*1.859	6.17%
Lactic at rest		M-mole	1.552	0.177	1.460	0.107	.0920	1.273	5.93%
after effort lactic		M-mole	10.682	0.036	5710.4	2000.	.2250	*3.540	2.11%

(T) tabulated value at significance of (0.05) = 1.833and freedom degree (9)
ETA2 coefficient estimate (from 0:0.3 = weak effect) (from 0.3: 0.5 = average effect) (from 0.5: one = strong effect)

Table (8) shows that there are insignificant statistical differences between the average pre- and post-measurement of the control group in body composition variables (Body Weight-Fat Mass- Fat-Free Mass - Muscle Mass), where the calculated value (t) ranged from (0.430: 1.450) to less than the scheduled value (t). It is also clear that there are statistically significant differences between the averages of pre-and post-measurements of the control group in Carlson's fatigue curve variables (work- pulse speed - cardio fitness - and the fitness rate of the heart a respiratory system) where the value of (t) scheduling ranged from (2.449: 3.873) in the direction of post-measurement, It is also clear that there are statistically significant differences between the average pre- and post-measurement of the group controlling

in respiratory functions (VC - fev1) where the calculated value (T-test) (1.943, 2.653) in post-measurement, **While there are no statistically significant differences** in average measurements (PEF) and statistically significant differences between pre-and post- measurement averages of the control group in variables ((VO_{2MAX}) - and blood lactate after effort) The calculated value (T-test) was between (1.859: 3,540). in the direction of post-measurement. **There are no statistically significant differences between average measurements** in (blood Lactic in rest)

Table (8) also shows the rate of change (improvement) between the pre-and post- measurement averages of the control group of body composition variables, the fatigue curve for Carlson, respiratory functions, maximum oxygen consumption, and blood lactate in rest and after effort ranged from (0.08: 10.31%) in favor of distance measurement

Table (9)

Indication of the differences between the two post measurements of the two groups (experimental and control) in body composition variables and some physiological variables under consideration (n=20)

Variables		unit	Experimental N=10 group		control group N=10		T-test	Rate of change
			Mean	St. Div	Mean	St. Div		
WEIGHT		KG	72.380	7.168	74.500	9.407	-2.120	.5670
FAT MASS		KG	7.540	1.632	11.680	4.018	-4.140	*3.019
FFM		KG	64.840	6.260	82062.	3546.	2.020	.7160
Muscle mass		KG	61.040	6.260	58.500	6.354	2.540	.9000
Carlson's Fatigue Curve	work	degree	5.900	0.738	9.300	6750.	-3.400	*10.752
	Speed pulsed	degree	8.500	0.527	11.200	7890.	-2.700	*9
	Cardio fitness	degree	14.400	0.966	20.400	0751.	-6.000	*13.128
	Percentage of cardio	%	72.200	1.932	20064.	2.150	12.000	*13.128
respiratory	VC	L/sec	5.190	0.166	2664.	240.1	0.924	*14.087
	FEV_1	L/min	4.210	0.341	3.340	0.196	0.870	*6.993
	PEF	M-mole	5.800	0.211	5.280	0.063	0.520	*7.471
Vo2 max		M-mole	43.860	1.721	33.90	2.514	9.96	10.338
Lactic at rest		L/sec	0 1.21	0.088	1.460	0.107	-0.250	-5.702*
after effort lactic		L/min	9.649	0.151	5710.4	2000.	-0.808	*19010.

tabulated 'T' value at indication level (0.05) and freedom score 18 = 2.101

Table (9) shows statistically significant differences between the averages of the two experimental and controlled groups in post-

measurements of variables (body composition (fat mass) - Carlson fatigue, respiratory function, maximum oxygen consumption and blood lactate in rest and after effort) in the direction of the experimental group's pot-measurement. While there are no statistically significant differences in variables (body weight – Fat-Free Mass (FFM) - muscle mass) where the calculated value (T-test) was lower than the tabulated dgree at the degree of freedom (18) and the indication level.(0.05)

Discussion of results

Considering the previous presentation of the results of the researcher and v and assumptions of the research and guided by the results of previous studies and what is stated in the scientific references, the researcher begins to discuss these results as follows: -

Table (7) shows statistically significant differences between the averages of pre-and post-measurements of the experimental group in body composition variables (body weight, fat mass, Fat-Free Mass, muscle mass) in favor of post-measurement, where the value (t) was (2,689), 8.876, 6,484, 7,598, respectively, which are higher than the tabulated value of (T) equal (1.833) at the indicative level (0.05) and the degree of freedom (9). This indicates that the alternative training program used by the researcher with different and varied resistances using the aerobic and anaerobic system for energy production in which the researcher use of the largest group of muscles of the body has significantly affected on the body composition of the players.

This is consistent with what **Abu Ala Abdel Fattah and Sobhi Hassanein (1997)** said that sports training leads to significant changes in body composition, even if the focus of the exercises is on a specific part of the body, where fat is withdrawn from its various stores in the body and not from a specific place only. (4: 369)

Abu Ala Abdel Fattah and Sobhi Hassanein (1997) point out that there is an inverse relationship between the efficiency of athletic performance and the proportion of body fat, with **Abu Ala Abdel Fattah and Ahmed Nasreddine (1993**) stating that body weight without fat is usually associated with the level of athletic performance because increasing it means increasing muscle mass (4:386) (10:83)

Table (7) also shows that the rate of change (improvement) between the pre-and post- measurements of the experimental group in body composition variables (body weight, fat mass, Fat-Free Mass, muscle mass) was (0.096%, 32.38%, 4.7%, 5.92%,) respectively, and the value of ETA^2 coefficient (testing the size of the program effect) exceeded the value (0.5), i.e. the size of the impact of the proposed program on the body composition is very big, **which confirms that** the proposed training program using resistors according to energy systems Which the researcher used in its construction the scientific foundations and good rationing of the training load and recovery periods, the excitement of muscle fibers led to the working muscles and increased their

size, in addition to the body's reliance on the percentage of excess fat during training, which led to increased mass and increased muscle mass.

This is confirmed by **Sayyid Abdul Maksoud (1997)** that provide the muscle with energy through aerobic exercises leads to the growth of muscle fiber and raising the level of intensity of performance in anaerobic training conditions considering appropriate recovery leads to Increasing muscle size. (14: 14)

Table (9) results indicate that there are statistically insignificant differences between the average pre- and post-measurement of the control group in body composition variables (body weight- fat mass- Fat-Free Mass - muscle mass) where the calculated (t) value (0.179, 1.450, 0.48, 0.430) respectively were below the tabulated value (t).

Table 9 results also indicate the rate of change (improvement) in body composition measurements (body weight- fat mass- Fat-Free Mass - muscle mass) which were (0.08%, 1.02%, 0.29%, 0.27%), respectively. This is a very small improvement rate.

The researcher believes that the reason for this is due to the training method used in the traditional program of the trainer was not directed to adjust and improve the variables of body composition and stimulate muscle fiber enough and exploit the energy system in reducing the percentage of body fat and increasing muscle mass because the training is not formed in a scientific way.

Table 9 also shows statistically significant differences between the averages of the two post-measurements of the experimental and the control groups in (fat mass) in the direction of the post-measurement of the experimental group, where the calculated (t) value (3.019) while there are no statistically significant differences in variables (body weight- mass of non-fat parts - muscle mass).

The researcher explains these differences in fat mass to the proposed training program according to the energy production systems using different and varied resistances and weights where large muscle groups were involved in the foundation period of the program and used aerobic exercises for long periods with various resistances in the course of muscular work of motor skills of wrestlers where the body lost calories based on fat as a source of energy production, which led to a decrease in the proportion of the experimental group statistically significantly in addition to the growth in the rate of change (improvement) in Variables (body weight- Fat-Free Mass - muscle mass).

These results are consistent with what **Muhammad Ali Ahmed (1996) (41) quoted Lamb (1984)** as saying that sports training only leads to a decrease in the size of fat cells and not just their number, which explains the low body weight and decline fat percentage as well as the increase in mass other than fat parts, and muscle mass in the body of the research sample,

These results are consistent with the study of **Wafa Mabrouk (2020)(50), Sarah Mersal (2019)(47), Anna Claudia et al. (2009) (16) Cooper Key (1993) (22)** on the fact

that aerobic and anaerobic resistance exercises have a positive impact on body composition (body weight, fat mass, Fat-Free Mass, muscle mass)

Table (7) also shows statistically significant differences between the average pre- and post-measurements of the experimental group in **Carlson's fatigue curve** variables (production degree(work), pulse speed degree, and level of cardio-respiratory fitness) in direction of post-measurement, Where the calculated value of T has reached (12.33, 7.364, 11.817, 11.817) respectively, which is higher than the tabulated (t) value at the indication level (0.05) and the degree of freedom (9)

Table 7 also shows the rate of change (improvement) between the average pre-and post-measurements of the experimental group in **Carlson's fatigue curve** variables (production degree(work), pulse speed degree, and level of cardiorespiratory fitness) (38.54%, 24.11%, 30.77%, 21.55 percent, respectively, and ETA^2 factors exceeded (0.5) and it was (0.94.0.86.0.94, 0.94), respectively, indicated that the size of the program's impact was significant between pre- and post-measurements.

The researcher explains these differences and the rate of change (improvement) in the table (7) to the proposed training program adopted in its planning and design in the use of various resistances in the light of the aerobic and anaerobic energy systems, which in turn formed a load on the cardiovascular and as training continued during the program increased heart adaptation and this was shown in improved heart speed during the effort **in Carlson's fatigue curve test** where they decreased pre-measurement and at the same time increased the amount of work produced by the player.

Table (8) showed statistically significant differences between the pre- and post-measurements of **the control group** in Carlson's fatigue curve test variables (production degree(work), pulse speed degree, and level of cardio-respiratory fitness) and the calculated value was (3, 2,449, 3,873, 3.873) **As evidenced by the results of table (8)** that the rate of change (improvement) between the pre-and post-measurements of the control group in variables (production degree(work), pulse speed degree, and level of cardio-respiratory fitness) was (5.10%, 3.45%, 4.67%, 10.31%), respectively.

The researcher explains this progress is due to the continuation of the control group in the traditional training program and its regularity in it.

Table (9) shows statistically significant differences between the average post-measurements of **the experimental and controlled** groups in variables (production degree(work), pulse speed degree, and level of cardiorespiratory fitness) where the calculated value (10.752, 9, 13,128, 13,128)

The researcher explains these differences between the averages of the post-measurements of the experimental and controlled groups in **Carlson's fatigue-bending test variables** to

properly plan the loads of the proposed training program, which was intended to affect internal functional organs such as the cardio, respiratory and muscular fibers gradually and use various training methods so that adaptation of these training loads properly.

The results of table (7) also indicate statistically significant differences between the averages of pre-and post-measurements of the experimental group in the variables of the respiratory functions (vital capacity (VC)- fev_1 – BEF) and (vo_{2max}) where the value of (T) Calculated was (10.628, 8.11, 7.150, 7.162) are higher than the tabulated value (t) **and this is confirmed also by table** results (7) which indicates the rate of change (improvement) between the average pre-and post-measurements of the group Experimental in (VC - fev_1-PEF) and (vo_{2MAX}) which amounted to (22.12%, 31.81%, 9.85%, 28.68%) and ETA2 coefficient (impact volume) was (0.93, 0.88, 0.85, 0.85), Where it skipped value of (0.5), indicating the strength of the impact of the proposed program.

The researcher explains that these differences and rates of change are due to the aerobic and anaerobic exercises used by the experimental group during the periods of the program, which affected the strength of the breathing muscles and the depth of breath, which led to increased vital capacity and the speed of pushing the exhaled air in addition to the speed of transport of oxygen between the lungs and the cardio system and with the increase in the size of muscle mass throughout the units of the program led to an increase in the maximum volume of oxygen consumed by the body per minute (VO_{2MAX}).

Scott And Edward, K. Edward, T (2007) say that Respiratory efficiency is directly proportional to the strength of the chest muscles and breathing, and the more breathing muscles the athlete can press the rib cage strongly using the breathing muscles, resulting in the largest volume of air, and the higher the player's training condition, the greater the vital capacity. (49: 16)

Jamal Sahraoui and Saad Qureida (2016) state that maximum oxygen consumption is an indicator of the efficiency of the heart and lungs, especially in endurance-based sports, where it is (Vo2max)used to see improvement through certain exercises to know the severity of training to raise heart and respiratory fitness. (31: 297)

Table (8) results also indicate statistically significant differences between the averages of pre-and post-measurements of the control group in respiratory function variables (VC-fev1) and (vo_{2max}) The calculated value (t) was (1.943, 2.653, 1.859) and they're a higher than the tabulated value (t), while there is no statistical indication in (PEF). **Table (8) also** indicate the rate of change (improvement) between the average pre-and post-measurements of the control group in variables (VC- fev1-PEF) (vo_{2max}) (2.30%, 6.27%, 0.76%, 6.17%).

The researcher explains these results in the average measurements of the experimental group to regularity in

the traditional program or proposed by the trainer during this period and continuity of training.

The results of **table (9)** show statistically significant differences between the averages of the two post-measurement of the experimental group and the control in the variables of respiratory function (VC, fev1, PEF) as well as (VO_{2MAX}) where the calculated value (t) (14.087, 6.993, 7.471, 10.338) which is higher than the value of (t) tabulated, in direction of the post-measurement of the experimental group

Abu Ala Abdel Fattah and Ahmed Nasr el dine (1993) point out that the maximum oxygen consumption reflects the body's aerobic capacity, the muscular system is the specified factor of the body's aerobic efficiency and not just the process of transferring oxygen to the muscles. (10: 239)

This is confirmed by **Jamal Sahraoui and Saad Qureida (2016)** that the maximum oxygen consumption is an indicator of the efficiency of the heart and lungs, especially in sports that depend on endurance, where it is used to learn about improvement due to certain exercises, and to know the intensity of training to raise cardiovascular fitness. (31: 297)

These findings are consistent with the findings of **Ayman Abdel Aziz, Ahmed Sharawi (2012),(19) Ahmed Mustafi, and Imad al-Din Nofal(1995)(11**) and found that resistance training in light of the characteristics of sports activity has a positive impact on lung function and maximum oxygen consumption.

The results of table (7) show statistically significant differences between pre-and post-measurement of the experimental group in variables (blood lactate in rest - and blood lactate after effort) where the calculated value (t) was (10,157: 15,279) respectively in direction of post-measurement. These results confirm the results of the rate of change (improvement) in the same table between the pre-and post-measurements of the experimental group in measurements (blood lactate in rest - and blood lactate after effort) were (21.53%, 9.30%) respectively, and the value of the $(ETA)^2$ coefficient (0.92, 0.96), Where it skipped value of (0.5), indicating the strength of the impact of the proposed program.

The researcher explains this change and statistical differences in the measurements of the experimental group of lactic acid to the exercises used in the alternative training program, which are similar to the training of competition, which reaches the limits of fatigue and while continuing its performance the event of adaptation to the body of players to continue performance in the presence of lactic acid, as well as the speed of elimination of blood lactate and the spread of capillaries and increase their number in different muscles of the body as a result of the intensity of training, which helped to distribute blood lactate coming out of the working muscles To different other muscles and other organs of the body and therefore less concentration in the

blood and delayed effect in the appearance of fatigue during physical performance.

The results of table (8) indicate statistically significant differences between the pre-and post-measurement of the control group in (blood lactate after effort) where the calculated value of (T) was (3,540) in direction of post-measurement. While there are no statistically significant differences in measurements (blood lactate in rest) **The results of table (9) also** indicate the rate of change (improvement) between the pre-post-measurement of the control group in the measurements (blood lactate in rest - blood lactate after effort) where it was (5.93%, 2.11%)

The results of **table (9**) show statistically significant differences between the averages of the two post-measurement of the experimental group and the control in variables (blood lactate in rest - lactate after effort) in direction of the post-measurement of the experimental group where the calculated value (5.702, 10.190)

This is consistent with the findings of **Gregory (2007) (26), Ayman Abdul Aziz, Ahmed Sharawi (2012)(19),** who found that the disparity in resistance training has had a positive impact on the concentration of blood lactate.

This is confirmed by **Jackson, et., al (2000) (30)** that disparate endurance exercises, especially in the first part of the unit, further improve the exchange of gases and oxygen access to the blood, which helps reduce oxygen oxidation in the muscles, which helps delay the accumulation of lactic acid in the blood.

These findings are consistent with the findings of **Ayman Abdel Aziz, Ahmed Sharawi (2012)(19), Rania Ghraib (2016)(45), al said. Ali Abdullah (2011)(12), Ahmed Mustafa, and Emad Al-Din Nofal (1995)(8)** where they reached that resistance training and training according to the energy system positively affects lactic acid resistance during the performance and the body's adaptation to work in its presence in addition to the low concentration of blood.

These results are also consistent with what **Mohammed Ali al-Qat (2006) (37)** pointed out, the low concentration of lactic acid after the effort indicates an improvement in the player's functional condition and his ability to continue performing and delay the appearance of fatigue.

From the above presentation and discussion of the results, we find that the alternative training program proposed by the researcher and applied to the experimental group, contains training using different (Olympic Bar - Body Weight - Dumbbells - Plates Weights - Medical Balls - Rubber Resistance - Solid Balls) according to special energy production systems and in the direction of muscular work and similar muscular work with the motor track as an alternative to indoor training in rooms and on the wrestling mat during the period of social spacing of **the Covid-19 pandemic** had a positive impact on the development and improvement of the body composition and some physiological

variables (cardio efficiency, respiratory functional efficiency, vo_{2Max} - blood lactate in rest and after effort) for wrestling players and that the player is ready to enter the matches (experimental or official) with physiological readiness better than random training. And so, the research hypotheses were achieved. Which stipulates that: -

- There are statistically significant differences between the pre-and post-measurements of body composition variables and some physiological variables in the experimental and control groups in the favor of post-measurement.
- There are statistically significant differences between the averages of the post-measurement between the experimental and control group body composition variables and some physiological variables in the favor of the experimental group.

Conclusions:

According to the objectives and nature of this study and within the limits of the research sample and the method used, and from the data collected by the researcher and the results of the statistical analysis the researcher reached the following conclusions

1- The proposed training program as an alternative to in-hall training during the period of social spacing of the Coved-19 pandemic uses disparate resistance exercises (Olympic Bar - Body Weight - Dumbbells - Plates Weights - Medical Balls - Rubber Resistance - Solid Balls) and according to energy production systems for wrestling has a positive impact on improved body composition and some physiological (cardio efficiency, respiratory functional efficiency, vo_{2Max} - blood lactate in rest and after effort) for wrestling players.

2- The success of the proposed program as an alternative to the in-hall training program during the social spacing of the Coved-19 pandemic in improving the body composition and some physiological variables for senior wrestlers.

Recommendations

Within the limits of the procedures included in the study, and the results it produced, the researcher recommends the following: -.

1. Attention to the design of different and varied training programs that are like the motor tracks of the technical skills of games and sports during the different stages of preparation to overcome the emergency conditions to which the community is exposed and need to diverge to maintain the physical and physiological fitness of the players.
2. Attention to the disparity in the use of resistance in all its forms to achieve the greatest of its objectives on the functional devices of players.
3. Attention to designing other training programs in the same dynamic path for the technical skills of different sports and by the energy systems to improve the physiological functions of players during different ages.
4. Attention to the refinement of trainers by holding training courses for them and introducing trainers to

modern and alternative training methods during different crises.

5. Attention to identifying physiological responses to different methods of training that affect performance.

6. Interest in strengthening sports facilities in modern physiological laboratories to follow, analyze, evaluate, and develop training programs.

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