Design and codifying a test to measure the speed of defensive movements for advanced defender in the defensive formation (5-1) in handball

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Abstract:

The backbone of the defense , which is based on its handball team, so requires all team members to master defensive skills, there are many defensive formations, and what concerns us in this study are formations defense where the team is forced defender to intentionally spread the team in the form of two rows, attempt cut or deflect the ball from team striker, such as defensive formation (5-1), which requires a team that has a player Advanced, has a great deal of intelligence, the correct prediction of the course of play and the movements of the attackers and block their movements, to choose so the player is always done in It is subjective and improvised and often accompanies this process So that the errors had to me was selected e objectively, through standardized testing and be the results of its objective and accurate, so we decided to codify this test, and here comes the importance of this study, the quality of an addition to the trainers and the Federation of Handball and Iraqi clubs

Key words: *Handball, Advance Defender, Defensive Interview, Handball tests, Cut-and-disperse* .

Introduction:

Handball is one of the beautiful and masculine games and it is characterized by the speed, accuracy and strength of its players' performance for its offensive skills such as handling, receiving of all kinds, deception, cheating and shooting of all kinds, as well as individual defensive skills and movements, represented by the basic standby position on the line of the goal area, defense man to man, the interview And the reception and delivery of the focal point, covering and getting rid of the opposing player's reservation and blocking wall, so the player is required to master all these offensive and defensive skills with equal efficiency (**Mohamed**, **2006**), That mastering defensive skills like skills offensive, and there are a large number of defensive skills that enable handball player from defending his own goal area, as well as cooperation with colleagues in groups of defense, and cooperation between all team members (team defense) goal of defensive formations, and there Many defensive formations through which the team organizes its defensive position

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during matches, most notably the area defense (6-0), (5-1), (4-2), and (3-3). (**Wajih**, **2005**) The first formation means that the six defending team members are all spread out on the goal area line regularly and at equal distances, while the 5-1 defensive formation means that five of the defenders are spread on the goal area line and the sixth player advances in front of them on the free throw line, as is the case for the rest of the formations , Each formation is used at some point in the time of the match and the type of formation is used mainly in response to the offensive plan in which the attacking team plays, and every type of these formations has advantages and disadvantages , and what we are interested in here is the defensive formations in which the defending team is forced to spread the team in the form of two rows, back on the goal area line in front of me on the free throw line, to be providing a player at least to the middle in front of the players defenders on the free throw line could move freely, **(Faisal, 1996)** an attempt by the defending team pressed him on the team striker and being overwhelmed and in particular on the player carrying the ball , taking into account not to damage his safety when his interview and docking him or committing legal sinned , to force him to pass the ball to his colleague the possibility of cut him or disperse , and thus forcing the opponent to the correction of N areas far of for controlled by the goalkeeper with ease, the formation of defense (5.1) of a j ask the team that owns the player advanced, must be a number of qualities and skills that enable him to perform his duty to the defense of this elaborately available such as skills defense , and die you a great deal of intelligence, (**Fouad**, **1979**) and predict the correct path to play and move the data attackers and passes, to his attempt to cut or deflect the ball, as well as pressure on the players attacking team and break down or block their movements and passes and prevent them from threatening to throw his team, and so the rest of the squad defense other requiring the defending team to defend a compressor on the players of the opposing team attackers guns and one or a many, as it should be available in some important physical characteristics such as speeding, (**Marwan**, **2010**) As he must be distinguished by the speed of movement for me to be able to move from an attacking player to another while they pass the ball to confuse them, and to have a high reaction speed and response because the attacker is trying to make deceptions to evade facing this defender, so he must respond quickly to the movements of that. The attacker, as well as his strength characterized by speed, which is the physical ability that handball players must possess in general, as well as enduring speed because the time of the attack may sometimes be longer and his work for defensive duties may take longer and this leads to fatigue, (**Ali**, **1994**) all this means the defensive work in this center are difficult and very stressful in general, so it is me is restricted to a very limited number of players with special specifications to enable them to perform this defensive assignment is difficult, and often are chosen based on the news of the trainer personal in this area, and the process This selection of players is done in an improvised manner and is often accompanied by errors that are reflected in the performance of the whole team in matches, and thus lead to its loss in the match, so the process of selecting players to occupy some playing centers, including this center, had to be done objectively , by means of a test Rated rat gives accurate results, (**Wajih** , **2002**) From here the importance came this study as an addendum to the quality of coaches and players and those on the Federation of handball and Iraqi clubs, said some of the skills hand reel including defensive skills, and in particular the speed of the movements of advanced defense and short pressure on the players of the opposing team, which is one of the important skills, not available a test A special objective that measures the speed of the advanced defending player's movements to the free throw line with the defensive formation (5-1) gives accurate results, and if they are available, they are outdated and useless and do not keep pace with the rapid progress that the handball game is going through at the present time (**Latifa**, **1982**), So the research problem is centered around the process of selecting a player who is the defensive center of privacy, as the need to require the availability of such a test is important, (**Mustafa**, **1999**) Therefore considered a researcher working on the design and legalization of special test

advanced defender measures the speed of the movements of his defensive short, this is very important defensive position, to fill for that the coach yen had a player for this difficult task somewhat among all players the team using the test objective, on the other hand they can to stand at the level of the performance of their players defensive (**Ali**, **1994**), And here comes the important questions of this process and is: Will this be an appropriate test for the subject of the study sample? Is it will measure the speed of advanced defensive player moves FORMATION (5-1) properly? The study aims to design and codify a test to measure the speed of defensive movements of an advanced defender in the defensive formation (5-1) with the hand reel. (**Marwan**, **2010**).

Research problem: About the process of choosing the player, who occupies this defensive position for his specificity, as it requires the availability of such an important test, due to its lack of availability, so a special test was devised, designed and codified for the advanced defender that measures the speed of his short defensive moves.

The aim of the research : To design and codify this test and set standard levels for it that are appropriate for the players of the Iraqi Premier League handball clubs ,and the descriptive method was used in the survey method, and the research community was determined by the intentional method, consisting of players (10) clubs participating in the Iraqi Premier League handball, by Percentage of (60%) and their number (64) out of a total of (109) players, or (59.63%). The researcher used: a regular handball court, (10) signs, colored adhesive tape, a stopwatch, a whistle, a computer

Statistical means: percentage, arithmetic mean, standard deviation, simple correlation coefficient (Pearson), test) T test ,(And they concluded that the test that was designed and codified can be used to measure what was set for it, and is able to measure the speed of short-term defensive movements of the advanced player in the defensive formation (5-1), in addition to that, it is a good criterion for us to know the level of the real player To be chosen to play in this important position, I recommend the need to take into account the appropriate physical measurements for handball players, and the need to go through other variables such as the ability of this defender to quickly predict the movements of competitors to interrupt or disperse the ball.

Literature review

 (Mashreq 2010) "Building and codifying of the tests of physical ability (strength characterized by speed) and short-range defensive movements and reference to handball inclination and the relationship between them". As the researcher touched upon the relationship between short-term defensive moves and returning with inclination and physical ability, force distinguished by speed, and the research problem was summarized by the existence of a need for tests for physical ability, force characterized by speed, testing short-term defensive moves and returning with inclination, so he codified these two tests and found the relationship between them, and the percentage of force contribution Characterized by the speed of short-term defensive movements and return with inclination, and the relationship between them , and the sample consisted of students of the third and fourth stage of male students of colleges of physical education of three universities from the central region in Iraq out of (6) universities, and the researcher used the descriptive approach, and used many statistical means, including: Arithmetic mean, standard deviation, torsion coefficient, simple correlation coefficient, linear regression coefficient, test Samples independent, percentage, class standard, and the degree of standard amended, and reached a researcher that these two test that showed their correlation in the relationship between them, (**Marwan**, **2010**) have been identified on the proportion of the contribution of distinctive force as quickly moves defensive short - term and return awry, and recommended a researcher on the need to focus on the distinctive strengths as quickly as an indicator of the movements of defensive short term, the need for research in other physical abilities and their relationship with other skills, hand reel, either aspects of the difference between the previous study, the current in terms of the number of tests and our

study addressed by the researcher for modularization as work on the legalization of tests but our study include the legalization of one test only, the only tools are similar, but the sample is different in the two studies, (**Mustafa**, **1999**) in the previous study was appointed by the College of Education students sports the current study in their players clubs Iraqi Premier League handball, and the only difference is the use of the previous study of the coefficient of correlation to identify the relationship between tests to achieve goals Namely: a test design to measure the speed of short defensive moves for an advanced defender in the formation of defensive (5-1), and technical. This test is designed to set standard levels appropriate to the players of the Iraqi Premier League handball clubs, for the 2018-2019 seasons. (**Mohamed**, **2006**) *The human field*: B clubs Iraqi Premier League handball, and temporal area: 24- 2- 2018 until 10-4-2018, the field of spatial: sports halls for club's sample.

Methodology

In order to solve the search problem and reach results, use the researcher descriptive approach survey manner to solve the problem, and was determined search component of a community of players (10) Club participants to the Iraqi league handball are: (Karkh club, and army club, police club, Musayyib club, Karbala club, Al Foutowa club, Sulaymaniyah club, Kut club, Diyala club, with a Basra Municipality club), were identified sample search players from those clubs, was chosen as a for player yen in a deliberate percentage reached (94.7%) and the number (125) players of the total (132) players, after the S exclude a number of injured players and absentees.

Table (1) number of club players, & number of members of the sample, & their percentage

No	Clubs	Number of Players	Number of tested players
1	**Karkh Club**	15	15
2	**Army Club**	14	12
3	**the police Club**	13	13
4	**Al-Musayyib Club**	12	11
5	**Karbala Club**	14	14
6	**Foutowa Clup**	12	11
7	**Sulaymaniyah Club**	13	12
8	**Kut Club**	13	11
9	**Diyala Club**	14	14
10	**Basra Municipality Club**	12	12
	Total:	132	125
	Percentage		94.7%

And to obtain accurate, scientific information and important data to solve a problem, the researcher used a number of means, tools and devices to achieve that goal, and among these means, tools and devices, which are: a regular handball court, a tape, a tape measure, a stopwatch, a whistle, and a computer. And to achieve the first part of the research, the researcher conducted a number of steps represent T. b illustrate the not fake the test and field benefit from it and the purpose of his creation, and make sure the ease or difficulty of testing through exploratory experiments conducted on the sample, on (25- 2- 2018) and (3- 3- 2018), and make sure the scientific basis of b honesty coefficient, consistency and objectivity, and then determine the Tier mechanisms and standards.

Designing a test to measure the speed of defensive moves for the defender advanced defensive composition (5-1)

Before the direct action search field has been designed test your moves defensive- player Advanced defender Formation (5-1), on paper, to make sure that it is correct, Conducting test is when the player stands defender on the starting point and when you hear the start signal is run clock time, for the player performs the test by taking quick steps between the circuits serial numbers from (1) to (7) drawn on the land test area, and repeats that another time without interruption, and when the player finished, the timer stops the stopwatch and calculates the time Figure (1).

The scientific foundations of the test: Represented by honesty, constancy and objectivity ability.

And the researcher conducted a first pilot experiment on 2/14-2019, and another on 2/24/199 on an exploratory sample, to avoid errors and modifications, as it required modifications to the test several times, and to calculate the time that the player could take in the test.

***The scientific basis for the test*. :** Honesty, Constancy, and Objectivity, and Discriminatory ability.

Table (2) a scientific basis shows the validity, consistency, & objectivity of the test measuring the speed of defensive movements of an advanced defender with defensive formation (1-5)

Scientific foundations	Correlation coefficient	The moral is the truth	Link type
Persistence	** 0.996	0.000	Moral
Objectivity	** 0.994	0.000	Moral

The extraction of the sincerity test (honesty discriminatory) as it is shown in Table (3), either test the stability, reached him through the application of the test and bring it back, using the coefficient of correlation, as is shown in table (2), As for the objectivity of the test, the researcher made a match between the test scores for two arbitrators using the simple correlation coefficient to infer their significance, and this means that the test obtained objectivity,as is shown in Table (2), and after it was arranged grades of crude test are progressive, and by using the method of groups of extreme sample, the researcher with the adoption of the proportion (27 %) of the grades lower and (27%) of the scores of the top, And since all T-test scores are significant, the test scores were able to distinguish between the two groups, and this indicates that the test distinguishes between members of the sample, and it can be applied in the field Table (3).

Table (3) the mean, standard deviation and value of (T) The moral of the test to measure the speed of defensive moves for an advanced defender in the defensive formation (1-5)

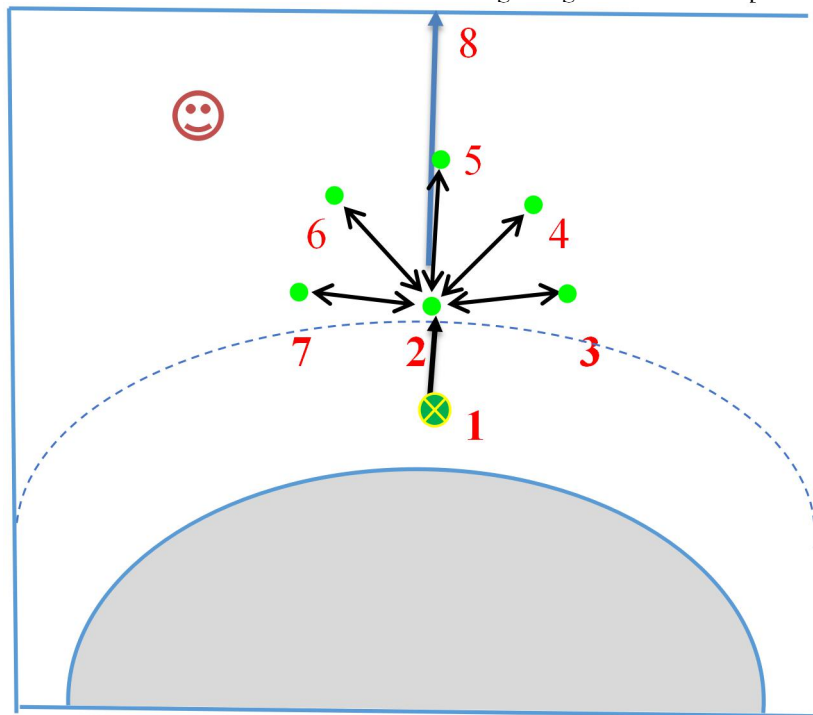| Variables	Lower group		Top group		Values T Calculated	The moral is the truth	The type of difference
	y	S	y	S			
An advanced defender's defensive moves test	25.44	886	18.86	1.702	20,000	000.	Moral

Below significance level (0.01)

- A test measure of defensive moves of an advanced defending player in defensive formation (5-1) with handball.
- *The objective of the test*: to measure the speed of the defensive moves of an advanced defender.

Tools: Handball court, Tape measure to measure a distance 2 meters that between circles on the ground, tape, stopwatch, whistle.

Performance: The tester stops at the starting point of Circle No. (1), whose diameter is (30 cm) on the seven-meter line, and upon hearing the whistle signal, it begins to move forward with rapid steps to the circle drawn on the ground No. (2), after which it quickly moves sideways to the circle No. (3) Then he returns to the circuit number No. (2) He ran sideways as well, after which he advances to circle No. (4) At a rapid pace, due to replace a tendency to circle (2) again, and then advanced to the circuit No. 5 ran to front then back successor to No. (2) b steps fast , and then progresses to No. (6), and returns x LFA tendency to circle No. (2) Of it a move ran the sides of the No. (7), and also due aside to No. (2), and the process is repeated twice and then kicks off at full speed to the circuit No. (8), plotted on the x i center (end of the test) and it is 11 meters away from Circle No. (2), noting that all the circles drawn on the ground are two meters away from each other.

Performance conditions: The test must be performed at full speed, as if it pauses and presses the attacker, the tester must touch with his feet the circuits that are properly drawn on the ground, and if he does not comply with this the test is repeated after rest.

Recording: The timer calculates the total time for the test from beginning to end with a stopwatch (Figure 1).

The distance between each circle is (2m)

Figure (1) Indicate with arrows the defending player's test tracks between the numbered circles.
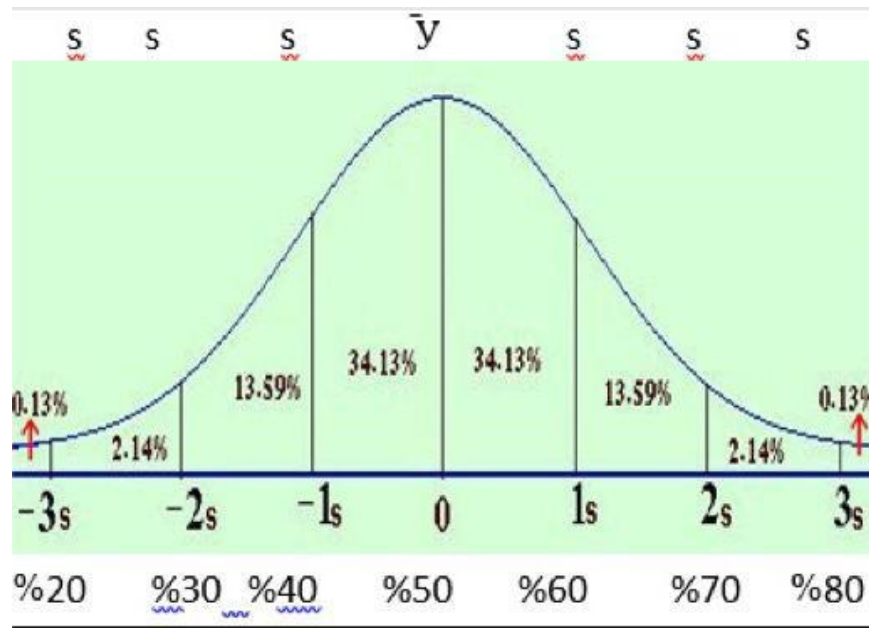
The researcher used the statistical methods represented (percentage, arithmetic mean, standard deviation, Pearson correlation coefficient, T test).

Results

Table (4) the mean, standard deviation, and torsion modulus of the test sample

The short defensive moves test for an advanced defender with a defensive formation (5-1).	Arithmetic mean	standard deviation	Coefficient of torsion
	22.3007	2.68473	-.413

It was after her division of the curve normal to seven levels of this a test figure (2).

Figure (2) Shows the percentages percentage levels of standard that made the sample in the measurement test defensive moves advanced defender defensive composition (5-1)

Table (5) grades of crude grades standard adjusted for a sample test to measure the speed of defensive moves for the defender advanced defensive composition (5-1)

No	Raw grade	Standard score	Modified standard	No	Raw grade	Standard score	Modified standard	No	Raw grade	Standard score	Modified standard
1	16.12	-2.30218	26.98	43	21.49	30197	46.98	85	23.45	42808	54.28
2	16.57	-2.134 56	28.65	44	21.52	-2998 0	47.09	86	23.51	45043	54.50
3	16.59	-2.12711	28.73	45	21.54	-28335	47.17	87	23.52	.45415	54.54
4	17.16	-1.91480	30.85	46	21.56	-27590	47.24	88	23.54	46 160	54.62
5	17.17	-1.91108	30.89	47	21.59	-26473	47.35	89	23.59	48023	54.80
6	17.19	-1.90363	30.96	48	21.59	-26473	47.35	90	24.16	69254	56.93
7	17.22	-1.89245	31.08	49	21.64	-24610	47.54	91	24.19	70371	57.04
8	17.42	-1.81796	31.82	50	22.11	-.07104	49.29	92	24.21	71116	57.11
9	17.55	-1.76954	32.30	51	22.12	-.06731	49.33	93	24.22	. 71489	57.15
10	17.59	-1.75464	32.45	52	22.12	-.06731	49.33	94	24.25	72606	57.26

11	17.66	-1.72856	32.71	53	22.15	05614	49.44	95	24.33	75,586	57.56
12	18.12	-1.55722	34.43	54	22.15	05614	49.44	96	24.35	76331	57.63
13	18.15	-1.54605	34.54	55	22.16	-0.05241	49.48	97	24.39	77821	57.78
14	18.19	-1.53115	34.69	56	22.18	-.04497	49.55	98	24.44	79683	57.97
15	18.21	-1.52370	34.76	57	22.24	-.02262	49.77	99	24.48	81173	58.12
16	18.23	-1.51625	34.84	58	22.29	-.00399	49.96	100	24.51	. 82291	58.23
17	18.25	-1.50880	34.91	59	22.31	.00346	50.03	101	24.59	85270	58.53
18	18.33	-1.47900	35.21	60	22.34	01463	50.15	102	25.12	1.05012	60.50
19	18.46	-1.43058	35.69	61	22.35	01836	50.18	103	25.14	1.05757	60.58
20	18.48	-1.42313	35.77	62	22.39	03325	50.33	104	25.22	1.08737	60.87
2 1	19. 25	- 1.13632	38.6 4	6 3	22. 45	0556 0	50.5 6	105	25. 24	1.094 81	60.9 5
22	19.26	-1.13260	38.67	64	22.49	07050	50.71	106	25.31	1.12089	61.21
23	19.26	-1.13260	38.67	65	22.49	07050	50.71	107	25.35	1.13579	61.36
24	19.11	-1.18847	38.12	66	22.51	077795	50.78	108	25.36	1.13951	61.40
25	20.29	-.74895	42.51	67	22.53	08540	50.85	109	25.39	1.15069	61.51
26	20.31	-.74150	42.59	68	22.56	09658	50.97	110	25.44	1.16931	61.69
27	21.35	-.35412	46.46	69	22.57	10030	51.00	111	25.46	1.17676	61.77
28	21.36	-.35040	46.50	70	22.59	10775	51.08	112	25.48	1.18421	61.84
29	21.37	-34667	46.53	71	22.59	10775	51.08	113	25.53	1.20283	62.03
30	21.41	-.3317 7	46.68	72	22.59	10775	51.08	114	25.58	1.22146	62.21
31	21.41	-.33177	46.68	73	22.60	11147	51.11	115	26.22	1.45984	64.60
32	21.42	-32805	46.72	74	23.10	29771	52.98	116	26.22	1.45984	64.60
33	21.44	-.32060	46.79	75	23.11	30144	53.01	117	26.28	1.48219	64.82
34	21.45	-.31687	46.83	76	23.15	.31634	53.16	118	26.29	1.48592	64.86
35	21.45	-.31687	46.83	77	23.16	32006	53.20	119	26.38	1.51944	65.19
36	21.46	-.31315	46.87	78	23.21	33869	53.39	120	26.41	1.53061	65.31
37	21.46	-.31315	46.87	79	23.24	. 34986	53.50	121	26.45	1.54551	65.46
38	21.46	-.31315	46.87	80	23.25	35359	53.54	122	26.49	1.56041	65.60
39	21.47	30942	46.91	81	23.26	35731	53.57	123	26.58	1.59393	65.94
40	21.48	-30570	46.94	82	23.30	. 37221	53.72	124	27.18	1.81742	68.17
41	21.48	-30570	46.94	83	23.39	. 40573	54.06	125	27.22	1.83232	68.32
42	21.49	30197	46.98	84	23.44	42436	54.24				

Through what was presented in Table (5), it was found that the modified standard scores for the defensive short moves test of the advanced defensive formation player (5-1) are confined to the highest modified standard score which is (31.6), Which corresponds to a raw degree (19.12) And the lowest modified standard score, (74.75), Which corresponds to a raw degree (33.22) Note that the test me by in time, this is my me that the test can measure the situation for him and the coaches can handball adoption at this player outstanding in the center of this defense .

Table (6) the percentages percentage levels of standard that achieved by the sample test to measure the speed of defensive moves for DF Advanced defensive composition (5-1)

The paragraph		Less than 30 is	From 3 0 – 3 9 is very	From 4 0 – 4 9 high	Of 5 0– 5 9 Average	From 6 0 – 6 9	From 7 0– 7 9 Low	More than 8 0 is very
Speed test of short defensive moves	Repetition	3	21	34	43	24	0	0
	The ratio	2.4%	16.8 %	27.2%	34.4%	19.2%	% 0	% 0

Table (6) shows us the percentages of standard levels achieved by the sample for this test level is less than (30), the level of (excellent), spread it (3) of the sample, and this percentage is less due to its natural curve, either level the

second (high- very), the sample has achieved the proportion of the scheduled its natural sinusoidal and with respect to the third level (high), thus achieved the highest her decision also ratio, but most of the sample performance of concentration in Tier Z the fourth (average), and the percentage is higher than scheduled to have a natural curve, either level of the fifth (acceptable), in the spread of the sample in which the percentage is less due to its natural curve, and with regard to the fifth level, acceptable, The sample spread by a less due to its natural curve, either Tier Yin sixth low and seventh We notice that the sample did not spread in them, and this indicates that the level of test performance was very good. Through the above, we can say that the level of the test was good to average, which achieves the objectives of the research, and this indicates that the test in general was not very easy and not It was difficult, and we can say that the defending player specializes in playing in this group Center has the ability to perform this test excellently, and jolting p reason behind the non- proliferation of the sample equally all levels to the nature of the performance test (**Fouad**, **1979**), As the player test depends on taking it quick and short steps to reach the point of placed on the land test area and the non - proliferation of the sample in the flat Z weak and very weak due Brae researcher to individual differences between players in terms of patterns and body measurements, as well as the case with respect to performance speed the gymnast fast can take a quick steps to be reflected necessarily on the speed of the sent for this test . **(Faisal, 1996).**

Table (7) the limits of the standard levels for a test with the test to measure the speed of defensive moves of an advanced defender with defensive formation (1-5)

Standard levels	Adjusted T-score limits	Limits of standard levels
Excellent	20-30	26.98 - 28.73
very high	30-40	30.85 - 38.12
high	40-50	42.51 - 49.96
Average	50-60	50.03 - 58.53
Acceptable	60-70	60.50 - 68.32
Low	70-80	---------
very low	80-90	---------

Conclusion

Through the results we have concluded the researcher that this test, which was designed and codified can be used to measure the situation for him, and is able to measure the speed of defensive moves short for the defender advanced defensive composition (5-1) Moreover, it is a standard good for identify the level of the 's player real to be chosen to play in this important center. Recommends a researcher with the need to take into account the appropriate physical measurements of the handball players , to play in this defensive position, which is of things are very important that should the coach be observed when preselected players to represent his team this play center , in addition , we recommend a researcher in the future as the need to delve into variables this is another defender as a possibility to predict the rapid movements of competitors for broken and my spare them the ball, an update of what was saved.

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