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The effect of a rehabilitative training curriculum to develop some physiological and skill variables in volleyball from sitting for the disabled class F45

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Abstract

The activity of volleyball is the disabled sitting category (F45) in a continuous development and development like other sports as it belongs to the group of games in which the performance requires the production of energy to perform fast and strong muscular work, as it was classified within the non-oxygenic games, but the duration of the match was not set at a specific time Makes it necessary to take into account the importance of the antenna system that provides the energy needed by the drunk during the match in order to complete the game, and the importance of the research lies in preparing a training curriculum qualified to develop some physiological and skill variables for the disabled volleyball game (F45) with the aim of developing it in the future to be successful in its representation. The country in the future within the national teams. The research aims to:

1. *Developing the vocabulary of a proposed rehabilitative training curriculum to develop some physiological and skill variables in volleyball from sitting for the disabled category (F45).*

2. *Knowing the effect of the proposed rehabilitation training curriculum on some physiological and skill variables in the game of volleyball from sitting for the disabled (F45).*

As for the research hypotheses, they are:

1. *There are statistically significant differences between the pre and post tests for the experimental and control groups and in favor of the post test in some physiological and skill variables in the game of sitting volleyball for the disabled (F45).*

2. *There are statistically significant differences in the dimensional tests of the experimental and control groups and in favor of the experimental group in some physiological and skill variables in the volleyball game over sitting for the handicapped group (F45).*

The researcher used the experimental method on a sample of (20) players from (Al-Wisam and Al-Athar) clubs in the Volleyball game for the disabled (F45 class), and (3) physiological tests and two skill tests. In

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volleyball, the handicapped category (F45) was used, and after processing the data and discussion, the following conclusions were reached:

1. *Statistically significant differences between the pre and post test results and in favor of the post test for the experimental and control groups in the results of the physiological tests (the anaerobic step (the anaerobic lactic capacity) and the Harvard step).*

2. *There were no statistically significant differences between the results of the pre and post tests and the experimental and control group in the test results (vertical stability jump (anaerobic phosphogenic amplitude).*

3. *There were statistically significant differences between the results of the subsequent tests and in favor of the experimental group in the results of the physiological tests (the anaerobic step (the anaerobic capacity) and the Harvard step), which indicates the effect of the training program prepared by the researcher in developing the physiological variables.*

4. *There were no statistically significant differences between the meta-tests results between the experimental and control groups in the test results (vertical jump for stability (anaerobic phosphogenic amplitude).*

5. *There are statistically significant differences between the pre and post test results and in favor of the post test for the experimental and control groups in the results of skill tests B, volleyball from sitting for the handicapped group (F45) in my country. Test my Bermbach's skills for sending volleyball and receiving transmissions (2).*

6. *There are statistically significant differences between the results of the subsequent tests and in favor of the experimental group in the results of the skill tests B, Volleyball from Sitting for the Disabled (F45) in my skills Test Brembach for sending the volleyball and receiving the service (2).*

As for the recommendations, they are:

1. *Be guided by the qualifying training approach suggested by volleyball coaches for sitting for the disabled (F45 class).*

2. *Using the tests that the researcher regularly adopts as an indicator to determine the extent of the development of the physiological and skill variables in volleyball for the disabled (F45) category to see the progress of the players.*

3. *Conducting studies similar to this study, including other variables not included in the study and other types of disabilities for both sexes.*

Keywords: *volleyball, disabled class F45, skill variables*

I. Introduction and Importance of Research

Sports excellence indicates the intellectual and scientific progress of society, as it is the result of training based on science and experience for individuals who have physical fitness and physical characteristics and are distinguished from others by many characteristics that lead them to the highest levels of optimal achievement. In light of the scientific facts that we live and test by others, we must catch up with the context of science, its discoveries and methods. Nations race every day to provide you with as much as you can discover

scientific facts in every sector, including the sports sector, and the fact that physiological variables are important factors that have a relationship to the superiority of the athlete , Due to its association with the skill aspects required by every sporting activity in general, and the game of volleyball from sitting for the handicapped category (F4 5 (subject of research and study in particular, for that prep) training and rehabilitation curricula are considered one of the important pillars for the development of some physiological variables and some offensive skills in volleyball From sitting to the disabled category (F4 5), and note that the volleyball seating activity for the disabled class (F4) 5) is in continuous progress and d- development like other sports because it belongs to the group of games where performance requires energy production to perform fast and strong muscular work Depending on the anaerobic production of energy and despite the control of the anaerobic system on the vocabulary of work in the game of volleyball from sitting for the disabled (F45), as it was classified within the non-oxygenation games, but The duration of the match and the lack of time specified make it essential to take into account the importance of the air system. , Which provides the energy needed by the endurance action for the duration of the match. The importance of the research lies in preparing a qualifying training curriculum to develop some physiological and skill variables for the handicapped sitting volleyball (class). F45) in order to develop it in the future to be successful in representing the country in the future within the national teams.

Research Problem

It is known that every sporting activity has characteristics that differ according to the type of activity it performs and it must be available to individuals practicing, especially activities that require explosive power, as well as physiological and skill variables. Volleyball Sitting for Handicapped Class (F45). It is known that training in the game of volleyball from sitting for the handicapped category (F45) the goal is the process of organizing the process of developing players and understanding the players as they are the basic rule to achieve the best results and reach a high level. For the fact that the training programs that are developed are clicks in accordance with self-judgments and interpretations or based on the trainers' previous experiences without resorting to operations. The foundations, as the trial and error training process leads to undesirable physiological effects in the player's body systems, which may lead to fatigue and stress, so the researcher prepared a qualified training curriculum according to the scientific foundations in training to develop some physiological and skillful skills. Volleyball variants of seating for the handicapped class (F45).

Research Objectives

1. Development of the vocabulary of the proposed rehabilitative training curriculum to develop some physiological and skill variables in volleyball from sitting for the disabled (F45).

2. Knowing the effect of the proposed rehabilitative training curriculum on some physiological and skill variables in the game of volleyball from sitting for the disabled (F45).

Research hypotheses

1. There are statistically significant differences between the pre and post tests of the experimental and control groups and in favor of the post test in some physiological and skill variables in the game of sitting volleyball for the disabled (F45).

2. There are statistically significant differences in the dimensional tests for the experimental and control groups and in favor of the experimental group in some physiological and skill variables in the volleyball game over sitting for the handicapped group (F45).

Fields of Research

- The human field: the players of Al-Wissam, Al-Azhar, and Al-Shamoukh club in the volleyball game, including the disabled (F45) for the 2018-2019 sports season.
- Time range: Duration from 2/4/20 19 to 10/6/2019.
- Spatial domain: the bottom of medal data clubs and peaks

II. Research Methodology

The researcher used the experimental method using the experimental and control groups method for the purpose of comparison of its suitability for the researcher's work.

Research Sample

The research sample was chosen according to a random method and a lottery method to obtain the sample, and in this way, players from (Al-Wisam and Atom) clubs in the volleyball game were selected from the disabled seating category (F45) for the sports season. 2018-2019 represents a sample of work and by twenty players in the same way that the sample was divided into unequal pilots representing the medal club and the other officer representing the peak club at a rate of 10 players per group, while the approval of (5) players representing Al Shumookh club as a survey sample.

Data Collection Methods

The researcher uses the following tools and devices (sources, Arabic, foreign and references, personal interviews, observation and experimentation, tests and measurements, the international internet, height and weight measuring device, the number of volleyballs (20), regular volleyball courts, even) 40 cm wooden boxes, and 50 cm, adhesive tape, metal tape measure, electronic stopwatch, number (3) Casio type.

Tests used in the study

- Physiological variables / vertical jump test for stability (anaerobic-phosphogenic capacitance) (8: 126), anaerobic step test (anaerobic capacity) (11: 275), Harvard step test (11: 294)
- Proficiency Tests / Berembach Volleyball Service (5: 332), Reception (2) (4: 239).

The exploratory experience

The researcher was not satisfied with the scientific weight enjoyed by the nominated tests for the application, but he extracted the scientific foundations for them by conducting the exploratory experiment on a sample of Al Shumoukh Club, numbering (5) volleyball players. From the seating class (F45). In order to find the stability of the tests, the researcher used the method (test and re-test) where physiological and skill tests were applied in volleyball from sitting for the handicapped category (F45) to the players on 2/4/2019 9 C, then the same tests were applied again on the same sample three days later on 6/4/2019 9 AD, using Pearson's simple

correlation coefficient between the scores of the first two scales and the second, he concluded that all the tests had high stability because all the calculated values were of high stability due to their being of Sig value (which is smaller than the value of the approved level of significance of the signature)(0.05) And as shown in Table (1) and in order to determine the objectivity of the tests used, the researcher calculated the value of the simple correlation coefficient of Pearson between the scores of the first and second judgments, and this was very objective given that the values of the sage for all the value of the calculation were less than The adopted significance level value (0.05) is also shown in Table 1.

Table (1) it shows the scientific parameters of the candidate physiological and skill tests

Sig	Objectivity	Sig	Persistence	the exams	T	
0 0.00	0 0.9	0 0 0.0	8 0.8	Vertical jump from stability) anaerobic-phosphogenic capacity(	1	The physiological
0 0.00	7 0.8	0 0 0.0	3 0.8	Step anaerobic) anaerobic the ability for the Aktekah(	2	
0 0.00	6 0.9	0 0 0.0	4 0.9	Move to Harvard	3	
0.002	0.93	0.001	0.89	Brembach test for volleyball	1	No skill
0.000	0.92	0.000	0.88	Receive transmission(2)	2	

Search procedures Field

Pre-tests for the research sample

The researcher conducted pre-tests on the experimental and control groups on 8/4/2019 AD, taking into account the composition of all conditions and has a process of equivalence in the study variables using the (t) test asymmetric samples, and it is noticed that the level of significance (Sig) for all tests is higher than the approved level (0.05 Which indicates that there are no statistically significant differences between them, which indicates the existence of parity between the two groups in terms of physiological and skill variables in volleyball from sitting for the handicapped group (F45), as shown in Table No. (2).

Table (2) the two groups of research are equivalent to the physiological and skill variables in the pre -tests

indicatio	Sig	Values	Control	Experimental	Statistical treatment		

n		T	P	s	P	s	the exams	T	
Immoral	1.000	0.507	0.843	49.400	0.918	49.200	Vertical jump from stability (anaerobic-phosphogenic capacity)	1	The physiological
Immoral	0.419	0.747	0.823	23.300	0.966	23.600	Step anaerobic (anaerobic the ability for the Aktekah)	2	
Immoral	0.938	0.552	0.875	51.100	0.737	50.900	Move to Harvard	3	
Immoral	0.737	0.933	0.737	20.900	0.699	20.600	Brembach test for volleyball	1	No skill
Immoral	0.456	0.616	1.398	79.200	1.505	.79600	Receive transmission(2)	2	

The main experiment

When implementing the main experiment, the researcher developed a plan to implement the proposed qualifying training curriculum, and the researcher adhered to the main lines of the plan, as the main section included training and rehabilitation activities to improve volleyball skills from sitting through some exercises that were prepared and designed in line with the event requirements, level and type of disability.

Dimensional Tests of the Research Sample

After implementing the qualification of the proposed training curriculum for the experimental group, the researcher conducted subsequent tests on 6/10/2019 9 AD for the experimental group on 6/9/2019 9 AD for the control group, taking into account that the subsequent tests are the same conditions that are followed when performing the pre-tests in millions where time and place are The necessary tools and devices, with the help of the same pre-test assistant,

Statistical Treatments

The ready-made program (IBM SPSS Statistics Version 2 5) was used to perform the statistical treatments to extract the following: (arithmetic mean, nonstandard, (t) test for the two (dependent) correlated groups, (T)) T test for the two (independent groups) (Offline, Pearson Simple Correlation M.)

III. Presentation, analysis and discussion of results

This chapter contains presenting the results of the pre and post tests for the control and experimental groups, analyzing and discussing them in order to reach the research objectives and verify the validity of his hypothesis.

Presentation and discussion of the results of the pre and post tests of the experimental group in the physiological and skill tests

The results of the experimental group using the (T) test of the two correlated groups showed that there are statistically significant differences in favor of the post test in all research variables due to the fact that the significance level (Sig) of all tests is smaller. From the approved level (0.05) with the exception of (vertical jump test (anaerobic phosphogenic ability)), which had no statistically significant differences between the pre and post test because the equilibrium level (Sig) was greater than the approved level (0.05) and as shown in Table No. (3).

Table (3) It shows the arithmetic mean, standard deviations, and) t (values calculated for the experimental group in the pre and post tests and in the physiological and skill tests.

indication	Sig	T*	P e	P	Post test		The pretest		the exams	T
					P	s	P	s		
Non-legal entity	0.066	9.049	0.674	6.100-	1.494	55.300	0.918	49.200	Vertical jump) anaerobic-phosphogenic ability(	1
moral	0.000	14.080	0.348	4.900-	0.707	28,500	0.966	23.600	Step 60 tha) anaerobic capacity Allaktekah(	2
moral	0.000	12.860	0.326	4.200	1.059	46.700	0.737	50.900	Harvard	3
moral	0.000	9.544	0.597	5.700-	1.337	26.300	0.699	20.600	Brembach test for volleyball	4
moral	0.000	13.898	0.597	8.300-	1.286	87.900	1.505	79.600	Receive transmission(2)	5

Discuss the results

Table No. (3) Shows the existence of statistically significant differences in the research variables for the benefit of subsequent tests, and the researcher's attribution to the uses of the land. The subject of scientifically valid training qualification within the training units according to the proportions and the time confirmed that, with each period of the preparation phase, and the rehabilitative exercises contributed to the development of the necessary physiological and skill variables in volleyball from sitting for the disabled category (F45), that the

researcher's conclusion is consistent with what he mentioned (Muhammad Mahmoud 1985), “The regularized and regular training programs according to the scientific foundations work to develop the physical and skill level of the players” (136). : 9).

Presenting and discussing the results of the pre and post tests for the control group in the physiological and skill tests

The results of the control group using the (T) test for the two related groups showed that there are statistically significant differences in favor of the post test in all research variables because the significance level (Sig) for all tests, which is smaller than the approved level (0.05) except for (vertical jump test (anaerobic phosphogenic ability) Which had no statistically significant differences between the pre and post tests because the significance level (Sig) was greater than the approved level (0.05) and as shown in Table No. (4).

Table(4) It shows the arithmetic mean, standard deviations, and (t) values calculated for the control group in the pre and post tests and in the physiological and skill tests.

indication	Sig	T*	P e	P	Post test		The pretest		the exams	T
					P	S	P	s		
Non-legal entity	0.009	3.343	0.359	1.200-	0.966	50.600	0.843	49.400	Vertical jump) anaerobic-phosphogenic ability(	1
moral	0.001	5.075	335	1.700-	0.816	25,000	0.823	23.300	Step 60 tha) anaerobic capacity Allaktekah(	2
moral	0.000	5.749	504	2,900	0.788	48.200	0.875	51.100	Harvard	3
moral	0.022	2.753	290	0.800-	0.948	21.700	0.737	20.900	Brembach test for volleyball	4
moral	0.000	10.301	378	3.900-	1.449	83.100	1.398	79.200	Receive transmission(2)	5

Discuss the results

Table No. (4) Shows the existence of statistically significant differences in the research variables in favor of the subsequent tests except for (vertical jump test (anaerobic phosphogenic ability)), and the researcher's attribution to the players' use of your training approach. By coach and role. One of the traditional physical exercises that were included in the training units, where it worked on developing the physiological and skill variables in volleyball from sitting for the disabled (F45 (in a limited way compared to the experimental group, and the reason for that) lies in the lack of training units for correct scientific foundations, and the failure to organize components Pregnancy with precision training and focus during training and avoiding the use of

appropriate exercises for the course of skill performance, which led to its failure to improve. To meet the aspirations of volleyball players from the seats of the disabled (F45).

Presentation of the post-test results of the two groups of experimental and control research in physiological and skill tests and discussing them

To determine which two groups were the best in the dimensional tests, the researcher used the (T) test for the two unrelated groups in all the physiological and skill tests for volleyball B from sitting for the handicapped group (F45), and it became clear that there were statistically significant differences in favor of the experimental group, which was considered the best effect on The improvement because the significance level (Sig) for all physiological and skill tests in volleyball for the disabled group (F45 is less than the approved level (0.05) with the exception of (vertical jump test (anaerobic phosphorescent ability))) which was not significant, and there were no statistically significant differences between The pre and post tests because the significance level was (Sig) was greater than the approved level (0.05) as in Table (5).

Table (5)Circles and standard deviations and values (t) calculated for the two groups experimental and control group in the posttest in all the variables of physiological and technical skills

indication	Sig	Values T	Control		Experimental		Statistical treatment the exams	T	
			P	s	P	s			
Non - legal entity	0.075	8.352	0.966	50.600	1.494	55.300	Vertical jump from stability) anaerobic-phosphogenic capacity(	1	The physiological
moral	0.000	10.247	0.816	25,000	0.707	28,500	Step anaerobic) anaerobic the ability for the Aktekah(	2	
moral	0.002	3.591	0.788	48.200	1.059	46.700	Move to Harvard	3	
moral	0.000	8.871	0.948	21.700	1.337	26.300	Brembach test for volleyball	1	No skill
moral	0.000	7.833	1.449	83.100	1.286	87.900	Receive transmission(2)	2	

Discussion of results

It is noticed from Table (5) that there are significant differences in favor of the experimental group in (the anaerobic test step (lactic anaerobic capacity)). This development was used to assign this development to the researcher to the qualification of the training curriculum. Putting the researcher's training on high-intensity pulse

has high-intensity exercises and this result the researcher reached is consistent with what he mentioned (TalhaHusam al-Din 1994) “When developing anaerobic capacity, performance should be fast and with high intensity and take a short period of time not exceeding (1- 2) Precise as it works to generate large quantities of lactic acid in working muscles with a suitable rest period to restore healing " (6: 93) as mentioned (God Al-Basati 1998 Order) (1:75) and (Skinner 1980) (16: 236) "The development of the anaerobic capacity (lacta) led to an increase in the activity of enzymes responsible for producing energy. The antenna is used to destroy creatine phosphate and the muscles of glycogen, as strength exercises that require anaerobic energy lead to an increase in the muscle stores of glycogen and because this system is determined by most Sources within a time not exceeding two minutes. (Juel 1991 (“This type of training increases the ability to tolerate lactic acid at higher levels, and the accumulation of this acid in a greater amount in the trained person indicates that this person has a greater amount of stored glycogen that is broken down into lactic). The results in (Harvard test) showed fur It has a moral significance and for the benefit of the experimental group, and attributing that development and improvement to the rehabilitation of the training curriculum, which included training on the antenna system, and the findings of the researcher are consistent with what was indicated by (Nabil Muhammad (2000)) “The process of removing waste and lactate from the resulting body Other characteristics are: speed and explosive force, which depends on the compensation that comes from the air system, as the interest in training works to develop the physical characteristics, skills and pulse rate during the period of hypnosis (12:75). Also, the content of the curriculum led to an increase in the strength of the breathing muscles, and this reduces the resistance to air flow in the airways, and in this regard (Bassett 1997) indicates, “The amount of air entering the lungs and gas exchange increases, which leads to the efficiency of blood circulation in the respiratory system and increases The volume of oxygen that is pumped into the bloodstream, which leads to the effective strength of the heart muscle and pumping more blood to the parts of the body, thus increasing the efficiency of blood circulation in transporting more blood to parts of the body and carrying more oxygen with hemoglobin and finally increasing the volume of oxygen in the blood, which leads to Increasing the volume of oxygen consumed during rest and during the recovery period, as this is a measure of the aerobic capacity in addition to increasing the content of muscle fibers from myelopin, mitochondria (energy houses), aerobic e enzymes as well as capillaries "(13:29). The researcher's uncle was also used for qualified anaerobic exercises, which led to the development of anaerobic capabilities, and this is in line with what was confirmed (Abu Al-Ela Ahmad 1996) “Anaerobic exercises for developing aerobic capacities” (2:37). The results also showed in the test (test my Bermbach to send in volleyball and Transmitter (2)) the presence of significant differences in favor of the experimental group, and this development was attributed to the researcher for the effectiveness of the training approach. The rehabilitation proposal and the promise to develop anaerobic abilities such as the handicapped volleyball game (F45) have been categorized as anaerobic games that have increased by 70% phosphogeny and 20% acidosis, and the researcher's conclusion agrees that (Fox 1984) (14: 130)) And (BahaSalama 1992) (4:53) “Training of anaerobic abilities plays a major role in combating fatigue caused by the work of anaerobic muscles due to lack of energy sources or increased concentration. From lactic acid. Anaerobic play leads to fatigue and decreased performance. It is also consistent. With what it was pointed out (Sami Abd al-Salam 1999), “Training programs that contain exercises for developing anaerobic capabilities lead to an improvement in the level of skill performance” (5: 143) The researcher's failure to develop from not following the physiological foundations in training and rehabilitation that works on

IV. Conclusions and recommendations

Conclusions

1. There are statistically significant differences between the pre and post test results in favor of the post test of the experimental and control groups in the results of the physiological tests (the anaerobic step (anaerobic capacity) and the Harvard step).

2. There are no statistically significant differences between the results of the two pre and post tests and the experimental group and the control in the test results (vertical stability jump (anaerobic phosphorous capacitance).

3. There are statistically significant differences between the results of the subsequent tests and in favor of the experimental group in the results of the physiological tests (the anaerobic step (anaerobic capacity) and the Harvard step), which indicates the impact of: A qualifying training program prepared by the researcher in developing physiological variables.

4. There were no statistically significant differences between the meta-test results between the experimental and control groups in the test results (vertical stability jump (anaerobic phosphorous amplitude).

5. There are statistically significant differences between the pre and post test results and in favor of the post test for the experimental and control groups in the results of skill tests B, volleyball from sitting for the handicapped group (F45) in my country. . Test my Bermbach volleyball sending and receiving skills (2).

6. There are statistically significant differences between the results of the dimensional tests and in favor of the experimental group in the results of the skill tests B, handicapped volleyball (F45) in my skills in the Permbach test for sending and receiving volleyball (2).

Recommendations

1. Guided by the rehabilitative training curriculum suggested by volleyball coaches for sitting for the disabled (F45 class).

2. Using the tests that the researcher regularly adopts as an indicator to determine the extent of the development of the physiological and skill variables in sitting volleyball for the disabled category (F45) to see the progress of the players.

3. Conducting studies similar to this study, including other variables that were not covered in the study and other types of disabilities for both sexes.

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