TEST PROROSAL TO EVALUATE SPECIFIC ENDURANCE AND THE AMOUNT MOTION FOR HANDBALL PLAYERS

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Abstract

The study aims at:

1. Design and rationing test to measure special endurance for skillful according to air power system and the amount of motion for handball.

2. Found levels and standard scores for test special endurance for skillful according to air power system and the amount of motion for handball.

The descriptive curriculum was used in accordance with solving the search problem and the search sample, included specialized handball school for the sport season (2017-2018) for (41) players, the researcher prepared exam to measure special endurance for skillful and the amount of motion according to air power system and presented to the group of experts and specialists of examination and handball game, the tests have been modified and finalization the exam, the researcher conducted the scientific bases for exam through (the honesty, the stability, the objectivity) then the test was applied to the players and the main experiment was conducted in (6th and 7th of FEB 2018) on the stadium of Directorate of education in AL-Basra Governorate.

After processing the data to the computer according to the statistical program (SPSS) Ver.19, we reached some conclusion:

1. Designed and rationing test to evaluation the special endurance for skillful according to air power system and the amount of motion for handball.

2. the highest level achieved by research sample was at the Average level and the lowest level was in the good.

3. the performance of the research sample was between Weak and average.
  The most important recommendation is:
  Through the conclusions the researcher recommends:

1. this test should be used to find out players level by coaches and training specialists.

2. it's a necessity to adopt the standard grades that reached by the researcher as one of objective evaluation means.

3. Emphasis to use the endurance exercises for the performance of skill during the training camps.

Keywords*: Tests and measurement, skill performance, Biomechanical, Handball.*

JEL classification: *I19, I12, I29*

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1. Definition of the Research

1.1 Introduction and Importance of Research:

Tests and measurements have become one of the most important components of evolution, by it, the world today become more capable of facing problems and life requirements and more, gave us value and evaluate performance in all games whether individual or teams, and the sports scientific tests become important for diagnosis, classification and modification, and based standards grades and levels, And its help to Gide the players to identify the weak and strong points for skills and the physical qualities to be adjusted for players.

For that a lot of expert and researchers and trainers were eager to search about objective test which gave accurately measures whether were physical test or skill test for all kind of sports. Measuring games skills is a way to increase the progress of those skills (6:19)

The handball is one of interesting collective sport for the players and viewers, and the pleasure provided by this game made the interested keeping up with everything that is new, so you can take advantage of this game to stay with the evolution of increasing in the number of viewers and players by increased participation in the Olympics and international and local championships.

The handball same as any other sports, the interested in this game need more of exams that depends on scientific basis that based on a lot of accurate statistics ways which confirm their stability and enhance their validity to measure the performance, And that the level of performance between the player and the other in the method of implementation and timing is a situation that is only estimated by the player itself, which relate primarily to the position of the opponent first and distance and proximity to the goal and conditions of the player corrected (5:5), the special endurance for performance skill from important things in handball because it being distinguished by rabidly and need more endurance in performance and the most of skills works according to air power system so the players should have endurance that provide them performance during the game without any symptoms of fatigue, and from this point the research become important to create an test to measure the special endurance for performance skill according to air power system for handball to obtain accurate scientific results about the performance add to that the level which are the players rich it during the performance.

1.2 Research Problem

Normally you can't analysis or determination level for any state unless you test it or measure it, as the hand ball need to high level of performance skill and high physical effort because the game need quick performance during the game, the research problem being in the slackness from the coaches and the worker in training courses about how to measure the levels for accurate performance skill in general,

and special durance for performance skill according to air power system in specially, and give accurate information about the training, and the reason is the scarce of exams which it based on scientist basis to correct their skill level, so the researchers should search in this case through design and rationing an test about the special durance for performance skill according to air power system in handball that will end up with advancing for all levels and get the best achievements.

1.3 Research Objectives:

1. Design and rationing test according to air power system for handball.
2. Find levels and standard grades for test the special durance for performance skill and the amount of motion according to air power system in handball.

1.4 Research Hypothesis

1. Billed up and rationing an test to measure the special durance.
2. Identify the grade and the standard levels for the special durance for performance skill and the amount of motion according to air power system in handball.

1.5 Fields of research
1.5.1 The Human Field
Sample from the specialists school for handball / AL-Basra governorate.

1.5.2 Time Field
FROM 7/11/2017 TO 26/06/2018

1.5.3 Spatial Field
The stadium of Directorate of education in AL-Basra Governorate

2. Methodology and Field Procedures:
2.1 Research Methodology:
The researchers used the Descriptive method to fit solve the search problem until reaching the aim.

2.2 Society and Sample Research:
The research sample included some of handball specialists school players for sport season (2017-2018) and their number is (41) players and constituted their proportion (% 67.741) from the original society are their number is (62) players, and to approved that the homogeneity of the sample in variable who could effect at the experiment, the researcher did the statistics processes by using deferential factor, and the result was all the value of deferential factor were less than %30 (161:3) that

indicates to homogeneity of the research sample in variable below, as it demonstrated in table (1).

Schedule (1)

Shows some anthropometric measurements, values of computational arguments, standard deviations and value, The difference coefficient in the research sample

No	Variables	Measuring unit	Mean	St.d	C.V.
1	Total lenght	Cm	156.658	5.740	3.664
2	Mass	Kg	46.431	3.889	8.392
3	Age	Year	14.341	1.039	7.244

Schedule (2)

The original sample community	Experimental experiment	Scientific transaction	Sample rationing
51	5	5	41

2.3 Means, tools and devices used:

1. arabic and foreign source.
2. hand balls (10)
3. plastic columns
4. standard stadium
5. colour tapes

2.4 Field research procedures:

The researchers did these steps and he intentionally to design and rationing exams that fit to get the research aim after reading some available sources about design and rationing the exams.

2.4.1 Steps to design tests.

2.4.1.1 Preparation of the preliminary version of the tests and presentation to experts and specialists.

After reading the special literature for exams and measure in handball game for physical education and sports sciences, the researcher was able to create new idea about exam the special endurance for performance according to air power, so that the researcher designed a special exam for skill and presented it to a group of experts and specialists in exam and measure and handball to evaluate the exam.

2.4.1.2 Test as final

The aim of the exam: measure the special endurance for performance.

The tools: (10) hand balls, hand ball stadium, terrace, handball goal, 12 columns, adhesive tapes, measure tape, registration form, recorder.
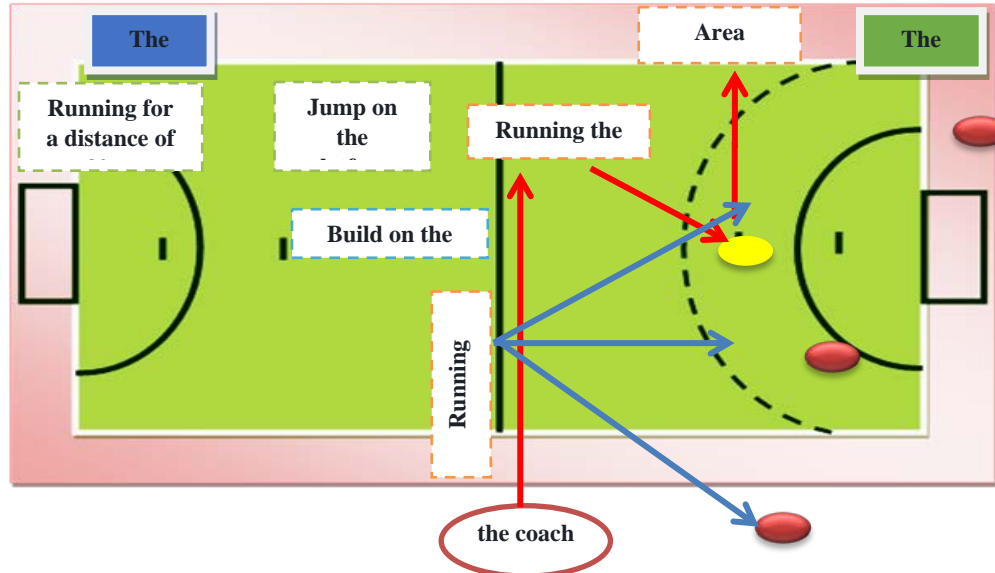
Figure (1) shows the performance of the test method

Procedure

Locating the area which is the player start motion and should be in the centre of the stadium, starting the watch and the player move ahead quickly with the ball (dribble) in zigzag movement and when the player reach the free throw line, he will pass the ball to the focus player then go back to the start point, after that he will move to right side with zigzag movement also, then pass the ball to the right corner player, and back again to start point, then he will move to lift side and doing same as the right side and back again to the start point, then the watch will be stopped. then he will do the forward reliance for a minute, after that running for a distance (30 m), then jumping at the both sides of the terraces with height (25 cm) for (30 sec), then receive the ball from the coach then he will do the (dribble) for a distance (10 m) then shoat the goal.

Method of performance

The player standing at his unspecific place and when hear the whistle he will do the dribble in zigzag toward the throw line (forward – right – left) the he will pass, the he will do the front reliance, then running for (30 m), jumping at the both sides of the terraces for (30 sec), then receive the ball from the coach who standing at the centre of stadium the doing the dribble and shoat the goal outside the 9 meters line, each player get one try.

Record the points
1. write down the performance time from begin to the end point for zigzag
2. write down how many front reliance
3. write down how many terraces performance did
4. write down the performance running for 30 m
5. write down the dribble time from receiving the ball until advancement

2.5 Experimental test

The researchers did the exploration test on some players from the specialist school ant there were (5) player to confirmed from the research problem with supports staff and the purpose was to find out the suitability of measurements and determine some test requirements before you begin the rationing.

2.6 Scientific transactions for testing

The researchers RE-rationing and applying scientific foundation on it:

2.6.1 Validity

To achieve the purpose of the test, the researchers distributed the test form and how to do it to the group of experts and specialists in test and measure the test of handball to confirm a validity to fit the research sample, and the exam measure what designed for it. The researchers used arbitrators validity, and their percentage was (100%) after the modification (see table 3). The researcher did the test performance on some players (5 players) to find out the test reliability.

2.6.2 Reliability

The researcher repeated the test after one week from the first test on the same sample of players, then the researcher used Pearson rule (R) for both testes and he found out there is a statistical function relationship.

Schedule (3)

Shows the degree of stability to test the endurance performance of the skill

Test	First test		The second test		Calculated (R) value	Level of significance
The special Endurance performance	58.276	6.302	53.689	6.206	0.906	moral

2.7 Main Experiment
The researchers did the main test for 2 days (06-07/02/2018)

2.8 Statistical Means

The researchers used statistical app (SPSS) Ver (19) according to:
1. percentage (2:101)
2. Arithmetic mean
3. standerd deviation
4. simple correlation coefficient (Pearson)
5. (test –Z)

3. Results and discussion

3.1 display the standard grades to evaluate the measurement of special endurance performance for the research sample.

The test as applied on research sample, then the researchers achieve the result, to get the research aim that to find out standard grade for tests and the researchers found out the main data.

Schedule (4)

Shows the arithmetic mean, the standard deviation, the coefficient of the standard difference, the highest value and the lowest value achieved by the sample in the test used in the research

Test	Arithmetic mean	Standard deviation	Coefficient of variation	Less value	Highest value
The special endurance performance	53.698	4.214	7.847	43.17	64.43

The table (4) explain arithmetic mean and standard deviation (53.698 ± 4.214) and the factor of difference was (7.847) for test the measurement of special endurance and the lowest score was (43.17) and the heights score was (64.43).

Schedule (5)
Shows the raw and standard grades (descriptive) of the research sample

No	Raw grades	Standard grades	No	Raw grades	Standard grades	No	Raw grades	Standard grades
1	43.17	- 2.498	15	51.43	- 0.538	29	**56.23**	**0.600**
2	46.19	- 1.781	16	53.77	0.017	30	56.25	0.605
3	47.58	- 1.451	17	53.81	0.026	31	56.67	0.705
4	47.71	- 1.420	18	53.88	0.043	32	57.83	0.980
5	49.22	- 1.062	19	54.19	0.116	33	58.28	1.087
6	49.25	- 1.055	20	54.35	0.154	34	58.43	1.122
7	50.16	- 0.839	21	54.4	0.166	35	58.73	1.194
8	50.52	- 0.754	22	54.7	0.237	36	60.83	1.692
9	50.63	- 0.728	23	54.77	0.254	37	61.41	1.830
10	50.7	- 0.711	24	54.87	0.278	38	61.75	1.910
11	50.78	- 0.692	25	54.96	0.299	39	61.9	1.946
12	50.86	- 0.673	26	55.23	0.363	40	62.52	2.093
13	51.25	- 0.580	27	55.43	0.411	41	**64.63**	**2.594**
14	51.38	- 0.550	28	55.52	0.432	42		

Table (5) shows the final grades obtained from the sample performance to the special endurance test for performance, and this scores were main scores so for that we should convert them to the standard scores, where the standard score is a step from some rationing the measurement steps, so the score which is got by the player cannot used to compare between the players until convert it to the standard score, and the last one will show to us the performance for the other players in same test, because we cannot read the data in first result on the natural distribution curve, then after processing the data, the result appeared in table (6).

Schedule (6)

Shows the standard levels and their percentages on the normal distribution curve, the raw grades, the modified standard scores corresponding

**to the corresponding number of players, the percentage of each level
in the performance test**

Standard level and the percentage determined in natural distribution curve	Main score	Degree (Z)	players	Percentage
Weak	51.43 – 43.17	0.1 – (-2.498) - 0	36.585	
Average	53.77 – 58.73	0 - 1.5	20	48.780
good	60.83 – 64.63	1.6 – 3	6	14.634
			41	

From the table (6) we can see the level witch the sample achieved it in the special endurance for performance test, where we see level (weak) have scores between (43.17-51.43) and confront in standard scores between { (-0.01)-(-2.498) } score, this sample achieved Rather high in this level for (15) players and the percentage was (%36.585),

The research sample in the middle level with scores (53.77 – 58.74) It has achieved the highest proportion of the research sample and the standard scores confront this (0 -1.5) for (20) players in this level and their percentage is (%48.780) and this level was a good rather and within the specific ratio on the moderately curve, as we see the good level with scores (60.83– 64.63) confront in standard score (1.6 - 3) and the players who achieved this level were (6) players and their percentage was (%14.634), this percentage is very weak and less than the specific ratio on the moderately curve.

For that, the researchers notified that the player age was between (13-16) years, that made an individual differences, moreover some players have more experience that making them exceed on other players, and there is a different react among the players, as we see there is a players have a high specification, this feature comes from doing more training and ability to tolerant difficulties during the training, so they surrounded in middle level, although they are few but they were not too bad percentage from research sample.

The researcher agree with (Abdulsatar Dhamad) the reflexes occur happened to the person and the respond to changes which are happened on the features in the environment was simple, its making receive the changes quickly, it was like a directed reflex in preserving life (1:73), also the researcher refer that to the individual different among the research sample as we see there is a players have a high specification, this feature comes from doing more training and ability to tolerant difficulties during the training but they were very few, and that confirmed by (Qwen) Re-exercise as much as you can and taking into account the rest period and preferably positive provides an opportunity for the player to mastery the skill and performance

it better, that because the more training for kills and iterate it correctly helps to perform properly during the game (4:13).

Also the researcher refer that because to the period of test performance because the test period without any rest and some tests need to repetition because it surrounded by time period, and the other tests need quick performance for that the effort is massive on the players who did all the test steps in a right way, and the researcher twig the development of performance comes from the stored energy in the muscles, that's give more increase to the player performance for a long time and delayed feeling tiredness and creating a state of adaptation as a result of continued performance in the duty motion.

4. Findings and Recommendations
4.1 The following findings obtained

1. Designed and rationing test to evaluation the special endurance for skillful according to air power system and the amount of motion for handball.
2. The highest level achieved by research sample was at the Average level and the lowest level was in the good.
3. The performance of the research sample was between Weak and average.

4.2 Recommendations

The researcher has recommended the following:
1. necessity of using this test in order to notify the players levels by the trainers and specialists.
2. necessity of approval the standard grades which is the researcher achieved and used as one of subjective modification ways.
3. confirmation of using the durance of special performance skill exercises during the training camp.
4. rotation this test on the players with reduce and increase in spots and performance time.

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