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The role of physiological fitness factors contribution to performing of some basic handball skills for girl students of the College of Physical Education and Sport Sciences at University of Baghdad

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Abstract

The research community represented by students of the Faculty of Education Physical and Sport Sciences - University of Baghdad - the phase II of the academic year 20 1 4 -20 1 5. The researcher choose the sample random method of a b LGA number is a (20) student. And because the nature of the problem to be studied determines the method of research to be followed , so he must use the researcher The descriptive approach using the method of correlational studies for its suitability, the nature of this study and its objectives . After the search variables have been identified, well to know the percentage contribution of fitness elements physiological performance of some of the basic skills reel hand I use two types of tests to achieve this. Brother T. bars fitness physiological and ensure ((bend the trunk of the front of the stand - throw a medical ball (3 kg) hands of sitting on a chair - bend and extend the arms of the oblique lie (10 seconds) - triple jump stability - attachment mode D arms (even exhausting effort) - sitting from lying down (until exhausting effort) - the ability for (such as security) - ran 1500 meters)). And not Tests of skill , which included ((the speed of the handling on the wall for a period of 30 seconds from a distance of 4 m - Handling a rectangle drawn on preset - clapotement continued in a winding line for a distance of 30 m - correction of jumping high on the boxes)). The aim of the research is to identify the percentage of the contribution of the physiological fitness components to the performance of some basic handball skills among the subjects of the study sample. And the results showed (a lack of contribution to the elements of fitness physiological performance of the skill of handling. And there is a contribution in the anaerobic capacity characteristic and strength as fast as the muscles of the legs and the explosive power of the muscles of the arms, the performance of the skill of receipt

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and in the anaerobic capacity of aerobic performance skill clapotement and contributed to the flexibility the trunk and the explosive power of the arms' muscles with the ability to shoot.

Keywords : Physiological - Fitness - Basic Skills - Handball

Introduction

It is known that physical fitness contributes to the development of the individual in terms of health through its direct impact on functional devices, as many studies and research have proven that there is a close connection between physical fitness and the general health of the individual, and that this link forms a phenomenon called health fitness, which is the safety and health of members The vital body, such as the circulatory, respiratory, digestive, and muscular systems, and its efficiency in performing its functions properly. It is also known that the functions and members of the body's systems and their different responses are constantly changing throughout the day, during the week and month , and then they differ in each age stage from the next one and this diversity and change in those responses such as the work of the heart and the secretion of various hormones in the body, for example during rest or when performing Various physical exercises, as it takes on the light of many strategies related to the development and technicians of training programs and methods of motor learning, which helps to improve the efficiency of athletes. (**Samer, 1999**) The measurement of the physiological components of fitness mainly depends upon professionals who are in the sports field in order to develop the skill and physical performance of and access to the best results, so it became the physiological tests of medical measurements and the mathematical part of a vital complement to the success of any platform training. For this a Gone are many of the developed countries great interest in this area will At laboratories to provide the latest equipment supplied and tools in order to achieve this goal. (**Fox, 1993**)

Literature review

The basis on which sporting events are built is learning the basic skills of each event and trying to obtain the best achievement by developing performance in it. Therefore, you need to apply scientific methods in the principles, theories and correct methods of learning that have an impact on learning and its time, and then the sporting activity develops rapidly. The field of kinesthetic learning has witnessed a great development, especially with regard to creating educational situations in a way that stimulates the motivations of the player and reaching the goal of the educational process, as the learning process is based on an important means of transferring knowledge and information from the trainer to the player and it is the method of learning that whenever appropriate, the learning process takes place. Better, faster and with less effort. (**Kamal, 2002**) Sports activities, including handball, rely on basic skills as an important base for progress, so that specialists spend most of their time training on the performance of these skills, teaching them and giving them a greater share in training programs, and with this study it is possible to help trainers and specialists to develop the skill and physical performance through interest in developing the physiological fitness of what Functional devices have a great role in improving and developing the skillful competence of athletes and thus developing the level of athletic achievement.(**Leila, 2007**)

Methodology

After it has been to determine the research community and the goal by students stage second of - Faculty of Education Physical and Sport Sciences - Baghdad University for the academic year 20 14 -20 15 . The researcher selected the sample randomly as one of the three academic divisions was chosen, with (20) female students after excluding (3) female students for not attending, so the number of the research sample would be

(20) female students, representing (26.7%) of the total of (75) female students. And because the nature of the problem to be studied is what determines the method of research followed, the researcher must use the descriptive approach in the manner of correlational studies, for its relevance to the nature of this study and its objectives.

The means, tools and devices used: Arab and foreign sources - tests and measures - questionnaire forms - Data collection forms - the internet - stopwatch type (Diamond (2) - A tape measure (made of tissue) to measure distances, number (1) - Adhesive tapes to determine distances - Legal hand balls for women, number (6) - Iron squares with dimensions (50 cm x 50 cm), count (4) - Goals Handball - count (5) signs - a seat without a back height (50) cm - a ruler divided from zero to 100 cm.

1. Test for bending forward from standing test:

- *The aim of the test*: to measure the flexibility of the back muscles of the body and the joints involved in movement.
- *Tools*: a bench without a back height (50) cm, a ruler divided from zero to 100 cm.
- *Performance specifications*: The laboratory sits long, with its feet touching the box and its legs outstretched and touching the ground, and the trainer or the colleague presses the lab legs from the knees and feet. The laboratory begins bending the torso forward downward, after extending his arms forward so that his palms are above the ruler inserted, and the test person registers the farthest distance that the middle finger of the laboratory's palm has reached on the ruler, and the laboratory is given two attempts, the best of which are recorded for him, as the laboratory remains in the position for three seconds.
- *Calendar*: If the lab was able to pass through his hands the edge of the Fund has recorded the result with (+/-) and if it could not be calculated after his finger on the Fund's sign (-). **(Mohamed, 1995)**

2. Test for throw medical ball (3 kg) by hands during sit on a chair

- *The aim of the test*: to measure the explosive force of the arms and shoulders.
- *Tools*: a medicine ball (3 kg), a chair, a tape measure, a piece of chalk, a small rope.
- *Performance specifications*: From a sitting position on the chair and back straight, the medicinal ball is held with the hands in front of the chest and below the chin. It is linked to the tested rope around the chest and touches as behind the chair so as to prevent the movement of the body forward with the ball. The ball is pushed forward with both hands.
- *Calendar*: the distance traveled by the ball in the direction in front of the chair is calculated for the best of the three attempts. **(Leila, 2007)**

3. Arm bending and extension test from an oblique recline (10 seconds) :

- *The aim of the test*: to measure the force characteristic of velocity in the arms and shoulders.
- *Tools*: flat ground, assistant and recorder.
- *Performance specifications*: The student takes the front support position, provided that the arms are extended across the chest, and the assistant places his fist in front and below the student's chest and then gives the instruction to start. Then the student bends the arms so that the chest touches the assistant's fist and then extends the arms and so the test continues within ten Seconds.
- *Calendar*: Calculates the number of times the correct performance without breaks **(Mohamed, 1995)**

4. Triple Jump Stability Test

- *The aim of the test*: to measure the force characteristic of velocity of the leg muscles.
- *Tools*: flat ground, tape measure, assistant and recorder.

- *Performance specifications*: The tester stops at the starting line, then begins to perform the triple jump skill (semi jump- step - jump).
- *Evaluation*: Calculates the distance traveled by the tester for the best of three attempts. **(Diaa, 2000)**

5. Test the attached mode D arms (even exhausted voltage)

- *The aim of the test*: to measure the muscular endurance of the arms and shoulders
- *Tools*: stopwatch, stool, bar. Assistant and recorder.
- *Performance specifications*: elevate tested on the chair without armrest horizontal bar to grab from the bottom and arms stretched out full on , and after taking the situation supervisor pulls the chair out from under my feet tested at the start signal, and tested to prove the situation for as long as possible.
- *Calendar*: The time that is recorded in seconds. (**Mohamed, 1995**)

6. Sitting test from lying down (until exhaustion of effort)

- *The aim of the test*: to measure the muscular endurance of the abdominal muscles.
- *Tools*: Mat, Assistant, Recorder.
- *Performance specifications*: take the student placed lying down on the back and knees T shaped angle and the soles of the feet touching the ground and hands behind the neck intertwined. The assistant fixes the feet firmly on the ground and then gives instructions. The test begins with the student starting to raise the torso forward after taking a sitting position, touching the elbows to the knees, and then lying back, and the test continues until the effort is exhausted.
- *Calendar*: Calculates the number of times the correct test is performed without breaks. **(Diaa, 2000)**

7. The Power Test Margaria Test - Cal Security

- *The aim of the test*: to measure the short anaerobic capacity.
- *Tools*: The step height drawer has 175 mm and two keys connected to a stopwatch measuring 0.01 seconds.
- *Performance specifications*: The laboratory is standing 6 meters from the front of the runway, and when the signal is heard, it runs at full speed towards the runway, trying to climb at the same speed, so that in every step it exceeds three steps of the runway. The first key connected to the clock is placed on the third runway, and the second key is placed on the ninth runway (the first to turn the clock on and the second to stop it). **(Abu Al-Ela, 1997)**

8. 1500m run test

- *The aim of the test*: to measure the maximum oxygen consumption (VO2-max) .
- *Tools*: stopwatch, Bork, recorder and launcher.
- *Performance specifications*: From the high start, the laboratory runs a distance of 1.5 km, after that the racing distance is multiplied by (60), then the result is divided by the time it took for the tester to travel the distance, the result is substituted in the following equation to obtain a value of (METs) and as follows:

  METs = 2.4388 + (0.8343 x km / h).

  And to get the value of theVO2-max during physical exertion, we use the following equation:

  TheVO2-max = METs X 3.5 mL / kg / min. (**Kazem, 1999**)

9. Test for the scrolling speed on the wall for a period of 30 seconds from a distance of 4 m

- *The aim of the test* : To measure scroll speed
- *Tools* : handball, stopwatch, flat wall

- *Performance specifications*: v Stand tested behind the line drawn on the ground after 4 meters so that during the performance of the test. T. folk tested by passing the ball to the wall, receiving , and continued scrolling and receipt of more possible number in the specified time
- *Calendar*: count the number of times scrolling and receipt within 30 seconds. **(Kamal, 2002)**

10. High level ball handling and reception speed test

- *The objective of the test*: to measure the handling and reception speed of the ball at a high level.
- *Tools*: hand ball Qanonah- clock Ketronah- timing of flat buildings painted on the wall rectangular height of 50 cm and the length of its base 2 meters so as to be parallel to the level of the surface of the land and the height (2.15 meters) draws on the ground parallel to the wall and after (3 meters) and a thickness of (5 cm), another line is drawn parallel to it and at a distance (6 meters) from the same wall.
- *Performance specifications*: Stand laboratory of behind the line drawn on the ground within 3 meters so as to a while testing - and signal optical T. continued laboratory of handling the ball to the rectangle and receive directly - and shall not out the ball from the rectangle and contact the laboratory of the line decree The ground the moment the ball comes out of his hand or receives it.
- - *Conditions*: Time allowed Lad DONC handling and reception 30 sec. is out the ball from the hands of the laboratory of, and the rebound from rectangle and receive once one- ball touches any side of the additional rectangle is considered as if inside- in the event of the end of the scheduled time and t the fact that laboratory of has completed the T. handling is calculated only after like the Ed T. handling and reception.
- *Calendar*: The number of times that all the stipulated conditions are fulfilled is counted. **(Cardinale, 2012)**

11. Test for continuous chipping in a 30m zigzag

- *The aim of the test*: to measure speed and agility.
- *Tools*: (5) signs, handball, stopwatch.
- *Performance specifications*: Five signs are installed on the ground in a straight line, the distance between each two symbols is (3) meters. The paints line of just 3 meters from the first pillar - t stand the lab behind last forever line, when you hear a signal to start t folk ball with running on the winding between singled out gold and forth according to the shares until it passes the finish line.
- *Calendar*: calculates time cut the lab in the distance back and forth. **(Fox, 1993)**

12. Aiming test from jumping high on squares (50 cm x 50 cm)

- *The objective of the test*: to measure the skill of aiming accuracy.
- *Tools*: - A half of a handball court is legally planned for the goal area and has one goal. balls hand legal Women Number of (6) - precision correction boxes number four (50 cm × 50 cm) , hanging in the upper and lower corners of the goal .
- Performance specifications : T. folk laboratory of standing in the front area of the goal directly behind the line (6) meters, face other single balls after inside the upper boxes and lower, so three balls to any corners top two or both of three balls to any From the two lower angles you entrusted . And it shall pass a ball from inside the boxes is raised to the upper boxes and for the lower boxes. Correction is done from stability or movement on a 6- meter line. The laboratory performs six attempts. Only successful attempts that involve the ball entering the square are counted.

- *Calendar*: counts the number of successful attempts that include the aforementioned conditions. **(Samer, 1999)**

The exploratory experiment: The exploratory experiment was conducted on a sample consisting of (5) students selected randomly and lasted for two days. The exploratory experiment achieved several purposes: Learn about the validity of the tests. Identify the difficulties and problems that may hinder the work of the final experiment. Identify kits and place to experiment. Training staff work assistant. The organization of measurements has to save time and effort. Know the test time.

The content was validated: This was done by presenting the physiological fitness tests and skill tests for handball to a group of experts and specialists, and after reviewing their views it was found that there is agreement and a percentage (75%) for the physiological fitness tests and a percentage (80%) for skill tests for handball and on this basis the validity was confirmed Tests and research approval.

Table (1) shows the reliability and objectivity coefficient of the tests

T	the exams	Stability coefficient	Calculated value (v) *	Objectivity factor	Calculated value (v) *
1	**Bend the torso forward from standing**	0.92	17.877	0.975	27.048
2	**Throwing a medicine ball (3 kg) with two hands from sitting on a chair**	0.89	14.865	0.981	31.170
3	**Bending and extending the arms from an oblique extension (10 seconds)**	0.945	17.811	0.990	43.261
4	**The triple jump of stability**	0.84	11.790	0.987	37.856
5	**Getting hung up from an outstretched position (until exhausted)**	0.88	14.11	0.998	97.322
6	**Sitting from lying down (until exhausted)**	0.91	16.715	0.976	27.628
7	**Potency test for Margaria - Cal Security**	0.86	12.835	0.945	17.811
8	**He ran 1500 meters**	0.83	11,333	0.986	36.451
9	**Speed of scrolling on the wall for 30 seconds from a distance of 4 m**	0.874	11.087	0.990	43.261
10	**Ball handling and reception speed is high**	0.973	25.987	0.981	31.170
11	**The continuous chop in a zigzag for a distance of 30 meters**	0.756	7.1196	0.976	27.628
12	**Shooting from jumping high on squares (50 x 50) cm**	0.845	9.741	0.953	19.390

Statistical means: The researcher used the Statistical Bag for Social Sciences (SPSS) or data processing was used the bag in the following topics: - the arithmetic mean - standard deviation - Percentage - Chi - square (CA 2) - coefficient of simple correlation (Pearson) - (T) test for significant correlation - coefficient of determination (R2) The percentage of the contribution is called - the law of q of the morale of the contribution percentage. (Allerheiligen, 1994)

Results

When you display the results analyzed and discussed table shows (4) circles and standard deviations and line a standard coefficient of torsion of research variables as were standard deviations for all tests values less

than averages, which leads to ensure the integrity of the relationship . (**Qais, 1987**) It also shows that the values of the standard error of the tests indicate the correctness of the sample's representation of the studied community, as evidenced by the torsion coefficient of good distribution of the sample in all the examined tests, as all the tests had a torsion coefficient less than (± 1). The results of the contribution of fitness elements physiological performance of some of the basic skills candidate (the handling, receipt, clapotement, correction) reel hand, analyzed and discussed. As the correlation coefficient and the contribution rate is strong statistical evidence for adopting the independent variables. 5) There was no contribution to the physiological fitness elements in the performance of the passing skill, and the researcher attributes the reason to the nature of the handling skill performance, which requires accuracy and speed of performance, as accuracy is a goal accuracy and that the ball reaches the appropriate place. The speed of performance is the speed of passing performance in a timely manner to take advantage of the available opportunity. (**Povaoas, 2012**)

Table (2) shows the arithmetic mean, standard deviations, standard error and skew coefficient of the research variables

T	the exams	Arithmetic mean	standard deviation	Standard error	Coefficient of torsion
1	Bend the torso forward from standing	13.15	4.96	1.11	-0.48
2	Throwing a medicine ball (3 kg) with two hands from sitting on a chair	2.43	0.34	0.08	0.17
3	Bending and extending the arms from an oblique extension (10 seconds)	8.60	1.43	0.32	-0.64
4	The triple jump of stability	4.47	0.67	0.15	0.28
5	Getting hung up from an outstretched position (until exhausted)	27.58	18.34	4.10	0.76
6	Sitting from lying down (until exhausted)	15.75	6.43	1.44	0.59
7	Potency test for Margaria - Cal Security	498.95	149.90	33.52	0.02
8	He ran 1500 meters	31.75	3.49	0.78	0.75
9	The speed of passing on the wall for a period of 30 seconds, a distance of 4 meters	11.60	1.27	0.28	0.01
10	Ball handling and reception speed is high	20.25	3.70	0.83	-0.37
11	The continuous chop in a zigzag for a distance of 30 meters	20.67	4.02	0.90	0.40
12	Shooting from jumping high on squares (50 x 50) cm	1.85	0.67	0.15	0.18

In order to know the relationship between the skill of receiving and the variables discussed, it is necessary to use the correlation equation, which through its results can express the strength of the relationship and its absence. Table (3) sheds light on that, and through which it is noticed that the value of (F) Has a significant significance, which is considered an indication of the significance of the contribution rate, and it is noted that the Margaria-Calm ability test, which measures anaerobic ability, the triple jump test of stability, which measures the strength characteristic of the velocity of the muscles of the legs, as well as the test of throwing a medical ball (3 kg) with the hands from sitting on a chair, which measures The explosive power of the

muscles of the arms . When analyzing the skill of receiving, it is noticed that the nature of the performance of the skill requires the maximum speed and the maximum force, and that the anaerobic work helps in producing the energy required to produce the maximum speed and the maximum strength, in addition to that the performance of the high level receiving performance requires a force characterized by the velocity of the leg muscles, in order to move at the required speed To receive from the right place, and the nature of performing the receiving test from the high level requires the explosive force of the muscles of the arms to perform the pass with maximum force because of that of the great role in performing the skills of throwing and passing. (**Clark, 2010**)

Table (3) shows the relationship of the skill receiving with the variables searched

Res ear che d var iab les	rau on coe ff.	ibu tio n	es of fre	P h v a l u e		icat ion lev
				Calculated	Tabular	
Potency test for Margaria - Cal Security	0.557	0.311	1-18	8.107	2.57	0.011
Margaria Ability Test - Calamity + Triple Jump Stability	0.763	0.582	2-17	11.821	2.65	0.001
Margaria Ability Test - Calamity + Triple Stability Jump + Medicine Ball (3 kg) with two hands from sitting on a chair	0.824	0.679	3-16	11.262	2.75	0.000

In order to know the results of the percentage of the contribution of the elements of physiological fitness to the performance of the skill of the tabby, the correlation coefficient was found, which through its results can express the strength of the relationship and its absence. Table (4) sheds light on that, and through which it is noticed that the value of (Fit is of significant significance, which is considered an indication of the significance of the contribution rate. It is noted that the Margaria ability test - as security, which measures anaerobic capacity, and the 1500-meter run test, which measures the maximum oxygen consumption that expresses the aerobic capacity, has contributed to the achievement of the skill of the puck, and when analyzing the skill of the puck. We note that it requires speed, and that the goal of the clapotement is to move from one place to another and that this transition must be fast for long periods. "that the player depends on anaerobic any work in getting needed to perform fast powerful movements of energy It is required by the playing conditions, as well as the sprint, in addition to performing the muscular work with maximum strength and speed and in the face of fatigue resulting from the accumulation of lactic acid in the muscle (anaerobic endurance)" (**Kamal, 1998**)

Table (4) shows the relationship of the skill of the tabby with the variables studied

Res ear che d var iab les	rau on coe ff.	ibu tio n	es of fre	P h v a l u e		icat ion lev
				Calculated	Tabular	
Potency test for Margaria - Cal Security	0.449	0.201	1-18	4.538	2.57	0.047
Ability Test for Margaria - Calm + Run 1500m	0.630	0.397	2-17	5.599	2.65	0.014

In order to know the results of the percentage of the contribution of the elements of physiological fitness to the performance of the skill of correction, the correlation equation was used, which through its results can express the strength of the relationship and its absence. Table (5) sheds light on that, in which it is noticed that the value of (F Significant significance, which is an indication of the significance of the contribution rate, and it is noted that the test for bending the trunk forward from standing, which measures the flexibility of the trunk, and the test of throwing a medical ball (3 kg) with the hands from sitting on a chair, which measures the explosive strength of the muscles of the arms, have contributed to achieving the skill of correction, as Flexibility is one of the fundamental foundations in acquiring and mastering the motor performance of skills,

and in the event that the player lacks the necessary flexibility, he is not able to perform the skill well and may be exposed to injury, as it is confirmed that "the handball player must have flexibility represented in the movement capabilities of all Body joints and maximizing movement performance. (**Diaa, 1988**) As the researcher believes that the player during a Dah is not the type of shooting requires him flexible joint joints in performance with a fit with power and speed, and when the skill analysis correction note that this skill requires a component of force, especially explosive power of arms , and this Power is accompanied by accuracy in directing the ball, as strength is one of the important characteristics in practicing the game of handball as it directly affects the success of the correction. Also, the shooting in handball, whether close or far, must be performed with maximum force. The necessity is important of providing explosive power at certain moments of dynamic skill performance, especially at the moment of throwing or passing in handball. (**Qais, 1987**)

Table (7) shows the relationship of the correction skill to the investigated variables

Res ear che d var iab les	... on coe ...	ibu tio n	es of f...	P h v a l u e		icat ion lev
				Calculated	Tabular	
Bend the torso forward from standing	0.577	0.333	1-18	8.989	2.57	0.008
Bending the torso forward from standing + throwing a medicine ball (3 kg) with the two hands from sitting on a chair	0.735	0.54	2-17	9.961	2.65	0.001

Conclusions

a. It appeared there was no contribution to the physiological fitness components of the passing skill.

b. There is a contribution rate in the anaerobic capabilities and the force characterized by velocity of the leg muscles and the explosive force of the muscles of the arms by the performance of the skill of receiving.

c. A percentage of the contribution to the anaerobic and aerobic capabilities appeared in the performance of the skill of the patina.

d. Flexibility of the trunk and explosive power of the muscles of the arms contributed to the performance of the skill correction.

e. The researcher recommends the necessity to emphasize the anaerobic and aerobic capabilities and the distinctive force of velocity of the leg muscles, explosive power of the muscles of the arms, and flexibility in handball skills. And giving the trainers a sufficient percentage for it in the training units, especially in the preparation stages.

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