THE ELECTRICAL ACTIVITY OF THE MUSCLES ON BOTH SIDES OF THE BODY IN ELEVATED PRESSURE FROM LYING DOWN AND ITS RELATION TO SOME BIOCHEMICAL VARIABLES WITH LIFTERS WITH DISABILITIES

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ABSTRACT

The study aimed to identify the values of electrical activity of the most important muscles working on both sides of the body in(Bench Press) and its relationship with some biochemical variables for disabled, The researcher hypothesized that there is a correlation between the electrical activity of the most important muscles working on both sides of the body(4) of the Iraqi weight lifting team disabled in Baghdad, and were chosen by descriptive method, and different categories of weight(4) (49 kg), (65 kg), (88 kg), (107 kg), The researcher used the EMG during which the electrical activity of the muscles (the Pectoralis Major muscle, the anterior deltoid muscle, and the Triceps muscle) were measured on the right and left side, during the performance of (Bench Press)(100%) of the maximum achievement, and used four cameras in Synchronous with the work of electromyography activity of the muscles to analyze the biochemical variables using Kinovea program, the researcher concluded that there is a relationship between muscles electrical activity and some biochemical variables in Weightlifters disabled, The Researcher recommended that the relationship between muscle strength and biochemical variables should be identified through kinetic analysis and muscle electrolysis to diagnose weakness in any Muscle groups that affect performance and develop appropriate solutions for the weaker muscles of their counterparts on the other side by strengthening them with special exercises and the use of certain strategies to reduce the differences between the two sides and achieve the required muscle balance.

***Keywords**: Bench Press, Kinematics, Peak Wave, Disability*

INTRODUCTION

The weight lifting game for people with disabilities is no less important than weight lifting for the healthy. In recent years, however, there has been a strong competition in this game to obtain bench pressure records, which makes lying on a special platform, The weight, which touches the chest and then raises it in full length of the arms, and play the characteristics of muscle strength of all types in general and the maximum power in particular a key role in achieving the individual achievement of the Quartet, so require maximum force and vertical weight to reach the full extension of the arms, Possible fiber For the

musculature of the muscle within the motor paths through which these muscles to optimize the investment of this force, and to achieve the success of performance must be balanced in the distribution of muscle strength equally on both sides of the body, which requires work directed to identify the maximum strength of the muscles through field tests and laboratory using Modern and accurate devices for this purpose, including the EMG device for muscle activity during constriction.

The importance of the research is to identify the strengths and weaknesses of some muscle groups working in the high pressure of lying (Bench press) on both sides of the body in terms of electrical activity of muscles and some of the biochemical variables during performance, and to identify the relationship between the electrical activity of those muscle groups and some biochemical variables, As an attempt by the researcher to diagnose the weaknesses in these variables, to guide trainers and athletes to solve the imbalance and develop appropriate solutions to ensure the performance of high pressure from lying (Bench press) with the economy effort and the success of excellence and achieve the best achievements and record numbers.The aim of the research was to identify the values of the electrical activity of the muscles of the two sides of the body in the high pressure of lying in the quadrants with disabilities and to identify the values of some biochemical variables in the high pressure of lying in the lifters with disabilities and identify the relationship between the electrical activity of muscles on both sides of the body and some variables Albio Kinetic in the pressure lift from the lying (Bench Press) in the lifters with disabilities and the imposition of research that there is a relationship of statistical significance between the electrical activity of the muscles on both sides of the body and some of the biochemical variables in the high pressure pressure from lying (Bench Press) Wii disability.

MATERIALS AND METHODS:

Research Methodology:

The researcher used the descriptive approach to suit the nature of the research problem.

Search community and sample:

The research community was identified as the quartet of the Iraqi national weight lifting team with disabilities in Baghdad at the rate of (4) quartiles chosen by deliberate method, and in various categories of weight (49 kg), (65 kg), (88 kg), (107 kg) (100%) of the research community.

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

- Myo trace 400 for Nor axon Inc. (EMG). USA, number (1), program (MR3)
- Device (Laptop) type (Lenovo) Japanese-made + software device.

)sec / s) Type Sony (4), Digital Camera Type Canon Number (1 -(

Various weight lifting equipment, Swedish-made weights, Rampers for the disabled (4)

Mass measuring device (medical balance) -

Digital Calculators, CD Player, DVD. -

Medical cotton + Blaster + alcohol solution + shaving machines. **-**

Field research procedures:

The researcher relied on the test of achievement in high pressure pressure (Bench Press) strongly (100%) of the maximum achievement of each quadrant and three attempts and recording the best, and the measurement of electrical activity of the muscles (the great brachial muscle and the frontal muscle and the muscle with three head brachial) to the right side To the left side, the researcher placed four cameras, camera number (1) on the right side and camera number (2) on the left side and camera number 3 on the top and camera number 4 on the head side to analyze the biochemical variables, Measure the electrical activity of the muscles.

Statistical means

The researcher used the statistical bag (SPSS) to extract the results.

RESULT AND DISCUSSION:

Table (1): The statistical description of the values of the electrical activity of the muscles working in the high pressure of the lying

Torsion coefficient	standard deviation	Arithmetic mean	Body side	measruing unit	Muscle	sequence
1.80	**530.25**	**405.88**	Right	**mV**	Great brachial muscle	**1**
1.08	**192.47**	**210.00**	Left			
1.61	**281.54**	**358.75**	Right	**mV**	Anterior dorsal muscle	**2**
-0.24	**169.98**	**387.50**	Left			
1.23	**248.11**	**375.00**	Right	**mV**	Musculoskeletal muscle	**3**
1.16	**289.12**	**345.50**	Left			

From Table (1) we find that the arithmetic mean of the electrical activity of the great brachial muscle of the right side is greater than the arithmetic mean of the same muscle on the left side. The researcher points out that the great brachial muscle of the left side is stronger than the same muscle of the right side, The left side had a lower value indicating that it was stronger than its counterpart on the left side. The three-pronged muscle was the arithmetic mean of the lower left side, indicating that it was stronger than its counterpart on the right side. This was confirmed by Sillanpaa, That training (25: 5). The standard deviation is of high value for some muscles on the side of the motor. Without the other, and attributed the researcher dispersion of values because the lifters of different classes of weight were the values of electrical activity is high for one of the lifters, which led to move away from their computational center, and ranged values of torsion between (-0.24 to 1.8).

Table (2) : The statistical description of the biochemical variables is shown in the pressure elevation from lying down

Torsion coefficient	standard deviation	Arithmetic mean	Body side	measruing unit	Working muscles	sequence
-0.91	**2.04**	**31.00**	Left	cm	Total displacement of the tip of gravity	**1**
1.15	**2.51**	**31.51**	Right			
-2.00	**0.95**	**3.33**	Right	Degree	Angle of gravity from the horizontal level in the full tidal phase	**2**
-2.10	**0.76**	**2.85**	Left			
-0.83	**1.85**	**4.30**	Right	Degree	Angle of gravity deflection from horizontal plane in full tidal phase	**3**
2.00-	**0.95**	**3.33**	Left			
1.57	**4.51**	**54.50**	Right	Degree	Angle of the humerus	**4**
1.46	**6.85**	**61.25**	Left			
0.87	**11.62**	**86.25**	Right	Degree	Bend angle bend	**5**

1.31	**9.46**	**87.75**	Left			
-0.55	**0.46**	**34.27**	Right	cm	After the hand grip about the middle of the body	**6**
-0.01	**0.60**	**36.17**	Left			

From Table (2) we find that the arithmetic mean of the vertical displacement of the right side of the weight of the right side was less than the left side. The researcher attributed this to the fact that the right side had weaker muscles on the left side and the arithmetic mean of the slope angle Full of the right side is greater than the value of that angle to the left side. The researcher attributes this to the fact that the right side has weaker muscles on the left side, which leads to the distancing of the weight from the horizontal plane, which negatively affects the performance, as well as the angle of the deviation of the end of gravity from the horizontal level Full tide, either angle of biting distance The value of the arithmetic mean of the right side is smaller than that of the left. The researcher attributes this to the fact that the right side has weaker muscles on the left side, which leads to the rounding of the arm on the trunk to compensate for the weakness in some muscles of the right side. The researcher points out that the right side has weaker muscles on the left side, which leads to the arm's arm being rounded to compensate for the weakness of some muscles on the right side, as well as for the distance of the hand grip from the middle of the body. The arithmetic mean is less valuable than the left. So that the right side p The muscles of the body weaken on the left side, which leads to the close of the grip on the middle of the body to compensate for the weakness found in some muscles of the right side, it shows us that the strength of the muscles of the body affect the form of performance and success, and this is confirmed (Frank Abdel Karim al-Fadhli) The duties of muscle work are governed by several criteria, the most important of which are the technical characteristics of performance and the requirements to achieve these characteristics with the highest possible efficiency and with the least effort. Therefore, the timing, severity, duration and type of muscle contractions and other characteristic physiological characteristics are the main tools in defining these duties.

Table (3): The simple correlation coefficient of the large bronchial muscle on both sides of the body and the biochemical variables are shown in elevated pressure from lying down

Significance	Error level	Coefficient of correlation	Body side	Variables	sequence
moral	**0.000**	**.498****	Right	Total displacement of the tip of gravity	**1**
moral	**0.000**	**.901****	Left		
moral	**0.000**	**-.995****	Right	Angle of gravity from the horizontal level in the full tidal phase	**2**
moral	**0.000**	**-.688****	Left		
moral	**0.001**	**.342****	Right	Angle of gravity deflection from horizontal plane in full tidal phase	**3**
moral	**0.000**	**.767****	Left		
moral	**0.000**	**-.774****	Right	Angle of the humerus	**4**
moral	**0.005**	**.278****	Left		
moral	**0.007**	**-.269****	Right	Bend angle bend	**5**
moral	**0.007**	**-.269****	Left		
moral	**0.000**	**.987****	Right	After the hand grip about the middle of the body	**6**
random	**0.678**	**-0.042**	Left		

Moral ≥0.05

From Table (3) we find that the correlation coefficient was significant for all biochemical variables, except for the variable after the middle of the fist from the middle of the body to the left side, but it was close to the morale. This

indicates the relationship between the electrical activity which indicates the strength of the big brachial muscle on either side The researcher attributed this association to the fact that the musculoskeletal force affects the body angles and dimensions during performance. This is indicated by both (Al-Fadhli and Ihab Bahi) that the biochemical study of the mathematical movements in the connection between the probe Internal movement and its corresponding external resistors have become influential in athletic performance and the emergence of different movements.

Table (4): Shows the simple correlation coefficient of the anterior dorsal muscle on both sides of the body and the biochemical variables in elevated pressure from lying down

Significance	Error level	Coefficient of correlation	Body side	Variables	sequence
moral	**0.000**	**.498****	Right	Total displacement of the tip of gravity	**1**
moral	**0.000**	**.901****	Left		
moral	**0.000**	**-.995****	Right	Angle of gravity from the horizontal level in the full tidal phase	**2**
moral	**0.000**	**-.688****	Left		
moral	**0.001**	**.342****	Right	Angle of gravity deflection from horizontal plane in full tidal phase	**3**
moral	**0.000**	**.767****	Left		
moral	**0.000**	**-.774****	Right	Angle of the humerus	**4**
moral	**0.005**	**.278****	Left		
random	**0.290**	**-.107**	Right	Bend angle bend	**5**
random	**0.290**	**-0.107**	Left		
random	**0.304**	**-.104**	Right	After the hand grip about the middle of the body	**6**
random	**0.782**	**-0.028**	Left		

Moral ≥0.05

From Table (4) we find that the correlation coefficient was significant for all biochemical variables, except for the angle of flexion of the forearm and the middle of the fist from the middle of the body to the right side and to the left side. This indicates the relationship between the electrical activity, The researcher attributes this association to the fact that the anterior dorsal muscle affects its strength at the body angles and dimensions during performance only in the angle of flexion of the forearm and after the middle of the fist from the middle of the body to the right side and to the left side, Are affected by these two variables.

Table (5): The simple correlation coefficient of the three-pronged muscle on both sides of the body and the biochemical variables are shown in elevated pressure from lying down

Significance	Error level	Coefficient of correlation	Body side	Variables	sequence
moral	**0.000**	**.498****	Right	Total displacement of the tip of gravity	**1**
moral	**0.000**	**.901****	Left		
moral	**0.000**	**-.995****	Right	Angle of gravity from the horizontal level in the full tidal phase	**2**
moral	**0.000**	**-.688****	Left		
moral	**0.000**	**.767****	Right	Angle of gravity deflection from horizontal plane in full tidal phase	**3**
moral	**0.000**	**-.774****	Left		

random	**0.139**	**0.149**	Right	Angle of the humerus	**4**
random	**0.290**	**-0.107**	Left		
moral	**0.001**	**.342****	Right	Bend angle bend	**5**
moral	**0.005**	**.278****	Left		
moral	**0.010**	**-.257****	Right	After the hand grip about the middle of the body	**6**
moral	**0.007**	**-.269****	Left		

Moral ≥0.05

From Table (4), the correlation coefficient was significant for all biochemical variables, except for the radial angle variable. This indicates the relationship between the electrical activity, which indicates the strength of the three musculoskeletal muscles on both sides of the body and the biochemical variables in the upper pressure of the supine , And the researcher attributed this link that the muscle with three head muscles affect the strength of the angles of the body and dimensions during the performance only in the variable angle of the removal of the arm does not affect it, and this is what went to both (Frank Al-Fadhli Abdul Razzaq Al-Majidi) that if the muscle with three head brachial She is weak The focus was on the great brachial muscle, when the burden of excretion and flexion was greater on the muscle, which was more beneficial in the development of muscle strength.

The strength of the muscles affects performance, and muscle strength is affected by the angles and dimensions achieved during the performance. This means that the relationship between the electrical activity of the muscles and the mechanical variables is achieved. This can be used to diagnose muscle weakness and to work out appropriate solutions to address this weakness. Arif Saleh Al-Karamdi asserts that performance analysis can help the trainer determine the type of training that is appropriate for the athlete to improve his performance because of a lack of strength or endurance, for example, or in certain muscle groups.

CONCLUSIONS:

- The large brachial muscle and the three-pronged muscle of the right side are weaker than the left side. The left frontal muscle is the left side weaker than the right side of the research sample. It should be developed to achieve the required muscular balance and improve performance.

- The electrical activity of the great brachial muscle has a correlative relationship with the biochemical variables assigned to the right and left side of the upper limb.
- The electrical activity of the anterior dorsal muscle has a correlative relationship with the biochemical variables in the research, except with the angle of flexion of the forearm and after the middle of the fist from the middle of the body to the right side and to the left side.
- The electrical activity of the three-headed muscle has a correlative relationship to the biochemical variables in the variable search field, the angle of the left arm to the right side and to the left side.

ENDORSEMENT:

- The relationship between muscle strength and biochemical variables should be identified through kinetic analysis and electrolysis of muscles to diagnose weakness in any muscle groups that affect performance.
- The need to guide trainers and players to develop appropriate solutions for muscles weaker than their counterparts on the other side by strengthening them with special exercises and the use of certain strategies to reduce the differences between the two sides and achieve the required muscle balance.
- The need for similar studies on the sports movements of different games and events.

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